IHIERM

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

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Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIERM)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0102
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
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Active USINGs: None

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     2 *                                                                          00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                     4 *                                                                          00004001
                                     5 *        STATUS - LEVEL 2.1                                                00005001
                                     6 *                                                                          00006001
                                     7 *        FUNCTION/OPERATION - THIS CONTROL SECTION CONTAINS ALL             00007001
                                     8 *        THE MESSAGES USED BY THE ERROR ROUTINE                            00008001
                                     9 *                                                                          00009001
                                    10 *        ENTRY POINTS - N/A                                                00010001
                                    11 *                                                                          00011001
                                    12 *        OUTPUT - N/A                                                      00012001
                                    13 *                                                                          00013001
                                    14 *        EXTERNAL ROUTINES - N/A                                           00014001
                                    15 *                                                                          00015001
                                    16 *        EXITS - N/A                                                       00016001
                                    17 *                                                                          00017001
                                    18 *        TABLES/WORK AREAS -                                               00018001
                                    19 *        THIS CONTROL SECTION IS MADE UP OF TABLES                         00019001
                                    20 *                                                                          00020001
000000                00000 009B1   21 IHIERMSG CSECT                                                           00021001
                                    22 *                                                                          00022001
                                    23         ENTRY IHIERM01                                                    00023001
                                    24 *                                                                          00024001
                      00003         25 FLAGIDS  EQU   X'03'                  INSERT DSNAME INTO MSG           00025001
                      00001         26 FLAGIPS  EQU   X'01'                  INSERT PSW INTO MSG              00026001
                      00004         27 FLAGMC   EQU   X'04'                  MSG CONTINUATION                 00027001
                                    28 *                                                                          00028001
000000 000000C3                     29         DC    A(MESS0)               MESSAGE NUMBER 0-43 MUST BE      00029001
000004 000000E0                     30         DC    A(MESS1)               KEPT TOGETHER                    00030001
000008 0000011D                     31         DC    A(MESS2)                                                00031001
00000C 00000149                     32         DC    A(MESS3)                                                00032001
000010 0000016E                     33         DC    A(MESS4)                                                00033001
000014 000001A6                     34         DC    A(MESS5)                                                00034001
000018 000001D6                     35         DC    A(MESS6)                                                00035001
00001C 0000022E                     36         DC    A(MESS7)                                                00036001
000020 0000029D                     37         DC    A(MESS8)                                                00037001
000024 000002DD                     38         DC    A(MESS9)                                                00038001
000028 00000317                     39         DC    A(MESS10)                                               00039001
00002C 00000332                     40         DC    A(MESS11)                                               00040001
000030 0000034B                     41         DC    A(MESS12)                                               00041001
000034 00000387                     42         DC    A(MESS13)                                               00042001
000038 000003BD                     43         DC    A(MESS14)                                               00043001
00003C 000003EC                     44         DC    A(MESS15)                                               00044001
000040 00000424                     45         DC    A(MESS16)                                               00045001
000044 0000045E                     46         DC    A(MESS17)                                               00046001
000048 0000047D                     47         DC    A(MESS18)                                               00047001
00004C 000004A6                     48         DC    A(MESS19)                                               00048001
000050 000004E4                     49         DC    A(MESS20)                                               00049001
000054 00000529                     50         DC    A(MESS21)                                               00050001
000058 0000058D                     51         DC    A(MESS22)                                               00051001
00005C 000005BA                     52         DC    A(MESS23)                                               00052001
000060 000005DB                     53         DC    A(MESS24)                                               00053001
000064 00000601                     54         DC    A(MESS25)                                               00054001
000068 00000627                     55         DC    A(MESS26)                                               00055001
00006C 00000663                     56         DC    A(MESS27)                                               00056001
000070 0000069F                     57         DC    A(MESS28)                                               00057001
000074 000006D6                     58         DC    A(MESS29)                                               00058001
000078 00000719                     59         DC    A(MESS30)                                               00059001
00007C 0000074F                     60         DC    A(MESS31)                                               00060001
000080 00000788                     61         DC    A(MESS32)                                               00061001
000084 000007AC                     62         DC    A(MESS33)                                               00062001
000088 000007D6                     63         DC    A(MESS34)                                               00063001
00008C 00000817                     64         DC    A(MESS35)                                               00064001
000090 00000833                     65         DC    A(MESS36)                                               00065001
000094 00000890                     66         DC    A(MESS37)                                               00066001
000098 000008D0                     67         DC    A(MESS38)                                               00067001
00009C 000008EC                     68         DC    A(MESS39)                                               00068001
0000A0 00000911                     69         DC    A(MESS40)                                               00069001
0000A4 00000943                     70         DC    A(MESS41)                                               00070001
0000A8 0000096C                     71         DC    A(MESS42)                                               00071001
0000AC 00000986                     72         DC    A(MESS43)                                               00072001
                                    73 *                                                                          00073001
0000B0 C9C8C9F04040C940             74 IHIERM01 DC    C'IHI0  I  SC=       '                                  00074001
                                    75 *                                                                          00075001
0000C3 1B                           76 MESS0    DC    AL1(L'MESS0T)                                           00076001
0000C4 00                           77         DC    AL1(0)                 FLAGS                            00077001
0000C5 C4C1E3C1E2C5E340             78 MESS0T   DC    C'DATASET NUMBER OUT OF RANGE'                          00078001
                                    79 *                                                                          00079001
0000E0 3B                           80 MESS1    DC    AL1(L'MESS1T)                                           00080001
0000E1 03                           81         DC    AL1(FLAGIDS)           FLAGS                            00081001
0000E2 C4E2D57E40404040             82 MESS1T   DC    C'DSN=       REAL NUMBER TO BE CONVERTED OUT OF INTEGER X00082001
                                                      RANGE'                                                  00083001
                                    83 *                                                                          00084001
00011D 2A                           84 MESS2    DC    AL1(L'MESS2T)                                           00085001
00011E 03                           85         DC    AL1(FLAGIDS)           FLAGS                            00086001
00011F C4E2D57E40404040             86 MESS2T   DC    C'DSN=       INCOMPATIBLE ACTIONS ON DATASET'           00087001
                                    87 *                                                                          00088001
000149 23                           88 MESS3    DC    AL1(L'MESS3T)                                           00089001
00014A 03                           89         DC    AL1(FLAGIDS)           FLAGS                            00090001
00014B C4E2D57E40404040             90 MESS3T   DC    C'DSN=       INPUT BEYOND LAST OUTPUT'                  00091001
                                    91 *                                                                          00092001
00016E 23                           92 MESS4    DC    AL1(L'MESS3T)                                           00093001
00016F 00                           93         DC    AL1(0)                 FLAGS                            00094001
000170 E3D6D640D4C1D5E8             94 MESS4T   DC    C'TOO MANY REPOSITIONINGS IN DATASETS. INTERNAL OVERFLOWX00095001
                                                      '                                                       00096001
                                    95 *                                                                          00097001
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Active USINGs: None

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

0001A6 2E                          96 MESS5    DC    AL1(L'MESS5T)                                                00098001
0001A7 03                          97          DC    AL1(FLAGIDS)            FLAGS                                00099001
0001A8 C4E2D57E40404040            98 MESS5T   DC    C'DSN=       INPUT REQUEST BEYOND END OF DATASET'            00100001
                                   99 *                                                                            00101001
0001D6 3E                         100 MESS6    DC    AL1(L'MESS6T)                                                00102001
0001D7 07                         101          DC    AL1(FLAGIDS+FLAGMC)     FLAGS                                00103001
0001D8 C4E2D57E40404040           102 MESS6T   DC    C'DSN=       EXPONENT PART OF INPUT NUMBER CONSISTS OF MX00104001
                                                     ORE THAN'                                                      00105001
000216 16                         103          DC    AL1(L'MESS6T1)                                               00106001
000217 00                         104          DC    AL1(0)                  FLAGS                                00107001
000218 E3E6D640E2C9C7D5           105 MESS6T1  DC    C'TWO SIGNIFICANT DIGITS'                                    00108001
                                  106 *                                                                           00109001
00022E 40                         107 MESS7    DC    AL1(L'MESS7T)                                                00110001
00022F 07                         108          DC    AL1(FLAGIDS+FLAGMC)     FLAGS                                00111001
000230 C4E2D57E40404040           109 MESS7T   DC    C'DSN=       **NO CONTROL CHARACTER SPECIFIED IN RECORD C00112001
                                                     FORMAT OF '                                                    00113001
000270 2B                         110          DC    AL1(L'MESS7T1)                                               00114001
000271 00                         111          DC    AL1(0)                  FLAGS                                00115001
000272 C4C1E3C1E2C5E34B           112 MESS7T1  DC    C'DATASET. SPLITTING INTO SECTIONS IMPOSSIBLE'               00116001
                                  113 *                                                                           00117001
00029D 3E                         114 MESS8    DC    AL1(L'MESS8T)                                                00118001
00029E 03                         115          DC    AL1(FLAGIDS)            FLAGS                                00119001
00029F C4E2D57E40404040           116 MESS8T   DC    C'DSN=       SOURCE IN PROCEDURE OUTSYMBOL DOES NOT MATCX00120001
                                                     H STRING'                                                      00121001
                                  117 *                                                                           00122001
0002DD 38                         118 MESS9    DC    AL1(L'MESS9T)                                                00123001
0002DE 03                         119          DC    AL1(FLAGIDS)            FLAGS                                00124001
0002DF C4E2D57E40404040           120 MESS9T   DC    C'DSN=       UNDEFINED FUNCTION NUMBER IN SYSACT PROCEDUX00125001
                                                     RE'                                                            00126001
                                  121 *                                                                           00127001
000317 19                         122 MESS10   DC    AL1(L'MESS10T)                                               00128001
000318 03                         123          DC    AL1(FLAGIDS)            FLAGS                                00129001
000319 C4E2D57E40404040           124 MESS10T  DC    C'DSN=       DATASET CLOSED'                                 00130001
                                  125 *                                                                           00131001
000332 17                         126 MESS11   DC    AL1(L'MESS11T)                                               00132001
000333 03                         127          DC    AL1(FLAGIDS)            FLAGS                                00133001
000334 C4E2D57E40404040           128 MESS11T  DC    C'DSN=       DATASET OPEN'                                   00134001
                                  129 *                                                                           00135001
00034B 3A                         130 MESS12   DC    AL1(L'MESS12T)                                               00136001
00034C 03                         131          DC    AL1(FLAGIDS)            FLAGS                                00137001
00034D C4E2D57E40404040           132 MESS12T  DC    C'DSN=       QUANTITY IN SYSACT PROCEDURE MUST BE A VARIX00138001
                                                     ABLE'                                                          00139001
                                  133 *                                                                           00140001
000387 34                         134 MESS13   DC    AL1(L'MESS13T)                                               00141001
000388 03                         135          DC    AL1(FLAGIDS)            FLAGS                                00142001
000389 C4E2D57E40404040           136 MESS13T  DC    C'DSN=       QUANTITY IN SYSACT PROCEDURE OUT OF RANGE'      00143001
                                  137 *                                                                           00144001
0003BD 2D                         138 MESS14   DC    AL1(L'MESS14T)                                               00145001
0003BE 03                         139          DC    AL1(FLAGIDS)            FLAGS                                00146001
0003BF C4E2D57E40404040           140 MESS14T  DC    C'DSN=       BACKWARD REPOSITIONING NOT DEFINED'             00147001
                                  141 *                                                                           00148001
0003EC 36                         142 MESS15   DC    AL1(L'MESS15T)                                               00149001
0003ED 00                         143          DC    AL1(0)                  FLAGS                                00150001
0003EE E4D7D7C5D940C2D6           144 MESS15T  DC    C'UPPER BOUND LESS THAN LOWER BOUND IN ARRAY DECLARATIONX00151001
                                                     '                                                              00152001
                                  145 *                                                                           00153001
000424 38                         146 MESS16   DC    AL1(L'MESS16T)                                               00154001
000425 00                         147          DC    AL1(0)                  FLAGS                                00155001
000426 E5C1D3E4C540D6C6           148 MESS16T  DC    C'VALUE OF SUBSCRIPT EXPRESSION NOT WITHIN DECLARED BOUNX00156001
                                                     DS'                                                            00157001
                                  149 *                                                                           00158001
00045E 1D                         150 MESS17   DC    AL1(L'MESS17T)                                               00159001
00045F 00                         151          DC    AL1(0)                  FLAGS                                00160001
000460 C5D5C4D3C5E2E240           152 MESS17T  DC    C'ENDLESS LOOP IN FOR STATEMENT'                             00161001
                                  153 *                                                                           00162001
00047D 27                         154 MESS18   DC    AL1(L'MESS18T)                                               00163001
00047E 00                         155          DC    AL1(0)                  FLAGS                                00164001
00047F E2E3D6D9C1C7C540           156 MESS18T  DC    C'STORAGE REQUEST FOR ARRAY EXCEEDS LIMIT'                   00165001
                                  157 *                                                                           00166001
0004A6 3C                         158 MESS19   DC    AL1(L'MESS19T)                                               00167001
0004A7 00                         159          DC    AL1(0)                  FLAGS                                00168001
0004A8 E4D5C5D8E4C1D340           160 MESS19T  DC    C'UNEQUAL NUMBER OF DIMENSIONS FOR ACTUAL AND FORMAL PARC00169001
                                                     AMETER'                                                        00170001
                                  161 *                                                                           00171001
0004E4 43                         162 MESS20   DC    AL1(L'MESS20T)                                               00172001
0004E5 00                         163          DC    AL1(0)                  FLAGS                                00173001
0004E6 C1C3E3E4C1D340C1           164 MESS20T  DC    C'ACTUAL AND CORRESPONDING FORMAL PARAMETER OF DIFFERENTX00174001
                                                      TYPE OR KIND'                                                 00175001
                                  165 *                                                                           00176001
000529 43                         166 MESS21   DC    AL1(L'MESS21T)                                               00177001
00052A 04                         167          DC    AL1(FLAGMC)             FLAGS                                00178001
00052B E4D5C5D8E4C1D340           168 MESS21T  DC    C'UNEQUAL NUMBER OF PARAMETERS IN PROCEDURE DECLARATION X00179001
                                                     AND PROCEDURE'                                                 00180001
00056E 1D                         169          DC    AL1(L'MESS21T1)                                              00181001
00056F 00                         170          DC    AL1(0)                  FLAGS                                00182001
000570 E2E3C1E3C5D4C5D5           171 MESS21T1 DC    C'STATEMENT/FUNCTION DESIGNATOR'                             00183001
                                  172 *                                                                           00184001
00058D 2B                         173 MESS22   DC    AL1(L'MESS22T)                                               00185001
00058E 00                         174          DC    AL1(0)                  FLAGS                                00186001
00058F C1E2E2C9C7D5D4C5           175 MESS22T  DC    C'ASSIGNMENT TO FORMAL PARAMETER NOT POSSIBLE'               00187001
                                  176 *                                                                           00188001
0005BA 1F                         177 MESS23   DC    AL1(L'MESS23T)                                               00189001
0005BB 00                         178          DC    AL1(0)                  FLAGS                                00190001
0005BC C1D9C7E4D4C5D5E3           179 MESS23T  DC    C'ARGUMENT OF SQRT LESS THAN ZERO'                           00191001
                                  180 *                                                                           00192001
0005DB 24                         181 MESS24   DC    AL1(L'MESS24T)                                               00193001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

0005DC 00                            182          DC    AL1(0)                  FLAGS                                00194001
0005DD C1D9C7E4D4C5D5E3              183 MESS24T  DC    C'ARGUMENT OF EXP GREATER THAN 174.673'                      00195001
                                     184 *                                                                            00196001
000601 24                            185 MESS25   DC    AL1(L'MESS25T)                                               00197001
000602 00                            186          DC    AL1(0)                  FLAGS                                00198001
000603 C1D9C7E4D4C5D5E3              187 MESS25T  DC    C'ARGUMENT OF LN NOT GREATER THAN ZERO'                      00199001
                                     188 *                                                                            00200001
000627 3A                            189 MESS26   DC    AL1(L'MESS26T)                                               00201001
000628 00                            190          DC    AL1(0)                  FLAGS                                00202001
000629 C1C2E240E5C1D3E4              191 MESS26T  DC    C'ABS VALUE OF ARGUMENT OF SIN OR COS NOT LESS THAN PI*2X00203001
                                                       **18'                                                        00204001
                                     192 *                                                                            00205001
000663 3A                            193 MESS27   DC    AL1(L'MESS27T)                                               00206001
000664 00                            194          DC    AL1(0)                  FLAGS                                00207001
000665 C1C2E240E5C1D3E4              195 MESS27T  DC    C'ABS VALUE OF ARGUMENT OF SIN OR COS NOT LESS THAN PI*2X00208001
                                                       **50'                                                        00209001
                                     196 *                                                                            00210001
00069F 35                            197 MESS28   DC    AL1(L'MESS28T)                                               00211001
0006A0 01                            198          DC    AL1(FLAGIPS)            FLAGS                                00212001
0006A1 D7E2E67E40404040              199 MESS28T  DC    C'PSW=                   FIXED POINT OVERFLOW INTERRUPT'     00213001
                                     200 *                                                                            00214001
0006D6 41                            201 MESS29   DC    AL1(L'MESS29T)                                               00215001
0006D7 01                            202          DC    AL1(FLAGIPS)            FLAGS                                00216001
0006D8 D7E2E67E40404040              203 MESS29T  DC    C'PSW=                   FLOATING POINT EXPONENT OVERFLOX00217001
                                                       W INTERRUPT'                                                 00218001
                                     204 *                                                                            00219001
000719 34                            205 MESS30   DC    AL1(L'MESS30T)                                               00220001
00071A 01                            206          DC    AL1(FLAGIPS)            FLAGS                                00221001
00071B D7E2E67E40404040              207 MESS30T  DC    C'PSW=                   DIVISION BY ZERO, FIXED POINT'      00222001
                                     208 *                                                                            00223001
00074F 37                            209 MESS31   DC    AL1(L'MESS31T)                                               00224001
000750 01                            210          DC    AL1(FLAGIPS)            FLAGS                                00225001
000751 D7E2E67E40404040              211 MESS31T  DC    C'PSW=                   DIVISION BY ZERO, FLOATING POINX00226001
                                                       T'                                                           00227001
                                     212 *                                                                            00228001
000788 22                            213 MESS32   DC    AL1(L'MESS32T)                                               00229001
000789 03                            214          DC    AL1(FLAGIDS)            FLAGS                                00230001
00078A C4E2D57E40404040              215 MESS32T  DC    C'DSN=       UNRECOVERABLE I/O ERROR'                        00231001
                                     216 *                                                                            00232001
0007AC 28                            217 MESS33   DC    AL1(L'MESS33T)                                               00233001
0007AD 01                            218          DC    AL1(FLAGIPS)            FLAGS                                00234001
0007AE D7E2E67E40404040              219 MESS33T  DC    C'PSW=                   PROGRAM INTERRUPT'                  00235001
                                     220 *                                                                            00236001
0007D6 3F                            221 MESS34   DC    AL1(L'MESS34T)                                               00237001
0007D7 00                            222          DC    AL1(0)                  FLAGS                                00238001
0007D8 E5C1D3E4C540D6C6              223 MESS34T  DC    C'VALUE OF SWITCH DESIGNATOR NOT DEFINED IN DECLARATION X00239001
                                                       OF SWITCH'                                                   00240001
                                     224 *                                                                            00241001
000817 1A                            225 MESS35   DC    AL1(L'MESS35T)                                               00242001
000818 00                            226          DC    AL1(0)                  FLAGS                                00243001
000819 C2C1E2C540D5D6E3              227 MESS35T  DC    C'BASE NOT GREATER THAN ZERO'                                00244001
                                     228 *                                                                            00245001
000833 38                            229 MESS36   DC    AL1(L'MESS36T)                                               00246001
000834 04                            230          DC    AL1(FLAGMC)             FLAGS                                00247001
000835 E3D6D640D4C1D5E8              231 MESS36T  DC    C'TOO MANY NESTED BLOCKS AND CALLS OF PROCEDURES, SWITCHC00248001
                                                       ES'                                                          00249001
00086D 21                            232          DC    AL1(L'MESS36T1)                                              00250001
00086E 00                            233          DC    AL1(0)                  FLAGS                                00251001
00086F C1D5C440D7C1D9C1              234 MESS36T1 DC    C'AND PARAMETERS. INTERNAL OVERFLOW'                         00252001
                                     235 *                                                                            00253001
000890 3E                            236 MESS37   DC    AL1(L'MESS37T)                                               00254001
000891 03                            237          DC    AL1(FLAGIDS)            FLAGS                                00255001
000892 C4E2D57E40404040              238 MESS37T  DC    C'DSN=       **BLOCKSIZE NOT A MULTIPLE OF LOGICAL RECORX00256001
                                                       D LENGTH'                                                    00257001
                                     239 *                                                                            00258001
0008D0 1A                            240 MESS38   DC    AL1(L'MESS38T)                                               00259001
0008D1 03                            241          DC    AL1(FLAGIDS)            FLAGS                                00260001
0008D2 C4E2D57E40404040              242 MESS38T  DC    C'DSN=       TOO LONG RECORD'                                00261001
                                     243 *                                                                            00262001
0008EC 23                            244 MESS39   DC    AL1(L'MESS39T)                                               00263001
0008ED 00                            245          DC    AL1(0)                  FLAGS                                00264001
0008EE C7C5E361D7E4E340              246 MESS39T  DC    C'GET/PUT IDENTIFICATION OUT OF RANGE'                       00265001
                                     247 *                                                                            00266001
000911 30                            248 MESS40   DC    AL1(L'MESS40T)                                               00267001
000912 00                            249          DC    AL1(0)                  FLAGS                                00268001
000913 D9C5C1D340D5E4D4              250 MESS40T  DC    C'REAL NUMBER TO BE CONVERTED OUT OF INTEGER RANGE'          00269001
                                     251 *                                                                            00270001
000943 27                            252 MESS41   DC    AL1(L'MESS41T)                                               00271001
000944 03                            253          DC    AL1(FLAGIDS)            FLAGS                                00272001
000945 C4E2D57E40404040              254 MESS41T  DC    C'DSN=       DD CARD INCORRECT OR MISSING'                   00273001
                                     255 *                                                                            00274001
00096C 18                            256 MESS42   DC    AL1(L'MESS42T)                                               00275001
00096D 00                            257          DC    AL1(0)                  FLAGS                                00276001
00096E C9D5E5C1D3C9C440              258 MESS42T  DC    C'INVALID OPTION PARAMETER'                                  00277001
                                     259 *                                                                            00278001
000986 29                            260 MESS43   DC    AL1(L'MESS43T)                                               00279001
000987 00                            261          DC    AL1(0)                  FLAGS                                00280001
000988 C9D3D3C5C7C1D340              262 MESS43T  DC    C'ILLEGAL CALL OF GET/PUT OR LIST PROCEDURE'                 00281001
                                     263 *                                                                            00282001
                                     264          END                                                              00283001
```

Symbol	Length	Value	Id	Type	Asm	Program	Defn	References
FLAGIDS	1	00000003		U			25	81 85 89 97 101 108 115 119 123 127 131 135 139 214 237 241 253
FLAGIPS	1	00000001		U			26	198 202 206 210 218
FLAGMC	1	00000004		U			27	101 108 167 230
IHIERM01	19	000000B0	00000001	C	C		74	23
MESS0	1	000000C3	00000001	R	A		76	29
MESS0T	27	000000C5	00000001	C	C		78	76
MESS1	1	000000E0	00000001	R	A		80	30
MESS1T	59	000000E2	00000001	C	C		82	80
MESS10	1	00000317	00000001	R	A		122	39
MESS10T	25	00000319	00000001	C	C		124	122
MESS11	1	00000332	00000001	R	A		126	40
MESS11T	23	00000334	00000001	C	C		128	126
MESS12	1	0000034B	00000001	R	A		130	41
MESS12T	58	0000034D	00000001	C	C		132	130
MESS13	1	00000387	00000001	R	A		134	42
MESS13T	52	00000389	00000001	C	C		136	134
MESS14	1	000003BD	00000001	R	A		138	43
MESS14T	45	000003BF	00000001	C	C		140	138
MESS15	1	000003EC	00000001	R	A		142	44
MESS15T	54	000003EE	00000001	C	C		144	142
MESS16	1	00000424	00000001	R	A		146	45
MESS16T	56	00000426	00000001	C	C		148	146
MESS17	1	0000045E	00000001	R	A		150	46
MESS17T	29	00000460	00000001	C	C		152	150
MESS18	1	0000047D	00000001	R	A		154	47
MESS18T	39	0000047F	00000001	C	C		156	154
MESS19	1	000004A6	00000001	R	A		158	48
MESS19T	60	000004A8	00000001	C	C		160	158
MESS2	1	0000011D	00000001	R	A		84	31
MESS2T	42	0000011F	00000001	C	C		86	84
MESS20	1	000004E4	00000001	R	A		162	49
MESS20T	67	000004E6	00000001	C	C		164	162
MESS21	1	00000529	00000001	R	A		166	50
MESS21T	67	0000052B	00000001	C	C		168	166
MESS21T1	29	00000570	00000001	C	C		171	169
MESS22	1	0000058D	00000001	R	A		173	51
MESS22T	43	0000058F	00000001	C	C		175	173
MESS23	1	000005BA	00000001	R	A		177	52
MESS23T	31	000005BC	00000001	C	C		179	177
MESS24	1	000005DB	00000001	R	A		181	53
MESS24T	36	000005DD	00000001	C	C		183	181
MESS25	1	00000601	00000001	R	A		185	54
MESS25T	36	00000603	00000001	C	C		187	185
MESS26	1	00000627	00000001	R	A		189	55
MESS26T	58	00000629	00000001	C	C		191	189
MESS27	1	00000663	00000001	R	A		193	56
MESS27T	58	00000665	00000001	C	C		195	193
MESS28	1	0000069F	00000001	R	A		197	57
MESS28T	53	000006A1	00000001	C	C		199	197
MESS29	1	000006D6	00000001	R	A		201	58
MESS29T	65	000006D8	00000001	C	C		203	201
MESS3	1	00000149	00000001	R	A		88	32
MESS3T	35	0000014B	00000001	C	C		90	88 92
MESS30	1	00000719	00000001	R	A		205	59
MESS30T	52	0000071B	00000001	C	C		207	205
MESS31	1	0000074F	00000001	R	A		209	60
MESS31T	55	00000751	00000001	C	C		211	209
MESS32	1	00000788	00000001	R	A		213	61
MESS32T	34	0000078A	00000001	C	C		215	213
MESS33	1	000007AC	00000001	R	A		217	62
MESS33T	40	000007AE	00000001	C	C		219	217
MESS34	1	000007D6	00000001	R	A		221	63
MESS34T	63	000007D8	00000001	C	C		223	221
MESS35	1	00000817	00000001	R	A		225	64
MESS35T	26	00000819	00000001	C	C		227	225
MESS36	1	00000833	00000001	R	A		229	65
MESS36T	56	00000835	00000001	C	C		231	229
MESS36T1	33	0000086F	00000001	C	C		234	232
MESS37	1	00000890	00000001	R	A		236	66
MESS37T	62	00000892	00000001	C	C		238	236
MESS38	1	000008D0	00000001	R	A		240	67
MESS38T	26	000008D2	00000001	C	C		242	240
MESS39	1	000008EC	00000001	R	A		244	68
MESS39T	35	000008EE	00000001	C	C		246	244
MESS4	1	0000016E	00000001	R	A		92	33
MESS40	1	00000911	00000001	R	A		248	69
MESS40T	48	00000913	00000001	C	C		250	248
MESS41	1	00000943	00000001	R	A		252	70
MESS41T	39	00000945	00000001	C	C		254	252
MESS42	1	0000096C	00000001	R	A		256	71
MESS42T	24	0000096E	00000001	C	C		258	256
MESS43	1	00000986	00000001	R	A		260	72
MESS43T	41	00000988	00000001	C	C		262	260
MESS5	1	000001A6	00000001	R	A		96	34
MESS5T	46	000001A8	00000001	C	C		98	96
MESS6	1	000001D6	00000001	R	A		100	35
MESS6T	62	000001D8	00000001	C	C		102	100
MESS6T1	22	00000218	00000001	C	C		105	103
MESS7	1	0000022E	00000001	R	A		107	36
MESS7T	64	00000230	00000001	C	C		109	107
MESS7T1	43	00000272	00000001	C	C		112	110
MESS8	1	0000029D	00000001	R	A		114	37
MESS8T	62	0000029F	00000001	C	C		116	114
MESS9	1	000002DD	00000001	R	A		118	38
MESS9T	56	000002DF	00000001	C	C		120	118

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIERM PROCSTEP: X390

Primary input: lines 1 to 283 of SYSD.ALGOLFRT.ASM(IHIERM)

SYSLIB library records read: 0

SYSUT1 work file size: 29705 bytes

SYSUT3 work file size: 22640 bytes

SYSLIN file records written: 51

TXA000I Return code 0, elapsed time 0.16 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIERMSG	0009B1	7

IHIERR

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIERR)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0106
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                   X390 3.1.04  2012/08/17 13.21

                                      2 *                                                                 00002001
                                      3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY              00003001
                                      4 *                                                                 00004001
                                      5 *        STATUS - LEVEL 2.1                                      00005001
                                      6 *                                                                 00006001
                                      7 *        FUNCTION/OPERATION -                                    00007001
                                      8 *        IF AN ERROR OCCURS DURING EXECUTION OF AN ALGOL PROGRAM 00008001
                                      9 *        THIS ROUTINE IS CALLED BY IHIFSARA                      00009001
                                     10 *        A MESSAGE IS GIVEN SPECIFYING THE ERROR. IF DUMP IS     00010001
                                     11 *        SPECIFIED THE ROUTINE EDITS AND PRINTS THE DATA STORAGE 00011001
                                     12 *        AREAS CONTAINING THE VALUES OF THE IDENTIFIERS          00012001
                                     13 *                                                                 00013001
                                     14 *        ENTRY POINT - IHIERROR                                  00014001
                                     15 *                                                                 00015001
                                     16 *        OUTPUT-                                                 00016001
                                     17 *        ERROR MESSAGES AND ALGOL DUMPS ARE PRINTED ON THE       00017001
                                     18 *        PRINTER AS 90 CHARACTER RECORDS WITH CONTROL CHARACTER  00018001
                                     19 *        IN SOME CASES A MESSAGE IS ISSUED TO THE CONSOLE        00019001
                                     20 *                                                                 00020001
                                     21 *        EXTERNAL ROUTINES -                                     00021001
                                     22 *        IHIIORCL - FOR CLOSING DATASET NUMBER 1 (PRINTER)       00022001
                                     23 *        IHIIOROP - FOR OPENING DATASET NUMBER 1                 00023001
                                     24 *        FRDSA     - ROUTINE IN IHIFSARA WHICH ISSUES FREEMAIN FOR 00024001
                                     25 *                   THE CURRENT DATA STORAGE AREAS               00025001
                                     26 *                                                                 00026001
                                     27 *        EXIT - NORMAL - TO TERMINATION ROUTINE IN IHIFSARA      00027001
                                     28 *                                                                 00028001
                                     29 *        EXIT - ERROR - N/A                                      00029001
                                     30 *                                                                 00030001
                                     31 *        TABLES/WORK AREAS -                                     00031001
                                     32 *        THE CONTROL SECTION NAMED IHIGERMSG CONTAINS ALL        00032001
                                     33 *        MESSAGES TO BE PRINTED                                  00033001
                                     34 *                                                                 00034001
000000                00000 006E4    35 IHIERROR CSECT                                                  00035001
                                     36 *                                                                 00036001
                 R:5  00000          37          USING DSTABLE,R5                                        00037001
                                     38 *                                                                 00038001
                                     39 ********************************************************************* 00039001
                                     40 *                                                                 00040001
                                     41 *        REGISTER USAGE                                          00041001
                                     42 *                                                                 00042001
                                     43 ********************************************************************* 00043001
                                     44 *                                                                 00044001
                      0000A          45 CDSA     EQU   10                    ADDRESS OF CURRENT DSA      00045001
                      0000B          46 PBT      EQU   11                                                00046001
                                     47 *                                                                 00047001
                                     48 *        MESSAGE FORMAT FLAGS                                    00048001
                                     49 *                                                                 00049001
                      00003          50 FLAGIDS  EQU   X'03'                 INSERT DSNAME INTO MSG      00050001
                      00001          51 FLAGIPS  EQU   X'01'                 INSERT PSW INTO MSG         00051001
                      00004          52 FLAGMC   EQU   X'04'                 MSG CONTINUATION            00052001
                                     53 *                                                                 00053001
                                     54          SAVE  (14,12),,'IHIERROR LEVEL 2.1 &SYSDATE &SYSTIME'   00054001
000000 47F0 F026            00026    55+         B     38(0,15)                        BRANCH AROUND ID    01-SAVE
000004 21                            56+         DC    AL1(33)                         LENGTH OF IDENTIFIER 01-SAVE
000005 C9C8C9C5D9D9D6D9              57+         DC    CL32'IHIERROR LEVEL 2.1 08/17/12 13.2' IDENTIFIER   01-SAVE
000025 F1                            58+         DC    CL1'1'                          IDENTIFIER          01-SAVE
000026 90EC D00C            0000C    59+         STM   14,12,12(13)                    SAVE REGISTERS      01-SAVE
                                     60 *                                                                 00055001
00002A 187F                          61          LR    R7,R15                                            00056001
                 R:7  00000          62          USING IHIERROR,R7                                       00057001
00002C D213 76B8 1000 006B8 00000    63          MVC   VFRDSA(20),0(R1)      STORE EXTERNAL ADDR PARAMETERS 00058001
000032 18CD                          64          LR    R12,R13               R12 -> FSA                  00059001
000034 41D0 74E0            004E0    65          LA    R13,SAVEAREA          R13 -> SAVEAREA             00060001
                                     66 *                                                                 00061001
                                     67 ********************************************************************* 00062001
                                     68 *                                                                 00063001
                                     69 *        TEST IF ERROR MESSAGE NUMBER IS 32 OR 41 FOR DATASET 1  00064001
                                     70 *                                                                 00065001
                                     71 ********************************************************************* 00066001
                                     72 *                                                                 00067001
000038 4660 70D6            000D6    73          BCT   R6,B1                                             00068001
00003C 9110 501B      0001B          74          TM    DSF+1,DS11            DS11 = 0 ?                  00069001
000040 4780 70D6            000D6    75          BZ    B1                    YES                         00070001
000044 9580 C0C3      000C3          76          CLI   FSAERCOD(R12),X'80'   I/O ERROR (32) ?            00071001
000048 4780 7094            00094    77          BE    IOERR                 YES, EXECUTE WTO INSTRUCTION 00072001
00004C 95A4 C0C3      000C3          78          CLI   FSAERCOD(R12),X'A4'   DD CARD ? (41)              00073001
000050 4770 70D6            000D6    79          BNE   B1                    YES, EXECUTE WTO INSTRUCTION 00074001
                                     80 *                                                                 00075001
                                     81          WTO   'IHI041I SYSPRINT DD STMT INCORRECT OR MISSING',        X00076001
                                                       ROUTCDE=11,DESC=7                                 00077001
000054                               82+         CNOP  0,4                                               01-WTO
000054 4510 708E            0008E    83+         BAL   1,IHB0002A                      BRANCH AROUND MESSAGE 01-WTO
000058 0031                          84+         DC    AL2(49)             TEXT LENGTH                   01-WTO
00005A 8000                          85+         DC    B'1000000000000000' MCS FLAGS                     01-WTO
00005C C9C8C9F0F4F1C940              86+         DC    C'IHI041I SYSPRINT DD STMT INCORRECT OR MISSING'  01-WTO
000089 0200                          87+         DC    B'0000001000000000' DESCRIPTOR CODES              01-WTO
00008B 0020                          88+         DC    B'0000000000100000' ROUTING CODES                 01-WTO
00008E                               89+IHB0002A DS    0H                                                01-WTO
00008E 0A23                          90+         SVC   35                                                01-WTO
                                     91 *                                                                 00078001
000090 47F0 70CA            000CA    92          B     SETOPTSW                                          00079001
                                     93 *                                                                 00080001
                                     94 IOERR    WTO   'IHI032I SYSPRINT UNRECOVERABLE I/O ERROR',             X00081001
                                                       ROUTCDE=11,DESC=7                                 00082001
000094                               95+         CNOP  0,4                                               01-WTO
```

Active USINGs: IHIERROR,R7 DSTABLE,R5

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000094 4510 70C8            000C8    96+IOERR    BAL   1,IHB0003A                      BRANCH AROUND MESSAGE  01-WTO
000098 002C                          97+         DC    AL2(44)             TEXT LENGTH                        01-WTO
00009A 8000                          98+         DC    B'1000000000000000' MCS FLAGS                          01-WTO
00009C C9C8C9F0F3F2C940              99+         DC    C'IHI032I SYSPRINT UNRECOVERABLE I/O ERROR'            01-WTO
0000C4 0200                         100+         DC    B'0000001000000000' DESCRIPTOR CODES                   01-WTO
0000C6 0020                         101+         DC    B'0000000000100000' ROUTING CODES                      01-WTO
0000C8                              102+IHB0003A DS    0H                                                     01-WTO
0000C8 0A23                         103+         SVC   35                                                     01-WTO
                                    104 *                                                                      00083001
0000CA 9602 C0C2      000C2         105 SETOPTSW OI    OPTSW(R12),X'02'        SET SWITCH IN FSA              00084001
0000CE 947F C0C2      000C2         106          NI    DTSW(R12),X'7F'         REMOVE DUMP SWITCH             00085001
0000D2 47F0 71F2            001F2   107          B     SPDAFREE                                               00086001
                                    108 *                                                                      00087001
                                    109 ********************************************************************** 00088001
                                    110 *                                                                      00089001
                                    111 *        EDIT AND PRINT ERROR MESSAGE                                  00090001
                                    112 *                                                                      00091001
                                    113 ********************************************************************** 00092001
                                    114 *                                                                      00093001
0000D6 4180 6001            00001   115 B1       LA    R8,1(,R6)               SAVE DSNR FOR EDITING IF NEEDED 00094001
0000DA 585C 00AC            000AC   116          L     R5,ADSTAB(R12)          R5 -> ADSTAB IN FSA            00095001
0000DE 4150 5028            00028   117          LA    R5,DSTABLEL+4(,R5)      R5 -> DSTABLE ENTRY FOR DS NO 1 00096001
0000E2 4160 0001            00001   118          LA    R6,1                    SET DSNR TO 1                  00097001
0000E6 9601 501B      0001B         119          OI    DSF+1,DS15              FLAG CLOSE FROM IHIERR         00098001
0000EA 58F0 76C4            006C4   120          L     R15,VIORCP              CLOSE ALL DATASETS             00099001
0000EE 05EF                         121          BALR  R14,R15                                                00100001
0000F0 9610 501B      0001B         122 SETDS11  OI    DSF+1,DS11              DS11=1 TO INDICATE IHIERR-ROUT 00101001
0000F4 9632 501A      0001A         123          OI    DSF,DS2+DS3+DS6         DS2, DS3, DS6 = 1              00102001
0000F8 943F 501A      0001A         124          NI    DSF,255-DS0-DS1         DS0, DS1 = 0                   00103001
0000FC 58F0 76C0            006C0   125          L     R15,VIOROP              R15 -> IHIIOROP                00104001
000100 05EF                         126          BALR  R14,R15                 OPEN SYSPRINT                  00105001
000102 9240 7543      00543         127          MVI   BUFFER,C' '             PRINT ONE BLANK LINE TO PREVENT 00106001
000106 D258 7544 7543 00544 00543   128          MVC   BUFFER+1(L'BUFFER-1),BUFFER  OVERPRINTING              00107001
00010C 4530 7478            00478   129          BAL   R3,OUTPUT                                              00108001
000110 1B22                         130          SR    R2,R2                                                  00109001
000112 432C 00C3            000C3   131          IC    R2,FSAERCOD(R12)        GET ADDR OF ERROR MESSAGE      00110001
000116 5860 76CC            006CC   132          L     R6,VERMSG               R6 -> IHIERMSG MODULE          00111001
00011A 5862 6000            00000   133          L     R6,0(R2,R6)             R6 -> MSG TEXT BLOCK           00112001
00011E 8820 0002            00002   134          SRL   R2,2                    CONVERT MESSAGE NUMBER TO      00113001
000122 4E20 7528            00528   135          CVD   R2,WORKD                DECIMAL FOR PRINTING           00114001
000126 5830 76D0            006D0   136          L     R3,VERM01               R3 -> 'IHI0XXI SC=    ' STRING 00115001
00012A F317 3004 7528 00004 00528   137          UNPK  4(2,R3),WORKD           MOVE IN MSG NUMBER             00116001
000130 96F0 3005      00005         138          OI    5(R3),X'F0'             MAKE PRINTABLE                 00117001
000134 4820 C0C0            000C0   139          LH    R2,SCRCS(,R12)          CONVERT SEMICOLON COUNTER TO   00118001
000138 4E20 7528            00528   140          CVD   R2,WORKD                DECIMAL FOR PRINTING           00119001
00013C D205 300C 759D 0000C 0059D   141          MVC   12(L'SCPATTN,R3),SCPATTN  MOVE IN EDIT PATTERN         00120001
000142 DE05 300C 752D 0000C 0052D   142          ED    12(L'SCPATTN,R3),WORKD+5  FORMAT SEMICOLON COUNT       00121001
000148 9103 6001      00001         143          TM    1(R6),FLAGIDS           DSNAME TO BE INSERTED ?        00122001
00014C 47E0 71B2            001B2   144          BNO   NOT1617A                NO, BRANCH                     00123001
000150 4280 7542            00542   145          STC   R8,DSNUMBER             YES, STORE DATASET NUMBER      00124001
000154 9510 7542      00542         146          CLI   DSNUMBER,16             DSN = 16 ?                     00125001
000158 4770 7166            00166   147          BNE   DSN17                   NO, BRANCH                     00126001
00015C D205 6002 76D8 00002 006D8   148          MVC   2(6,R6),=C'SYSUT2'      SYSUT2                         00127001
000162 47F0 71B6            001B6   149          B     PSWDSN                                                 00128001
                                    150 *                                                                      00129001
000166 4740 71AA            001AA   151 DSN17    BL    NOT1617                                                00130001
00016A D205 6002 76DE 00002 006DE   152          MVC   2(6,R6),=C'SYSUT1'      SYSUT1                         00131001
000170 47F0 71B6            001B6   153          B     PSWDSN                                                 00132001
                                    154 *                                                                      00133001
000174 4E80 7528            00528   155 TAKEDSN  CVD   R8,WORKD                CONVERT DATASET NUMBER TO      00134001
000178 F317 6006 7528 00006 00528   156          UNPK  6(2,R6),WORKD           DECIMAL FOR PRINTING           00135001
00017E 96F0 6007      00007         157          OI    7(R6),X'F0'             MAKE PRINTABLE                 00136001
000182 47F0 71B6            001B6   158          B     PSWDSN                                                 00137001
                                    159 *                                                                      00138001
000186 F384 6007 C0B4 00007 000B4   160 TAKEPSW  UNPK  7(9,R6),PGOPSW(5,R12)   UNPACK OLD PSW FOR PRINTING     00139001
00018C DC07 6007 7440 00007 00440   161          TR    7(8,R6),TRTABLE-240                                    00140001
000192 9240 600F      0000F         162          MVI   15(R6),C' '                                            00141001
000196 F384 6010 C0B8 00010 000B8   163          UNPK  16(9,R6),PGOPSW+4(5,R12)                               00142001
00019C 9240 6018      00018         164          MVI   24(R6),C' '                                            00143001
0001A0 DC07 6010 7440 00010 00440   165          TR    16(8,R6),TRTABLE-240                                   00144001
0001A6 47F0 71B6            001B6   166          B     PSWDSN                                                 00145001
                                    167 *                                                                      00146001
0001AA 9103 6001      00001         168 NOT1617  TM    1(R6),FLAGIDS           INSERT DATASET NUMBER ?        00147001
0001AE 4710 7174            00174   169          BO    TAKEDSN                 YES, BRANCH                    00148001
0001B2 4740 7186            00186   170 NOT1617A BM    TAKEPSW                                                00149001
                                    171 *                                                                      00150001
0001B6 D212 7543 3000 00543 00000   172 PSWDSN   MVC   BUFFER(19),0(R3)         MOVE MESSAGE INTO BUFFER       00151001
0001BC 1B22                         173          SR    R2,R2                                                  00152001
0001BE 4326 0000            00000   174 LINE2    IC    R2,0(R6)                GET L'MSG TEXT                 00153001
0001C2 0620                         175          BCTR  R2,0                    DECR FOR EXE                   00154001
0001C4 4420 71DC            001DC   176          EX    R2,EXMVC                MOVE MSG TEXT                  00155001
0001C8 9104 6001      00001         177          TM    1(R6),FLAGMC            MSG HAS CONTINUATION ?         00156001
0001CC 4780 71E2            001E2   178          BZ    ENDLINE                 NO, BRANCH                     00157001
0001D0 4530 7478            00478   179          BAL   R3,OUTPUT                                              00158001
0001D4 4162 6003            00003   180          LA    R6,3(R2,R6)             R6 -> NEXT LINE OF MESSAGE     00159001
0001D8 47F0 71BE            001BE   181          B     LINE2                   LOOP FOR CONTINUATION LINE     00160001
                                    182 *                                                                      00161001
0001DC D200 7556 6002 00556 00002   183 EXMVC    MVC   BUFFER+19(0),2(R6)      EXE MVC                        00162001
                                    184 *                                                                      00163001
0001E2 9604 7540      00540         185 ENDLINE  OI    FLAG,X'04'                                             00164001
0001E6 4530 7478            00478   186          BAL   R3,OUTPUT                                              00165001
0001EA 92F0 7541      00541         187          MVI   SPACE,C'0'              SET ASA SKIP CHARACTER         00166001
0001EE 9201 74AD      004AD         188          MVI   SCOUNT+3,X'01'          INSERT NEW STEP LENGTH FOR S   00167001
                                    189 *                                                                      00168001
                                    190 ********************************************************************** 00169001
                                    191 *                                                                      00170001
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Active USINGs: IHIERROR,R7 DSTABLE,R5

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 Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                   192 *        GO THROUGH THE RETURN ADDR STACK                                      00171001
                                   193 *        IF A BLOCK OR PROCEDURE ENTRY IS FOUND THE DATA STORAGE               00172001
                                   194 *        AREAS ARE EDITED AND FSA IS CALLED FOR ISSUEING                       00173001
                                   195 *        FREEMAIN                                                              00174001
                                   196 *                                                                              00175001
                                   197 ********************************************************************************* 00176001
                                   198 *                                                                              00177001
0001F2 5810 76BC           006BC   199 SPDAFREE L     R1,VSPDAP              FREEMAIN FOR SPDA AREAS                  00178001
0001F6 5820 1000           00000   200          L     R2,0(,R1)                                                       00179001
0001FA 1212                        201 MORESPDA LTR   R1,R2                                                           00180001
0001FC 4780 7212           00212   202          BZ    MORERAS                                                         00181001
000200 5820 1000           00000   203          L     R2,0(,R1)                                                       00182001
                                   204 *                                                                              00183001
                                   205          FREEMAIN R,LV=64,A=(R1)                                             00184001
                                   206+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                               01-FREEM
000204 4100 0040           00040   207+         LA    0,64(0,0)                        LOAD LENGTH                  01-FREEM
000208 4110 1000           00000   208+         LA    1,0(0,R1)                        LOAD AREA ADDRESS            01-FREEM
00020C 0A0A                        209+         SVC   10                               ISSUE FREEMAIN SVC           01-FREEM
                                   210 *                                                                              00185001
00020E 47F0 71FA           001FA   211          B     MORESPDA               LOOP AROUND                              00186001
                                   212 *                                                                              00187001
000212 58EC 00C8           000C8   213 MORERAS  L     R14,RASPT(R12)         TEST IF MORE ENTRIES IN RAS              00188001
000216 59EC 00C4           000C4   214 MORERASA C     R14,RASSTART(R12)                                               00189001
00021A 47D0 725A           0025A   215          BNH   ENDOFR                                                          00190001
00021E 9500 E000      00000        216          CLI   0(R14),X'00'           PROCEDURE OR BLOCK ENTRY ?               00191001
000222 4780 7232           00232   217          BE    PRENTRY                                                         00192001
000226 9180 C0C2      000C2        218          TM    DTSW(R12),X'80'        DUMP SPECIFIED ?                         00193001
00022A 4780 7240           00240   219          BZ    RELDSA                                                          00194001
00022E 47F0 7262           00262   220          B     EDIT                                                            00195001
                                   221 *                                                                              00196001
000232 4120 0008           00008   222 PRENTRY  LA    R2,8                   GET PRECEDING ENTRY IN RAS               00197001
000236 1BE2                        223          SR    R14,R2                                                          00198001
000238 50EC 00C8           000C8   224          ST    R14,RASPT(R12)         NEW ADDR TO RASTP IN FSA                 00199001
00023C 47F0 7216           00216   225          B     MORERASA                                                        00200001
                                   226 *                                                                              00201001
000240 18DC                        227 RELDSA   LR    R13,R12                RELEASE CURRENT DATA STORAGE             00202001
000242 58A0 E000           00000   228          L     CDSA,0(,R14)           AREA                                     00203001
000246 58B0 A010           00010   229          L     PBT,16(,CDSA)                                                   00204001
00024A 5810 76B8           006B8   230          L     R1,VFRDSA                                                       00205001
00024E 05F1                        231          BALR  R15,R1                                                          00206001
000250 18CD                        232          LR    R12,R13                                                         00207001
000252 41D0 74E0           004E0   233          LA    R13,SAVEAREA                                                    00208001
000256 47F0 7212           00212   234          B     MORERAS                                                         00209001
                                   235 *                                                                              00210001
00025A 18DC                        236 ENDOFR   LR    R13,R12                                                         00211001
                                   237 *                                                                              00212001
                                   238          RETURN (14,12)               TO TERMINATION ROUTINE IN FSA            00213001
00025C 98EC D00C           0000C   239+         LM    14,12,12(13)                     RESTORE THE REGISTERS   01-RETUR
000260 07FE                        240+         BR    14                               RETURN                  01-RETUR
                                   241 *                                                                              00214001
                                   242 ********************************************************************************* 00215001
                                   243 *                                                                              00216001
                                   244 *        PRINT CURRENT DATA STORAGE AREAS IF DUMP IS SPECIFIED                 00217001
                                   245 *                                                                              00218001
                                   246 ********************************************************************************* 00219001
                                   247 *                                                                              00220001
                                   248 *        BLOCK NUMBER AND TYPE OF BLOCK MOVED INTO TEXT                        00221001
                                   249 *                                                                              00222001
                                   250 ********************************************************************************* 00223001
                                   251 *                                                                              00224001
000262 58A0 E000           00000   252 EDIT     L     CDSA,0(,R14)           POINTER TO CURRENT DSA                   00225001
000266 58B0 A010           00010   253          L     PBT,16(,CDSA)          ADDR OF PBTAB                            00226001
00026A D203 75B0 B004 005B0 00004  254          MVC   ERM02M(4),4(PBT)       NAME OF LOAD MODULE                      00227001
000270 4AB0 A008           00008   255          AH    PBT,8(,CDSA)           TYPE OF BLOCK                            00228001
000274 1B22                        256          SR    R2,R2                                                           00229001
000276 4320 B006           00006   257          IC    R2,6(,PBT)                                                      00230001
00027A 8920 0002           00002   258          SLL   R2,2                                                            00231001
00027E 4162 75E7           005E7   259          LA    R6,ERM02BK(R2)                                                  00232001
000282 D20F 75D7 6000 005D7 00000  260          MVC   ERM02TP,0(R6)          MOVE IN BLOCK TYPE TEXT                  00233001
000288 482A 0008           00008   261          LH    R2,8(CDSA)             CONVERT BLOCK NUMBER TO DECIMAL          00234001
00028C 8820 0003           00003   262          SRL   R2,3                   FOR PRINTING                             00235001
000290 4E20 7528           00528   263          CVD   R2,WORKD                                                        00236001
000294 D203 75D1 75A3 005D1 005A3  264          MVC   ERM02BN,BNPATTN                                                 00237001
00029A DE03 75D1 752E 005D1 0052E  265          ED    ERM02BN,WORKD+6                                                 00238001
0002A0 9604 7540      00540        266          OI    FLAG,X'04'             SET SKIP FLAG                            00239001
0002A4 D23F 7543 75A7 00543 005A7  267          MVC   BUFFER(ERM02L),IHIERM02  MOVE MSG INTO BUFFER                  00240001
0002AA 4530 7478           00478   268          BAL   R3,OUTPUT                                                       00241001
                                   269 *                                                                              00242001
                                   270 ********************************************************************************* 00243001
                                   271 *                                                                              00244001
                                   272 *        EDIT THE FORMAL PARAMETERS IF PROCEDURE BLOCK                         00245001
                                   273 *                                                                              00246001
                                   274 ********************************************************************************* 00247001
                                   275 *                                                                              00248001
0002AE 1B11                        276          SR    R1,R1                                                           00249001
0002B0 4190 A018           00018   277          LA    R9,24(,CDSA)           FIRST BYTE TO BE EDITED                  00250001
0002B4 91FF B006      00006        278          TM    6(PBT),X'FF'           TEST FOR FORMAL PARAMETERS               00251001
0002B8 4780 72E6           002E6   279          BZ    NOFPARAM                                                        00252001
0002BC D210 754C 7617 0054C 00617  280          MVC   BUFFER+9(L'KFORMAL),KFORMAL  HANDLING FORMAL PARAMETERS       00253001
0002C2 1B55                        281          SR    R5,R5                                                           00254001
0002C4 4350 B007           00007   282          IC    R5,7(,PBT)             PARAMETERS BY EIGHT                      00255001
0002C8 8950 0003           00003   283          SLL   R5,3                   MULTIPLY NUMBER OF FORMAL                00256001
0002CC 9108 B006      00006        284          TM    6(PBT),X'08'                                                    00257001
0002D0 4780 72D8           002D8   285          BZ    NOTYPE                                                          00258001
0002D4 4150 5008           00008   286          LA    R5,8(,R5)              ADD EIGHT IF TYPE PROCEDURE              00259001
0002D8 1A59                        287 NOTYPE   AR    R5,R9                  END OF FORMAL PARAMETERS IN R5           00260001
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Active USINGs: IHIERROR,R7 DSTABLE,R5

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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0002DA 4540 7348           00348   288          BAL   R4,TRANSDAT             PRINT FORMAL PARAMETERS          00261001
0002DE 9604 7540      00540        289 NFPARM   OI    FLAG,X'04'              SET SKIP FLAG                    00262001
0002E2 4530 7478           00478   290          BAL   R3,OUTPUT               LAST PARAMETERS                  00263001
0002E6 4820 B004           00004   291 NOFPARAM LH    R2,4(,PBT)              GET END OF OBJECT TIME STACK     00264001
0002EA 4152 A000           00000   292          LA    R5,0(R2,CDSA)                                            00265001
0002EE 1995                        293          CR    R9,R5                                                    00266001
0002F0 47B0 73CA           003CA   294          BNL   ARRAYS                                                   00267001
                                   295 *                                                                        00268001
                                   296 ************************************************************************ 00269001
                                   297 *                                                                        00270001
                                   298 *        EDIT OBJECT TIME STACK                                          00271001
                                   299 *                                                                        00272001
                                   300 ************************************************************************ 00273001
                                   301 *                                                                        00274001
0002F4 D229 754C 7628 0054C 00628  302          MVC   BUFFER+9(L'IHIERM05),IHIERM05                          00275001
0002FA 947D 7540      00540        303          NI    FLAG,X'7D'              BUFFER AND ARRAY FLAG            00276001
0002FE 1211                        304          LTR   R1,R1                   ANY FORMAL PARAMETER PRINTED     00277001
000300 4770 7318           00318   305          BNZ   NOTZERO                                                  00278001
000304 47F0 730C           0030C   306          B     MULT32A                                                  00279001
                                   307 *                                                                        00280001
000308 8C00 001B           0001B   308 MULT32   SRDL  R0,27                                                    00281001
00030C 9680 7540      00540        309 MULT32A  OI    FLAG,X'80'              BUFFER FLAG                      00282001
000310 4140 72DE           002DE   310          LA    R4,NFPARM                                                00283001
000314 47F0 7348           00348   311          B     TRANSDAT                                                 00284001
                                   312 *                                                                        00285001
000318 8D00 001B           0001B   313 NOTZERO  SLDL  R0,27                    TEST IF END OF LINE              00286001
00031C 1211                        314          LTR   R1,R1                                                    00287001
00031E 4780 7308           00308   315          BZ    MULT32                  YES, BRANCH TO MULT32            00288001
000322 8C00 001B           0001B   316          SRDL  R0,27                                                    00289001
000326 1995                        317          CR    R9,R5                   TEST IF ANY DATA TO BE PRINTED   00290001
000328 47B0 72DE           002DE   318          BNL   NFPARM                                                   00291001
00032C 4530 7478           00478   319          BAL   R3,OUTPUT               YES, PRINT HEADING               00292001
000330 4210 7542           00542   320          STC   R1,IF16                 TEST IF TIME FOR ONE STEP        00293001
000334 940F 7542      00542        321          NI    IF16,X'0F'                                               00294001
000338 4770 7340           00340   322          BNZ   LABAA                                                    00295001
00033C 4180 8001           00001   323          LA    R8,1(,R8)                                                00296001
000340 4540 7398           00398   324 LABAA    BAL   R4,INSETDA              EDITED                           00297001
000344 47F0 72DE           002DE   325          B     NFPARM                                                   00298001
                                   326 *                                                                        00299001
                                   327 ************************************************************************ 00300001
                                   328 *                                                                        00301001
                                   329 *        CONVERSION OF DATA FOR PRINTING AND EDITING OF THE OUTPUT       00302001
                                   330 *                                                                        00303001
                                   331 ************************************************************************ 00304001
                                   332 *                                                                        00305001
000348 1995                        333 TRANSDAT CR    R9,R5                   TEST IF MORE DATA IS TO BE       00306001
00034A 07B4                        334          BNLR  R4                      EDITED                           00307001
00034C 8D00 001B           0001B   335          SLDL  R0,27                                                    00308001
000350 1211                        336          LTR   R1,R1                   PRINT BUFFER IF END OF LINE      00309001
000352 4780 7388           00388   337          BZ    SETDISP                                                  00310001
000356 8D00 0001           00001   338          SLDL  R0,1                                                     00311001
00035A 1211                        339          LTR   R1,R1                   IF INDEX MULTIPLE OF 16 THEN     00312001
00035C 4770 7364           00364   340          BNZ   SHIFTB                  MAKE ONE EXTRA SPACE             00313001
000360 4180 8001           00001   341          LA    R8,1(,R8)                                                00314001
000364 8C00 001C           0001C   342 SHIFTB   SRDL  R0,28                                                    00315001
000368 F384 8000 9000 00000 00000  343 TRANS    UNPK  0(9,R8),0(5,R9)         UNPACK HEXADECIMAL DATA FOR      00316001
00036E 9240 8008      00008        344          MVI   8(R8),C' '              PRINTING                         00317001
000372 DC07 8000 7440 00000 00440  345          TR    0(8,R8),TRTABLE-240                                      00318001
000378 4111 0004           00004   346          LA    R1,4(R1)                                                 00319001
00037C 4188 000A           0000A   347          LA    R8,10(R8)                                                00320001
000380 4199 0004           00004   348          LA    R9,4(R9)                                                 00321001
000384 47F0 7348           00348   349          B     TRANSDAT                                                 00322001
                                   350 *                                                                        00323001
                                   351 ************************************************************************ 00324001
                                   352 *                                                                        00325001
                                   353 *        DISPLACEMENT FOR DATA EDITED                                    00326001
                                   354 *                                                                        00327001
                                   355 ************************************************************************ 00328001
                                   356 *                                                                        00329001
000388 8C00 001B           0001B   357 SETDISP  SRDL  R0,27                                                    00330001
00038C 4530 7478           00478   358          BAL   R3,OUTPUT                                                00331001
000390 9102 7540      00540        359          TM    FLAG,X'02'              CHECK IF EDITING ARRAYS TO GET   00332001
000394 4710 73C4           003C4   360          BO    ADDR                    RIGHT DISPLACEMENT               00333001
000398 4130 1018           00018   361 INSETDA  LA    R3,24(,R1)                                               00334001
00039C 5030 7528           00528   362 INSETD   ST    R3,WORKD                UNPACK HEXADECIMAL ADDR FOR      00335001
0003A0 F363 7543 7529 00543 00529  363          UNPK  BUFFER(7),WORKD+1(4)    PRINTING                         00336001
0003A6 9640 7549      00549        364          OI    BUFFER+6,C' '                                            00337001
0003AA DC05 7543 7440 00543 00440  365          TR    BUFFER(6),TRTABLE-240                                    00338001
0003B0 9180 7540      00540        366          TM    FLAG,X'80'              PRINTING IS TO BE CONTINUED ?    00339001
0003B4 4780 73BC           003BC   367          BZ    INSETDB                 AND NOT START AT THE             00340001
0003B8 4180 754C           0054C   368          LA    R8,BUFFER+9             BEGINNING OF A NEW LINE          00341001
0003BC 9680 7540      00540        369 INSETDB  OI    FLAG,X'80'                                               00342001
0003C0 47F0 7368           00368   370          B     TRANS                                                    00343001
                                   371 *                                                                        00344001
0003C4 1831                        372 ADDR     LR    R3,R1                   DISPLACEMENT FOR ARRAY           00345001
0003C6 47F0 739C           0039C   373          B     INSETD                                                   00346001
                                   374 *                                                                        00347001
                                   375 ************************************************************************ 00348001
                                   376 *                                                                        00349001
                                   377 *        EDITING OF DECLARED ARRAYS                                      00350001
                                   378 *                                                                        00351001
                                   379 ************************************************************************ 00352001
                                   380 *                                                                        00353001
0003CA BF2F A00C           0000C   381 ARRAYS   ICM   R2,B'1111',12(CDSA)      ANY DECLARED ARRAYS ?            00354001
0003CE 4780 7414           00414   382          BZ    VALUE                                                    00355001
0003D2 9602 7540      00540        383 MOREARRY OI    FLAG,X'02'                                               00356001
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Active USINGs: IHIERROR,R7 DSTABLE,R5

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.21

0003D6 5892 A008            00008   384 VARRSMF  L     R9,8(R2,CDSA)           STARTING ADDR OF ARRAY           00357001
0003DA 5020 7528            00528   385          ST    R2,WORKD                UNPACK HEXADECIMAL DISPLACEMENT  00358001
0003DE F363 766C 7529 0066C 00529   386          UNPK  ERM06SMF,WORKD+1(4)     OF SMF FOR PRINTING              00359001
0003E4 9240 7672      00672         387          MVI   ERM06SMF+6,C' '                                          00360001
0003E8 DC05 766C 7440 0066C 00440   388          TR    ERM06SMF(6),TRTABLE-240                                  00361001
0003EE D22E 754C 7652 0054C 00652   389          MVC   BUFFER+9(ERM06L),IHIERM06                                00362001
0003F4 5852 A00C            0000C   390          L     R5,12(R2,CDSA)          END ADDR OF ARRAY                00363001
0003F8 1B11                         391          SR    R1,R1                                                    00364001
0003FA 4540 7348            00348   392          BAL   R4,TRANSDAT                                              00365001
0003FE 5822 A000            00000   393          L     R2,0(R2,CDSA)           GET CHAINING ADDR                00366001
000402 4120 2000            00000   394          LA    R2,0(,R2)                                                00367001
000406 9604 7540      00540         395          OI    FLAG,X'04'              SET SKIP FLAG                    00368001
00040A 4530 7478            00478   396          BAL   R3,OUTPUT               PRINT LAST LINE                  00369001
00040E 1222                         397          LTR   R2,R2                                                    00370001
000410 4770 73D2            003D2   398          BNZ   MOREARRY                                                 00371001
                                    399 *                                                                      00372001
                                    400 ************************************************************************ 00373001
                                    401 *                                                                      00374001
                                    402 *        EDITING OF VALUE ARRAYS                                       00375001
                                    403 *                                                                      00376001
                                    404 ************************************************************************ 00377001
                                    405 *                                                                      00378001
000414 482A 000A            0000A   406 VALUE    LH    R2,10(CDSA)             TEST FOR VALUE ARRAYS            00379001
000418 1222                         407          LTR   R2,R2                                                    00380001
00041A 4780 7468            00468   408          BZ    ENDVALAR                                                 00381001
00041E 9602 7540      00540         409 VALARRAY OI    FLAG,X'02'                                               00382001
000422 5020 7528            00528   410          ST    R2,WORKD                UNPACK HEX DISPLACEMENT OF       00383001
000426 F363 769B 7529 0069B 00529   411          UNPK  ERM07SMF,WORKD+1(4)     SMF FOR PRINTING                 00384001
00042C 9240 76A1      006A1         412          MVI   ERM07SMF+6,C' '                                          00385001
000430 DC05 769B 7440 0069B 00440   413          TR    ERM07SMF(6),TRTABLE-240                                  00386001
000436 D235 754C 7681 0054C 00681   414          MVC   BUFFER+9(ERM07L),IHIERM07   TO BUFFER                    00387001
00043C 5892 A000            00000   415          L     R9,0(R2,CDSA)           ADDR OF SMF                      00388001
000440 5850 900C            0000C   416          L     R5,12(,R9)              END OF ARRAY                     00389001
000444 5890 9008            00008   417          L     R9,8(,R9)               BEGINNING OF ARRAY               00390001
000448 1B11                         418          SR    R1,R1                                                    00391001
00044A 4540 7348            00348   419          BAL   R4,TRANSDAT             PRINT DATA                       00392001
00044E 9604 7540      00540         420          OI    FLAG,X'04'                                               00393001
000452 4530 7478            00478   421          BAL   R3,OUTPUT               PRINT LAST LINE                  00394001
000456 5892 A000            00000   422          L     R9,0(R2,CDSA)           GET CHAINING DISPLACEMENT        00395001
00045A 4820 9002            00002   423          LH    R2,2(,R9)                                                00396001
00045E 1222                         424          LTR   R2,R2                                                    00397001
000460 4780 7468            00468   425          BZ    ENDVALAR                                                 00398001
000464 47F0 741E            0041E   426          B     VALARRAY                                                 00399001
                                    427 *                                                                      00400001
000468 4530 7478            00478   428 ENDVALAR BAL   R3,OUTPUT               PRINT ONE EXTRA BLANK LINE       00401001
00046C 9604 7540      00540         429          OI    FLAG,X'04'                                               00402001
000470 94FD 7540      00540         430          NI    FLAG,X'FD'              RESET ARRAY FLAG                 00403001
000474 47F0 7240            00240   431          B     RELDSA                                                   00404001
                                    432 *                                                                      00405001
                                    433 ************************************************************************ 00406001
                                    434 *                                                                      00407001
                                    435 *        PRINT THE MSG BUFFER BY USING THE IHIIORNX ROUTINE            00408001
                                    436 *                                                                      00409001
                                    437 ************************************************************************ 00410001
                                    438 *                                                                      00411001
000478 9058 C028            00028   439 OUTPUT   STM   R5,R8,40(R12)           SAVE REGS USED                   00412001
00047C 4160 0001            00001   440          LA    R6,1                    SET THE DATASET NUMBER TO 1      00413001
000480 585C 00AC            000AC   441          L     R5,ADSTAB(R12)          ENTRY OF DSN=1 IN DSTAB          00414001
000484 4150 5028            00028   442          LA    R5,DSTABLEL+4(,R5)      R5 -> DSTABLE ENTRY FOR DSN 1    00415001
000488 5880 5004            00004   443          L     R8,R                                                     00416001
00048C 9610 501A      0001A         444          OI    DSF,DS3                 SET DS3 = 1                      00417001
000490 D259 8000 7543 00000 00543   445          MVC   0(L'BUFFER,R8),BUFFER   MOVE BUFFER TO OUTPUT            00418001
000496 180E                         446          LR    R0,R14                  SAVE ADDR OF RETURN STACK PTR    00419001
000498 58F0 76C8            006C8   447          L     R15,VIORNX                                               00420001
00049C 05EF                         448          BALR  R14,R15                 CALL NEXT RECORD ROUTINE         00421001
00049E 9104 7540      00540         449          TM    FLAG,X'04'                                               00422001
0004A2 4780 74CA            004CA   450          BZ    NOFLAG                                                   00423001
0004A6 4860 5014            00014   451          LH    R6,S                    INCREASE S-COUNTER IN DSTAB      00424001
0004AA 4160 6002            00002   452 SCOUNT   LA    R6,2(,R6)                                                00425001
0004AE 4060 5014            00014   453          STH   R6,S                                                     00426001
0004B2 5850 5004            00004   454          L     R5,R                    SKIP LINES IF SKIP FLAG IS SET   00427001
0004B6 0650                         455          BCTR  R5,0                    AND NOT TIME FOR NEW PAGE        00428001
0004B8 95F1 5000      00000         456          CLI   0(R5),C'1'              SKIP TO NEW PAGE ?               00429001
0004BC 4780 74C6            004C6   457          BE    RESFLAG                 YES, BRANCH                      00430001
0004C0 D200 5000 7541 00000 00541   458          MVC   0(1,R5),SPACE                                            00431001
0004C6 94FB 7540      00540         459 RESFLAG  NI    FLAG,X'FB'              RESET SKIP FLAG                  00432001
0004CA 18E0                         460 NOFLAG   LR    R14,R0                  RESTORE RETURN STACK PTR         00433001
0004CC 1B00                         461          SR    R0,R0                                                    00434001
0004CE 9240 7543      00543         462          MVI   BUFFER,C' '             BLANK BUFFER AFTER PRINTING      00435001
0004D2 D258 7544 7543 00544 00543   463          MVC   BUFFER+1(L'BUFFER-1),BUFFER                              00436001
0004D8 9858 C028            00028   464          LM    R5,R8,40(R12)                                            00437001
0004DC 07F3                         465          BR    R3                      RETURN TO CALLER                 00438001
                                    466 *                                                                      00439001
0004DE 0000
0004E0 0000000000000000             467 SAVEAREA DC    18F'0'                                                   00440001
                                    468 *                                                                      00441001
000528 0000000000000000             469 WORKD    DC    D'0'                                                     00442001
000530 F0F1F2F3F4F5F6F7             470 TRTABLE  DC    C'0123456789ABCDEF'     TRANSLATION TABLE                00443001
000540 84                           471 FLAG     DC    X'84'                                                    00444001
000541 60                           472 SPACE    DC    C'-'                    ASA CNTL CHAR                    00445001
000542                              473 IF16     DS    0C                                                       00446001
000542 00                           474 DSNUMBER DC    X'00'                                                    00447001
000543 4040404040404040             475 BUFFER   DC    CL90' '                 MESSAGE BUFFER                   00448001
00059D 402020202020                 476 SCPATTN  DC    X'402020202020'         PATTERN FOR SEMICOLON COUNT      00449001
0005A3 40202020                     477 BNPATTN  DC    X'40202020'             PATTERN FOR BLOCK NUMBER         00450001
                                    478 *                                                                      00451001
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Active USINGs: IHIERROR,R7 DSTABLE,R5

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                   479 *        HEADINGS                                                          00452001
                                   480 *                                                                          00453001
0005A7 D4D6C4E4D3C5407E            481 IHIERM02 DC    C'MODULE = '                                                00454001
0005B0 4040404040404040            482 ERM02M   DC    CL8' '                                                      00455001
0005B8 4040D7D9D6C7D9C1            483          DC    C'  PROGRAM BLOCK NUMBER = '                                00456001
0005D1 40404040                    484 ERM02BN  DC    C'    '                                                     00457001
0005D5 404D                        485          DC    C' ('                                                       00458001
0005D7 4040404040404040            486 ERM02TP  DC    CL16' '                                                     00459001
                      00040        487 ERM02L   EQU   *-IHIERM02             L'IHIERM02                          00460001
                                   488 *                                                                          00461001
0005E7 C2D3D6C3D25D4040            489 ERM02BK  DC    CL16'BLOCK)          '  *                                   00462001
0005F7 D7D9D6C3C5C4E4D9            490          DC    CL16'PROCEDURE)      '  |                                   00463001
000607 E3E8D7C540D7D9D6            491          DC    CL16'TYPE PROCEDURE) '  V                                   00464001
                                   492 *                                                                          00465001
000617 C6D6D9D4C1D340D7            493 KFORMAL  DC    C'FORMAL PARAMETERS'                                        00466001
                                   494 *                                                                          00467001
000628 C4C5C3D3C1D9C5C4            495 IHIERM05 DC    C'DECLARED IDENTIFIERS AND OBJECT TIME STACK'               00468001
                                   496 *                                                                          00469001
000652 E2D4C640C4C9E2D7            497 IHIERM06 DC    C'SMF DISPLACEMENT IN DSA = '                               00470001
00066C 40404040404040              498 ERM06SMF DC    CL7' '                                                      00471001
000673 C4C5C3D3C1D9C5C4            499          DC    C'DECLARED ARRAY'                                           00472001
                      0002F        500 ERM06L   EQU   *-IHIERM06             L'IHIERM06                          00473001
                                   501 *                                                                          00474001
000681 E2D4C640C4C9E2D7            502 IHIERM07 DC    C'SMF DISPLACEMENT IN DSA = '                               00475001
00069B 40404040404040              503 ERM07SMF DC    CL7' '                                                      00476001
0006A2 C1D9D9C1E840C3C1            504          DC    C'ARRAY CALLED BY VALUE'                                    00477001
                      00036        505 ERM07L   EQU   *-IHIERM07             L'IHIERM07                          00478001
                                   506 *                                                                          00479001
                                   507 ************************************************************************** 00480001
                                   508 *                                                                          00481001
                                   509 *        EXTERNAL ADDRS                                                    00482001

                                   511 ************************************************************************** 00484001
                                   512 *                                                                          00485001
                                   513 *        PASSED IN PARAMETER LIST FROM CALLER IHIFSA                       00486001
                                   514 *                                                                          00487001
0006B7 00
0006B8 00000000                    515 VFRDSA   DC    A(0)      V(FRDSA)                                          00488001
0006BC 00000000                    516 VSPDAP   DC    A(0)      V(SPDAP)                                          00489001
0006C0 00000000                    517 VIOROP   DC    A(0)      V(IHIIOROP)                                       00490001
0006C4 00000000                    518 VIORCP   DC    A(0)      V(IHIIORCP)                                       00491001
0006C8 00000000                    519 VIORNX   DC    A(0)      V(IHIIORNX)                                       00492001
                                   520 *                                                                          00493001
                                   521 *        ADDRS IN IHIERMSG MODULE                                          00494001
                                   522 *                                                                          00495001
0006CC 00000000                    523 VERMSG   DC    V(IHIERMSG)                                               00496001
0006D0 00000000                    524 VERM01   DC    V(IHIERM01)                                               00497001
                                   525 *                                                                          00498001
000000                00000 00120  526 FSARE    DSECT                                                           00499001
                                   527 *                                                                          00500001
                                   528          COPY  FSAREA                                                      00501001
                                   529=*                                                                          00001001
                                   530=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00002001
                                   531=*                                                                          00003001
                                   532=*        STATUS - LEVEL 2.1                                                00004001
                                   533=*                                                                          00005001
                                   534=************************************************************************** 00006001
                                   535=*                                                                          00007001
                                   536=*        COMMON DATA AREA                                                  00008001
                                   537=*                                                                          00009001
                                   538=*        FSAREA                                                            00010001
                                   539=*                                                                          00011001
                                   540=************************************************************************** 00012001
                                   541=*                                                                          00013001
                                   542=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                        00014001
                                   543=*        MODULES DURING THE EXECUTION                                      00015001
                                   544=*                                                                          00016001
                                   545=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY                     00017001
                                   546=*        SUBROUTINES) BY R12                                               00018001
                                   547=*                                                                          00019001
                      00000        548=FSAREA   EQU   *                                                           00020001
                                   549=*                                                                          00021001
                                   550=*        SAVE AREAS                                                        00022001
                                   551=*                                                                          00023001
000000                             552=         DS    18F                  STANDARD SAVE AREA                   00024001
                      00048        553=ASAVE    EQU   *-FSAREA             ALTERNATE SAVE AREA USED BY          00025001
000048                             554=         DS    18F                  CERTAIN SUBROUTINES                  00026001
                                   555=*                                                                          00027001
                                   556=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                            00028001
                                   557=*                                                                          00029001
                      00090        558=FCTVALST EQU   *-FSAREA             TEMPORARY STORAGE FOR                00030001
000090                             559=         DS    D                    FUNCTION VALUES                      00031001
                      00098        560=ASTLOC   EQU   *-FSAREA             DISPL FOR ADDR OF STAND LOCTN        00032001
000098 00000090                    561=         DC    A(FSAREA+FCTVALST)                                        00033001
                      0009C        562=BRRST    EQU   *-FSAREA             TEMPORARY SAVE REG BRR               00034001
                      0009C        563=HW       EQU   BRRST                TEMPORARY HALFWORD STORAGE           00035001
00009C                             564=         DS    F                                                         00036001
                      000A0        565=PROLREG  EQU   *-FSAREA             STORAGE FOR PBT AND LAT WHEN         00037001
0000A0                             566=         DS    2A                   A PROCEDURE IS FORMAL PARAM          00038001
                                   567=*                                                                          00039001
                                   568=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE            00040001
                                   569=*                                                                          00041001
0000A8                             570=         DS    0H                                                        00042001
0000A8 00                          571=         DC    X'00'                                                     00043001
                      000A9        572=PROLPBN  EQU   *-FSAREA             STORAGE FOR CALLED PBN               00044001
0000A9 00                          573=         DC    X'00'                                                     00045001
```

Active USINGs: IHIERROR,R7 DSTABLE,R5

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D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                      000AA         574=EIGHT    EQU   *-FSAREA              CONST FOR REDUCING RAS           00046001
0000AA 0008                         575=         DC    H'8'                                                   00047001
                                    576=*                                                                     00048001
0000AC                              577=         DS    0F                                                     00049001
                      000AC         578=ADSTAB   EQU   *-FSAREA              ADDR OF DSTABLE                  00050001
0000AC                              579=         DS    A                     IN THE OBJECT PROGRAM            00051001
                      000B0         580=ANOTTAB  EQU   *-FSAREA              ADDR OF NOTE TABLE               00052001
0000B0                              581=         DS    A                     (INSERTED BY THE OPEN ROUTINE)   00053001
                                    582=*                                                                     00054001
                      000B4         583=IHIFSAST EQU   *                                                      00055001
                      000B4         584=PGOPSW   EQU   *-FSAREA              PROGRAM CHECK OLD PSW            00056001
0000B4                              585=         DS    2F                                                     00057001
                      000BC         586=FSAPICA  EQU   *-FSAREA              OLD PICA ADDR                    00058001
0000BC 00000000                     587=         DC    F'0'                                                   00059001
                      000C0         588=SCRCS    EQU   *-FSAREA              SEMICOLON NUMBER                 00060001
0000C0                              589=         DS    H                                                      00061001
                      000C2         590=DTSW     EQU   *-FSAREA              OPTION SWITCHES                  00062001
                      000C2         591=OPTSW    EQU   DTSW                                                   00063001
0000C2 00                           592=         DC    X'00'                 DUMP-80, TRACE-40, SHORT-20      00064001
                      000C3         593=FSAERCOD EQU   *-FSAREA              ERROR CODE FOR ERROR ROUTINE     00065001
0000C3                              594=         DS    C                                                      00066001
                                    595=*                                                                     00067001
                                    596=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER            00068001
                                    597=*                                                                     00069001
0000C4                              598=         DS    0F                                                     00070001
                      000C4         599=IHIFSARS EQU   *                                                      00071001
                      000C4         600=RASSTART EQU   *-FSAREA              ADDR OF FIRST ENTRY IN RAS-8     00072001
0000C4                              601=         DS    F                                                      00073001
                      000C8         602=RASPT    EQU   *-FSAREA              RAS POINTER FROM TOP             00074001
0000C8                              603=         DS    F                                                      00075001
                      000CC         604=RASEND   EQU   *-FSAREA              ADDR OF LAST  ENTRY IN RAS+8     00076001
0000CC                              605=         DS    F                                                      00077001
                      000D0         606=RASPB    EQU   *-FSAREA              RAS POINTER FROM BOTTOM          00078001
0000D0                              607=         DS    F                                                      00079001
                                    608=*                                                                     00080001
                                    609=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES      00081001
                                    610=*                                                                     00082001
0000D4                              611=BRLIST   DS    0F                                                     00083001
                      000D4         612=CAP1     EQU   *-FSAREA              FIRST PART CAPS                  00084001
0000D4 4700 0000            00000   613=         NOP   0                                                      00085001
                      000D8         614=CAP2     EQU   *-FSAREA              SECOND PART CAPS                 00086001
0000D8 4700 0000            00000   615=         NOP   0                                                      00087001
                      000DC         616=PROLOGP  EQU   *-FSAREA              PROLOGUE FORMAL PARAMETER ENTRY  00088001
                      000DC         617=PROLOGFP EQU   PROLOGP                                                00089001
0000DC 4700 0000            00000   618=         NOP   0                                                      00090001
                      000E0         619=PROLOG   EQU   *-FSAREA              PROLOGUE PROGRAM USUAL ENTRY     00091001
0000E0 4700 0000            00000   620=         NOP   0                                                      00092001
                      000E4         621=RETPROG  EQU   *-FSAREA              DISPLACEMENT RETURN PROGRAM      00093001
0000E4 4700 0000            00000   622=         NOP   0                                                      00094001
                      000E8         623=EPILOGP  EQU   *-FSAREA              EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000            00000   624=         NOP   0                                                      00096001
                      000EC         625=EPILOGB  EQU   *-FSAREA              EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000            00000   626=         NOP   0                                                      00098001
                      000F0         627=EPILPR3  EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3         00099001
0000F0 4700 0000            00000   628=         NOP   0                                                      00100001
                      000F4         629=CSWE1    EQU   *-FSAREA              FIRST PART CSWES                 00101001
0000F4 4700 0000            00000   630=         NOP   0                                                      00102001
                      000F8         631=CSWE2    EQU   *-FSAREA              SECOND PART CSWES                00103001
0000F8 4700 0000            00000   632=         NOP   0                                                      00104001
                      000FC         633=LOADPP   EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE    00105001
0000FC 4700 0000            00000   634=         NOP   0                                                      00106001
                      00100         635=TRACE    EQU   *-FSAREA                                               00107001
000100 D200 0000 0000 00000 00000   636=         MVC   0(0),0                                                 00108001
000106 4700 0000            00000   637=         NOP   0                                                      00109001
00010A 4700 0000            00000   638=         NOP   0                                                      00110001
                      0010E         639=TERMNTE  EQU   *-FSAREA              NORMAL TERMINATION EXIT          00111001
00010E 4700 0000            00000   640=         NOP   0                                                      00112001
                      00112         641=BCR      EQU   *-FSAREA                                               00113001
000112 0700                         642=         BCR   0,0                   VARIABLE CONDITIONAL BRANCH      00114001
                      00114         643=GETMSTO  EQU   *-FSAREA                                               00115001
000114 4700 0000            00000   644=         NOP   0                                                      00116001
                                    645=*                                                                     00117001
                      00118         646=VALUCALL EQU   *-FSAREA                                               00118001
000118 4700 0000            00000   647=         NOP   0                                                      00119001
                      0011C         648=IORLST   EQU   *-FSAREA                                               00120001
00011C 4700 0000            00000   649=         NOP   0                                                      00121001
                                    650=*                                                                     00122001
                      001CC         651=FSAERR   EQU   X'1CC'                DISPL  FOR ERROR LIST            00123001
                                    652=*                                                                     00124001
                                    653=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                 00125001
                                    654=*                                                                     00126001
                      0020C         655=OUTOFB   EQU   FSAERR+4*16                                            00127001
                      00218         656=NUMBIND  EQU   FSAERR+4*19                                            00128001
                      00208         657=ARRAYBD  EQU   FSAERR+4*15                                            00129001
                      0026C         658=ERROR40  EQU   FSAERR+4*40                                            00130001
                      00224         659=OERR22   EQU   FSAERR+4*22                                            00131001
                      00210         660=ENDLESL  EQU   FSAERR+4*17                                            00132001
                      00220         661=OERR21   EQU   FSAERR+4*21                                            00133001
                                    662=*                                                                     00134001
                                    663 *                                                                     00502001
                                    664 *        DATASET TABLE MAPPING DSECT                                  00503001
                                    665 *                                                                     00504001
                                    666          DSTABLE DSECT=YES                                            00505001
000000                00000 00024   667+DSTABLE  DSECT                                                        01-DSTAB
                                    668+*                                                                     01-DSTAB
000000 00000000                     669+ADCB     DC    F'0'                   -> DCB                           01-DSTAB
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D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.21

000004 00000000                    670+R        DC    F'0'                 CHARACTER POINTER          01-DSTAB
000008 00000000                    671+RE       DC    F'0'                                            01-DSTAB
00000C 00000000                    672+NBB      DC    F'0'                                            01-DSTAB
000010 00000000                    673+BB       DC    F'0'                                            01-DSTAB
000014 0001                        674+S        DC    H'1'                 RECORD POINTER             01-DSTAB
000016 0050                        675+P        DC    H'80'                RECORD LENGTH              01-DSTAB
000018 02                          676+K        DC    X'02'                NUMBER OF BLANK DELIM CHARS 01-DSTAB
000019 00                          677+Q        DC    X'00'                NO OF RECORDS PER SECTION  01-DSTAB
00001A 0000                        678+DSF      DC    H'00'                DATASET FLAGS              01-DSTAB
                                   679+*                                                             01-DSTAB
                                   680+*        DATASET FLAGS - DSF                                  01-DSTAB
                                   681+*                                                             01-DSTAB
                         00080     682+DS0      EQU   X'80'                DATASET OPEN               01-DSTAB
                         00040     683+DS1      EQU   X'40'                                           01-DSTAB
                         00020     684+DS2      EQU   X'20'                LAST I/O OUTPUT            01-DSTAB
                         00010     685+DS3      EQU   X'10'                                           01-DSTAB
                         00008     686+DS4      EQU   X'08'                                           01-DSTAB
                         00004     687+DS5      EQU   X'04'                                           01-DSTAB
                         00002     688+DS6      EQU   X'02'                OPEN FOR OUTPUT            01-DSTAB
                         00001     689+DS7      EQU   X'01'                END OF FILE                01-DSTAB
                                   690+*                                                             01-DSTAB
                                   691+*        DATASET FLAGS - DSF+1                                01-DSTAB
                                   692+*                                                             01-DSTAB
                         00080     693+DS8      EQU   X'80'                END OF DATA                01-DSTAB
                         00040     694+DS9      EQU   X'40'                                           01-DSTAB
                         00020     695+DS10     EQU   X'20'                OPENED BY SYSACT 12        01-DSTAB
                         00010     696+DS11     EQU   X'10'                INDICATE IHIERR-ROUT       01-DSTAB
                         00008     697+DSEOD    EQU   X'08'                                           01-DSTAB
                         00004     698+DSIOERR  EQU   X'04'                I/O ERROR                  01-DSTAB
                         00002     699+DS14     EQU   X'02'                DATASET OPENED             01-DSTAB
                         00001     700+DS15     EQU   X'01'                CLOSE FROM IHIERR          01-DSTAB
                                   701+*                                                             01-DSTAB
00001C 00000000                    702+NOTEADR  DC    F'0'                                           01-DSTAB
000020 0000                        703+BL       DC    H'0'                 LRECL+ TWO ARB            01-DSTAB
000022 0000                        704+         DC    H'0'                                           01-DSTAB
                                   705+*                                                             01-DSTAB
                         00024     706+DSTABLEL EQU   *-DSTABLE            L'DSTABLE ENTRY           01-DSTAB
                                   707+*                                                             01-DSTAB
                                   708 *                                                             00506001
                                   709 *        REGISTER EQUATES                                     00507001
                                   710 *                                                             00508001
                                   711          IEZREGS                                              00509001
                         00000     712+R0       EQU   0                                               01-IEZRE
                         00001     713+R1       EQU   1                                               01-IEZRE
                         00002     714+R2       EQU   2                                               01-IEZRE
                         00003     715+R3       EQU   3                                               01-IEZRE
                         00004     716+R4       EQU   4                                               01-IEZRE
                         00005     717+R5       EQU   5                                               01-IEZRE
                         00006     718+R6       EQU   6                                               01-IEZRE
                         00007     719+R7       EQU   7                                               01-IEZRE
                         00008     720+R8       EQU   8                                               01-IEZRE
                         00009     721+R9       EQU   9                                               01-IEZRE
                         0000A     722+R10      EQU   10                                              01-IEZRE
                         0000B     723+R11      EQU   11                                              01-IEZRE
                         0000C     724+R12      EQU   12                                              01-IEZRE
                         0000D     725+R13      EQU   13                                              01-IEZRE
                         0000E     726+R14      EQU   14                                              01-IEZRE
                         0000F     727+R15      EQU   15                                              01-IEZRE
                                   728 *                                                             00510001
                                   729          END                                                  00511001
0006D4 00000000
0006D8 E2E8E2E4E3F2                730               =C'SYSUT2'
0006DE E2E8E2E4E3F1                731               =C'SYSUT1'
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
=C'SYSUT1'
                6 000006DE 00000001  C C               731  152
=C'SYSUT2'
                6 000006D8 00000001  C C               730  148
ADDR            2 000003C4 00000001  I                 372  360B
ADSTAB          1 000000AC           U                 578  116  441
ARRAYS          4 000003CA 00000001  I                 381  294B
BNPATTN         4 000005A3 00000001  X X               477  264
BRRST           1 0000009C           U                 562  563
BUFFER         90 00000543 00000001  C C               475  127M 128M 172M 183M 267M 280M 302M 363M 364M 365M 368  389M
                                                             414M 445  462M 463M
B1              4 000000D6 00000001  I                 115   73B  75B  79B
CDSA            1 0000000A           U                  45  228M 229  252M 253  255  261  277  292  381  384  390  393
                                                             406  415  422
DSF             2 0000001A FFFFFFFE  H H               678   74  119M 122M 123M 124M 444M
DSNUMBER        1 00000542 00000001  X X               474  145M 146
DSN17           4 00000166 00000001  I                 151  147B
DSTABLE         1 00000000 FFFFFFFE  J                 667   37U 706
DSTABLEL        1 00000024           U                 706  117  442
DS0             1 00000080           U                 682  124
DS1             1 00000040           U                 683  124
DS11            1 00000010           U                 696   74  122
DS15            1 00000001           U                 700  119
DS2             1 00000020           U                 684  123
DS3             1 00000010           U                 685  123  444
DS6             1 00000002           U                 688  123
DTSW            1 000000C2           U                 590  106M 218  591
EDIT            4 00000262 00000001  I                 252  220B
ENDLINE         4 000001E2 00000001  I                 185  178B
ENDOFR          2 0000025A 00000001  I                 236  215B
ENDVALAR        4 00000468 00000001  I                 428  408B 425B
ERM02BK        16 000005E7 00000001  C C               489  259
ERM02BN         4 000005D1 00000001  C C               484  264M 265M
ERM02L          1 00000040           U                 487  267
ERM02M          8 000005B0 00000001  C C               482  254M
ERM02TP        16 000005D7 00000001  C C               486  260M
ERM06L          1 0000002F           U                 500  389
ERM06SMF        7 0000066C 00000001  C C               498  386M 387M 388M
ERM07L          1 00000036           U                 505  414
ERM07SMF        7 0000069B 00000001  C C               503  411M 412M 413M
EXMVC           6 000001DC 00000001  I                 183  176X
FCTVALST        1 00000090           U                 558  561
FLAG            1 00000540 00000001  X X               471  185M 266M 289M 303M 309M 359  366  369M 383M 395M 409M 420M
                                                             429M 430M 449  459M
FLAGIDS         1 00000003           U                  50  143  168
FLAGMC          1 00000004           U                  52  177
FSAERCOD        1 000000C3           U                 593   76   78  131
FSAERR          1 000001CC           U                 651  655  656  657  658  659  660  661
FSAREA          1 00000000 FFFFFFFF  U                 548  553  558  560  561  562  565  572  574  578  580  584  586
                                                             588  590  593  600  602  604  606  612  614  616  619  621
                                                             623  625  627  629  631  633  635  639  641  643  646  648
IF16            1 00000542 00000001  C C               473  320M 321M
IHB0002A        2 0000008E 00000001  H H                89   83B
IHB0003A        2 000000C8 00000001  H H               102   96B
IHIERMSG        1 00000000 00000002  T                 523  523
IHIERM01        1 00000000 00000003  T                 524  524
IHIERM02        9 000005A7 00000001  C C               481  267  487
IHIERM05       42 00000628 00000001  C C               495  302
IHIERM06       26 00000652 00000001  C C               497  389  500
IHIERM07       26 00000681 00000001  C C               502  414  505
IHIERROR        1 00000000 00000001  J                  35   62U
INSETD          4 0000039C 00000001  I                 362  373B
INSETDA         4 00000398 00000001  I                 361  324B
INSETDB         4 000003BC 00000001  I                 369  367B
IOERR           4 00000094 00000001  I                  96   77B
KFORMAL        17 00000617 00000001  C C               493  280
LABAA           4 00000340 00000001  I                 324  322B
LINE2           4 000001BE 00000001  I                 174  181B
MOREARRY        4 000003D2 00000001  I                 383  398B
MORERAS         4 00000212 00000001  I                 213  202B 234B
MORERASA        4 00000216 00000001  I                 214  225B
MORESPDA        2 000001FA 00000001  I                 201  211B
MULT32          4 00000308 00000001  I                 308  315B
MULT32A         4 0000030C 00000001  I                 309  306B
NFPARM          4 000002DE 00000001  I                 289  310  318B 325B
NOFLAG          2 000004CA 00000001  I                 460  450B
NOFPARAM        4 000002E6 00000001  I                 291  279B
NOTYPE          2 000002D8 00000001  I                 287  285B
NOTZERO         4 00000318 00000001  I                 313  305B
NOT1617         4 000001AA 00000001  I                 168  151B
NOT1617A        4 000001B2 00000001  I                 170  144B
OPTSW           1 000000C2           U                 591  105M
OUTPUT          4 00000478 00000001  I                 439  129B 179B 186B 268B 290B 319B 358B 396B 421B 428B
PBT             1 0000000B           U                  46  229M 253M 254  255M 257  278  282  284  291
PGOPSW          1 000000B4           U                 584  160  163
PRENTRY         4 00000232 00000001  I                 222  217B
PROLOGP         1 000000DC           U                 616  617
PSWDSN          6 000001B6 00000001  I                 172  149B 153B 158B 166B
R               4 00000004 FFFFFFFE  F F               670  443  454
RASPT           1 000000C8           U                 602  213  224M
RASSTART        1 000000C4           U                 600  214
RELDSA          2 00000240 00000001  I                 227  219B 431B
RESFLAG         4 000004C6 00000001  I                 459  457B
R0              1 00000000           U                 712  308M 313M 316M 335M 338M 342M 357M 446M 460  461M
R1              1 00000001           U                 713   63  199M 200  201M 203  208  230M 231B 276M 304M 314M 320
                                                             336M 339M 346M 361  372  391M 418M
R12             1 0000000C           U                 724   64M  76   78  105  106  116  131  139  160  163  213  214
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
                                                      218  224  227  232M 236  439  441  464
R13             1 0000000D           U                725   64   65M 227M 232  233M 236M
R14             1 0000000E           U                726  121M 126M 213M 214  216  223M 224  228  252  446  448M 460M
R15             1 0000000F           U                727   61  120M 121B 125M 126B 231M 447M 448B
R2              1 00000002           U                714  130M 131M 133  134M 135  139M 140  173M 174M 175M 176  180
                                                           200M 201  203M 222M 223  256M 257M 258M 259  261M 262M 263
                                                           291M 292  381M 384  385  390  393M 394M 397M 406M 407M 410
                                                           415  422  423M 424M
R3              1 00000003           U                715  129M 136M 137  138  141  142  172  179M 186M 268M 290M 319M
                                                           358M 361M 362  372M 396M 421M 428M 465B
R4              1 00000004           U                716  288M 310M 324M 334B 392M 419M
R5              1 00000005           U                717   37U 116M 117M 281M 282M 283M 286M 287M 292M 293  317  333
                                                           390M 416M 439  441M 442M 454M 455M 456  458  464M
R6              1 00000006           U                718   73M 115  118M 132M 133M 143  148  152  156  157  160  161
                                                           162  163  164  165  168  174  177  180M 183  259M 260  440M
                                                           451M 452M 453
R7              1 00000007           U                719   61M  62U
R8              1 00000008           U                720  115M 145  155  323M 341M 343  344  345  347M 368M 439  443M
                                                           445  464M
R9              1 00000009           U                721  277M 287  293  317  333  343  348M 384M 415M 416  417M 422M
                                                           423
S               2 00000014 FFFFFFFE  H H              674  451  453M
SAVEAREA        4 000004E0 00000001  F F              467   65  233
SCOUNT          4 000004AA 00000001  I                452  188M
SCPATTN         6 0000059D 00000001  X X              476  141  142
SCRCS           1 000000C0           U                588  139
SETDISP         4 00000388 00000001  I                357  337B
SETOPTSW        4 000000CA 00000001  I                105   92B
SHIFTB          4 00000364 00000001  I                342  340B
SPACE           1 00000541 00000001  C C              472  187M 458
SPDAFREE        4 000001F2 00000001  I                199  107B
TAKEDSN         4 00000174 00000001  I                155  169B
TAKEPSW         6 00000186 00000001  I                160  170B
TRANS           6 00000368 00000001  I                343  370B
TRANSDAT        2 00000348 00000001  I                333  288B 311B 349B 392B 419B
TRTABLE        16 00000530 00000001  C C              470  161  165  345  365  388  413
VALARRAY        4 0000041E 00000001  I                409  426B
VALUE           4 00000414 00000001  I                406  382B
VERMSG          4 000006CC 00000001  V V              523  132
VERM01          4 000006D0 00000001  V V              524  136
VFRDSA          4 000006B8 00000001  A A              515   63M 230
VIORCP          4 000006C4 00000001  A A              518  120
VIORNX          4 000006C8 00000001  A A              519  447
VIOROP          4 000006C0 00000001  A A              517  125
VSPDAP          4 000006BC 00000001  A A              516  199
WORKD           8 00000528 00000001  D D              469  135M 137  140M 142  155M 156  263M 265  362M 363  385M 386
                                                           410M 411
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   59  207M 239M 308M 313M 316M 335M 338M 342M 357M 446M 460  461M
    1(1)   59   63   83M  96M 199M 200  201M 203  208M 230M 231B 239M 276M 304M 308M 313M 314M 316M 320  335M 336M 338M
          339M 342M 346M 346N 357M 361  372  391M 418M
    2(2)   59  130M 131M 133N 134M 135  139M 140  173M 174M 175M 176  180N 200M 201  203M 222M 223  239M 256M 257M 258M
          259N 261M 262M 263  291M 292N 381M 384N 385  390N 393M 393N 394M 397M 406M 407M 410  415N 422N 423M 424M
    3(3)   59  129M 136M 137  138  141  142  172  179M 186M 239M 268M 290M 319M 358M 361M 362  372M 396M 421M 428M 465B
    4(4)   59  239M 288M 310M 324M 334B 392M 419M
    5(5)   37U  59  116M 117M 239M 281M 282M 283M 286M 287M 292M 293  317  333  390M 416M 439  441M 442M 454M 455M 456
          458  464M
    6(6)   59   73M 115  118M 132M 133M 143  148  152  156  157  160  161  162  163  164  165  168  174N 177  180M 183
          239M 259M 260  439  440M 451M 452M 453  464M
    7(7)   59   61M  62U 239M 439  464M
    8(8)   59  115M 145  155  239M 323M 341M 343  344  345  347M 347N 368M 439  443M 445  464M
    9(9)   59  239M 277M 287  293  317  333  343  348M 348N 384M 415M 416  417M 422M 423
   10(A)   59  228M 229  239M 252M 253  255  261N 277  292  381  384  390  393  406N 415  422
   11(B)   59  229M 239M 253M 254  255M 257  278  282  284  291
   12(C)   59   64M  76   78  105  106  116N 131N 139  160  163  213N 214N 218  224N 227  232M 236  239M 439  441N 464
   13(D)   59   64   65M 227M 232  233M 236M 239
   14(E)   59  121M 126M 213M 214  216  223M 224  228  239M 240B 252  446  448M 460M
   15(F)   55B  59   61  120M 121B 125M 126B 231M 239M 447M 448B
```

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

Dsect	Length	Id	Defn	Con	Member
DSTABLE	00000024	FFFFFFFE	667	4	DSTABLE
FSARE	00000120	FFFFFFFF	526		PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               FREEMAIN IEZREGS  RETURN   SAVE     WTO
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
37		USING	Ordinary	FFFFFFFE	00000000	00001000	5	0001B	454	DSTABLE,R5
62		USING	Ordinary	00000001	00000000	00001000	7	006DE	463	IHIERROR,R7

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIERR PROCSTEP: X390

Primary input: lines 1 to 511 of SYSD.ALGOLFRT.ASM(IHIERR)

SYSLIB library records read: 1118

SYSUT1 work file size: 73052 bytes

SYSUT2 work file size: 82324 bytes

SYSUT3 work file size: 40880 bytes

SYSLIN file records written: 35

TXA000I Return code 0, elapsed time 0.70 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIERROR	0006E4	4

IHIFDD

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIFDD)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0110
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     2 *                                                                          00003001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00004001
                                     4 *                                                                          00005001
                                     5 *        STATUS - LEVEL 2.1                                                00006001
                                     6 *                                                                          00007001
                                     7 *        FUNCTION/OPERATION - SEE CODE                                     00008001
                                     8 *                                                                          00009001
                                     9 *        ENTRY POINT - IHIFDD - POWER FUNCTION, REAL**REAL, LONG           00010001
                                    10 *                      LA   R1,PARMLIST                                  00011001
                                    11 *                      BALR R14,R15                                      00012001
                                    12 *                      DATA PASSED BY NAME                               00013001
                                    13 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00014001
                                    14 *                                                                          00015001
                                    15 *        INPUT - N/A                                                       00016001
                                    16 *                                                                          00017001
                                    17 *        OUTPUT - N/A                                                      00018001
                                    18 *                                                                          00019001
                                    19 *        EXTERNAL ROUTINES -                                               00020001
                                    20 *                                                                          00021001
                                    21 *        IHILLO - LOGARITHM FUNCTION, LONG PRECISION                       00022001
                                    22 *        IHILEX - EXPONENTIAL FUNCTION, LONG PRECISION                     00023001
                                    23 *                                                                          00024001
                                    24 *        EXIT - NORMAL - RETURN VIA R14, RESULT IN FPR0                    00025001
                                    25 *                                                                          00026001
                                    26 *        EXIT - ERROR -                                                    00027001
                                    27 *        IF BASE IS ZERO AND EXPONENT NOT POSITIVE GOTO ERROR              00028001
                                    28 *        ROUTINE VIA                                                       00029001
                                    29 *        B    FSAERR+35*4(R13)                                             00030001
                                    30 *                                                                          00031001
                                    31 *        TABLES/WORKAREAS - N/A                                            00032001
                                    32 *                                                                          00033001
000000                00000 000FC   33 IHIFDDXP CSECT                                                           00034001
                                    34 *                                                                          00035001
                                    35 *        FLOATING POINT REGISTERS                                          00036001
                                    36 *                                                                          00037001
                      00000         37 FPR0     EQU   0                       BASE NO, PASSING RESULT             00038001
                      00002         38 FPR2     EQU   2                       EXPONENT IN COMPUTATION             00039001
                                    39 *                                                                          00040001
                                    40 *        GENERAL PURPOSE REGISTERS                                         00041001
                                    41 *                                                                          00042001
                                    42 *        R1                            PARAMETER LIST REF                  00043001
                                    43 *        R3                            INDEXING PARAMETER ADDR             00044001
                                    44 *                                                                          00045001
                                    45          ENTRY IHIFDD                                                      00046001
                                    46 *                                                                          00047001
                                    47 IHIFDD   SAVE  (14,12),,'IHIFDDXP LEVEL 2.1 &SYSDATE &SYSTIME'             00048001
000000 47F0 F026            00026   48+IHIFDD   B     38(0,15)                        BRANCH AROUND ID    01-SAVE
000004 21                           49+         DC    AL1(33)                         LENGTH OF IDENTIFIER 01-SAVE
000005 C9C8C9C6C4C4E7D7             50+         DC    CL32'IHIFDDXP LEVEL 2.1 08/17/12 13.2' IDENTIFIER   01-SAVE
000025 F1                           51+         DC    CL1'1'                          IDENTIFIER          01-SAVE
000026 90EC D00C            0000C   52+         STM   14,12,12(13)                    SAVE REGISTERS      01-SAVE
                                    53 *                                                                          00049001
00002A 182F                         54          LR    R2,R15                                                  00050001
                 R:2  00000         55          USING IHIFDDXP,R2                                             00051001
00002C 183D                         56          LR    R3,R13                    CHAIN SAVE AREAS              00052001
00002E 41D0 2098            00098   57          LA    R13,SAVEAREA                                            00053001
000032 5030 D004            00004   58          ST    R3,4(,R13)                                              00054001
000036 50D0 3008            00008   59          ST    R13,8(,R3)                                              00055001
00003A 5830 1000            00000   60          L     R3,0(,R1)                 PLIST OF BASE NO IN R3        00056001
00003E 6800 3000            00000   61          LD    FPR0,0(,R3)               BASE NO INTO FPR0             00057001
000042 5830 1004            00004   62          L     R3,4(,R1)                 PLIST OF EXPONENT IN R3       00058001
000046 6820 3000            00000   63          LD    FPR2,0(,R3)               EXPONENT INTO FPR2            00059001
00004A 2200                         64          LTDR  FPR0,FPR0                 BASE NO +, - OR ZERO ?        00060001
00004C 4780 208A            0008A   65          BZ    ERROR                     ZERO, BRANCH TO ERROR         00061001
000050 4740 2090            00090   66          BM    ERRORM                    NEGATIVE, UNDEFINED ERROR     00062001
000054 2222                         67          LTDR  FPR2,FPR2                 EXPONENT PLUS, MINUS, OR ZERO ? 00063001
000056 4780 207C            0007C   68          BZ    LOAD1                     ZERO, BRANCH TO LOAD1         00064001
00005A 6020 20E0            000E0   69          STD   FPR2,PARAM                STORE EXPONENT                00065001
00005E 58F0 20F4            000F4   70          L     R15,VIHILLO               R15 -> IHILLO ROUTINE         00066001
000062 05EF                         71          BALR  R14,R15                   CALL IHILLO ROUTINE           00067001
000064 6820 20E0            000E0   72          LD    FPR2,PARAM                RELOAD FPR2 WITH EXPONENT     00068001
000068 2C02                         73          MDR   FPR0,FPR2                 MULT LOG OF BASE NO BY EXPONENT 00069001
00006A 6000 20E0            000E0   74          STD   FPR0,PARAM                STORE RESULT AS EXP RTN PARM  00070001
00006E 4110 20F0            000F0   75          LA    R1,ADCPAR                 R1 -> EXP RTN PARM            00071001
000072 58F0 20F8            000F8   76          L     R15,VIHILEX               R15 -> IHILEX ROUTINE         00072001
000076 05EF                         77          BALR  R14,R15                   CALL IHILEX ROUTINE           00073001
000078 47F0 2080            00080   78          B     EXIT                      EXIT WITH RESULT IN FPR0      00074001
                                    79 *                                                                          00075001
00007C 6800 20E8            000E8   80 LOAD1    LD    FPR0,KFPDONE              PLUS 1 AS RESULT IN FPR0      00076001
000080 58D0 D004            00004   81 EXIT     L     R13,4(,R13)               R13 -> CALLERS SAVE AREA      00077001
                                    82 *                                                                          00078001
                                    83          RETURN (14,12)                  RESTORE CALLERS REGS AND RETURN 00079001
000084 98EC D00C            0000C   84+         LM    14,12,12(13)                    RESTORE THE REGISTERS 01-RETUR
000088 07FE                         85+         BR    14                              RETURN                01-RETUR
                                    86 *                                                                          00080001
00008A 2222                         87 ERROR    LTDR  FPR2,FPR2                 EXPONENT PLUS, MINUS, OR ZERO ? 00081001
00008C 4720 2080            00080   88          BP    EXIT                      EXPN IS POSITIVE, BRANCH TO EXIT 00082001
000090 58DD 0004            00004   89 ERRORM   L     R13,4(R13)                R13 -> CALLERS SAVE AREA      00083001
000094 47FD 0258            00258   90          B     FSAERR+35*4(R13)          BASENO EQUAL ZERO AND EXPONENT  00084001
                                    91 *                                        NO GREATER THAN ZERO, UNDERFINED 00085001
                                    92 *                                                                          00086001
                                    93 *        CONSTANTS AND ADCON AREAS                                         00087001
                                    94 *                                                                          00088001
000098 0000000000000000             95 SAVEAREA DC    18F'0'                    SAVE AREA                     00089001
0000E0 0000000000000000             96 PARAM    DC    D'0'                      PARAM FOR DATA IN DEXP MATH RTN 00090001
0000E8 4110000000000000             97 KFPDONE  DC    D'+1'                     CONSTANT ONE IN DOUBLE PREC FP  00091001
```

Active USINGs: IHIFDDXP,R2

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     98 *                                                                        00092001
0000F0 000000E0                      99 ADCPAR   DC    A(PARAM)              ADDR OF PARAMETER FOR EXP RTN    00093001
                                    100 *                                                                        00094001
0000F4 00000000                     101 VIHILLO  DC    V(IHILLO)             LOG MATH LIBRARY ROUT            00095001
0000F8 00000000                     102 VIHILEX  DC    V(IHILEX)             EXP MATH LIBRARY ROUT            00096001
                                    103 *                                                                        00097001
                     001CC          104 FSAERR   EQU   X'1CC'                                                  00098001
                                    105 *                                                                        00099001
                                    106 *        REGISTER EQUATES                                                00100001
                                    107 *                                                                        00101001
                                    108          IEZREGS                                                         00102001
                     00000          109+R0       EQU   0                                                         01-IEZRE
                     00001          110+R1       EQU   1                                                         01-IEZRE
                     00002          111+R2       EQU   2                                                         01-IEZRE
                     00003          112+R3       EQU   3                                                         01-IEZRE
                     00004          113+R4       EQU   4                                                         01-IEZRE
                     00005          114+R5       EQU   5                                                         01-IEZRE
                     00006          115+R6       EQU   6                                                         01-IEZRE
                     00007          116+R7       EQU   7                                                         01-IEZRE
                     00008          117+R8       EQU   8                                                         01-IEZRE
                     00009          118+R9       EQU   9                                                         01-IEZRE
                     0000A          119+R10      EQU   10                                                        01-IEZRE
                     0000B          120+R11      EQU   11                                                        01-IEZRE
                     0000C          121+R12      EQU   12                                                        01-IEZRE
                     0000D          122+R13      EQU   13                                                        01-IEZRE
                     0000E          123+R14      EQU   14                                                        01-IEZRE
                     0000F          124+R15      EQU   15                                                        01-IEZRE
                                    125 *                                                                        00103001
                                    126          END                                                             00104001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

Symbol	Length	Value	Id	Type	Asm	Program	Defn	References
ADCPAR	4	000000F0	00000001	A	A		99	75
ERROR	2	0000008A	00000001	I			87	65B
ERRORM	4	00000090	00000001	I			89	66B
EXIT	4	00000080	00000001	I			81	78B 88B
FPR0	1	00000000		U			37	61M 64M 73M 74 80M
FPR2	1	00000002		U			38	63M 67M 69 72M 73 87M
FSAERR	1	000001CC		U			104	90B
IHIFDD	4	00000000	00000001	I			48	45
IHIFDDXP	1	00000000	00000001	J			33	55U
IHILEX	1	00000000	00000003	T			102	102
IHILLO	1	00000000	00000002	T			101	101
KFPDONE	8	000000E8	00000001	D	D		97	80
LOAD1	4	0000007C	00000001	I			80	68B
PARAM	8	000000E0	00000001	D	D		96	69M 72 74M 99
R1	1	00000001		U			110	60 62 75M
R13	1	0000000D		U			122	56 57M 58 59 81M 89M 90
R14	1	0000000E		U			123	71M 77M
R15	1	0000000F		U			124	54 70M 71B 76M 77B
R2	1	00000002		U			111	54M 55U
R3	1	00000003		U			112	56M 58 59 60M 61 62M 63
SAVEAREA	4	00000098	00000001	F	F		95	57
VIHILEX	4	000000F8	00000001	V	V		102	76
VIHILLO	4	000000F4	00000001	V	V		101	70

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   52   84M
    1(1)   52   60   62   75M  84M
    2(2)   52   54M  55U  84M
    3(3)   52   56M  58   59   60M  61   62M  63   84M
    4(4)   52   84M
    5(5)   52   84M
    6(6)   52   84M
    7(7)   52   84M
    8(8)   52   84M
    9(9)   52   84M
   10(A)   52   84M
   11(B)   52   84M
   12(C)   52   84M
   13(D)   52   56   57M  58   59   81M  84   89M  89N  90N
   14(E)   52   71M  77M  84M  85B
   15(F)   48B  52   54   70M  71B  76M  77B  84M
```

Con Source Members X390 3.1.04 2012/08/17 13.21

1 SYS1.MACLIB
IEZREGS RETURN SAVE
2 SYSD.TOOLS.MACLIB
3 SYSD.ALGOLFRT.ASM
4 SYSD.ALGOLFRT.MACLIB
5 SYS1.AMODGEN

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
55		USING	Ordinary	00000001	00000000	00001000	2	000F8	88	IHIFDDXP,R2

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIFDD PROCSTEP: X390

Primary input: lines 1 to 104 of SYSD.ALGOLFRT.ASM(IHIFDD)

SYSLIB library records read: 161

SYSUT1 work file size: 12124 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 8320 bytes

SYSLIN file records written: 9

TXA000I Return code 0, elapsed time 0.14 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIFDDXP	0000FC	4

IHIFDI

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIFDI)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0114
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     2 *                                                                          00003001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00004001
                                     4 *                                                                          00005001
                                     5 *        STATUS - LEVEL 2.1                                                00006001
                                     6 *                                                                          00007001
                                     7 *        FUNCTION/OPERATION - SEE CODE                                     00008001
                                     8 *                                                                          00009001
                                     9 *        ENTRY POINT -                                                     00010001
                                    10 *        IHIFDI - POWER FUNCTION, REAL**INT, LONG                          00011001
                                    11 *        LA     R1,PARMLIST                                                00012001
                                    12 *        BALR   R14,R15                                                    00013001
                                    13 *        DATA PASSED BY NAME                                               00014001
                                    14 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00015001
                                    15 *                                                                          00016001
                                    16 *        INPUT - N/A                                                       00017001
                                    17 *                                                                          00018001
                                    18 *        OUTPUT - N/A                                                      00019001
                                    19 *                                                                          00020001
                                    20 *        EXTERNAL ROUTINES - N/A                                           00021001
                                    21 *                                                                          00022001
                                    22 *        EXIT - NORMAL - RETURN VIA R14, RESULT IN FPR0                    00023001
                                    23 *                                                                          00024001
                                    24 *        EXIT - ERROR -                                                    00025001
                                    25 *        IF BASE IS ZERO AND EXPONENT NOT POSITIVE GOTO ERROR              00026001
                                    26 *        ROUTINE VIA                                                       00027001
                                    27 *        B    FSAERR+35*4(R13)                                             00028001
                                    28 *                                                                          00029001
                                    29 *        TABLES/WORKAREAS - N/A                                            00030001
                                    30 *                                                                          00031001
000000                00000 000A0   31 IHIFDIXP CSECT                                                           00032001
                                    32 *                                                                          00033001
                                    33         ENTRY   IHIFDI                                                    00034001
                                    34 *                                                                          00035001
                                    35 *        FLOATING POINT REGISTERS                                          00036001
                                    36 *                                                                          00037001
                      00000         37 FPR0    EQU   0                     BASE NO, PASSING RESULT               00038001
                      00002         38 FPR2    EQU   2                     FACTOR, COMPUTING RESULT              00039001
                                    39 *                                                                          00040001
                                    40 *        GENERAL PURPOSE REGISTERS                                         00041001
                                    41 *                                                                          00042001
                                    42 *        R0                          TESTING FOR MINUS EXPN                00043001
                                    43 *        R2                          EXPONENT IN COMPUTATION               00044001
                                    44 *                                                                          00045001
                                    45 IHIFDI  SAVE  (14,12),,'IHIFDIXP LEVEL 2.1 &SYSDATE &SYSTIME'              00046001
000000 47F0 F026            00026   46+IHIFDI  B     38(0,15)                        BRANCH AROUND ID       01-SAVE
000004 21                           47+        DC    AL1(33)                         LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9C6C4C9E7D7             48+        DC    CL32'IHIFDIXP LEVEL 2.1 08/17/12 13.2' IDENTIFIER      01-SAVE
000025 F1                           49+        DC    CL1'1'                          IDENTIFIER             01-SAVE
000026 90EC D00C            0000C   50+        STM   14,12,12(13)                    SAVE REGISTERS         01-SAVE
                                    51 *                                                                          00047001
                 R:F  00000         52         USING IHIFDIXP,R15                                                00048001
00002A 5830 1000            00000   53         L     R3,0(,R1)             LOAD PLIST OF BASE NO IN R3         00049001
00002E 6800 3000            00000   54         LD    FPR0,0(,R3)           LOAD BASE NO INTO FPR0              00050001
000032 5830 1004            00004   55         L     R3,4(0,R1)            LOAD PLIST OF EXPONENT IN R3        00051001
000036 5820 3000            00000   56         L     R2,0(0,R3)            LOAD EXPONENT INTO R2               00052001
00003A 2200                         57         LTDR  FPR0,FPR0             BASE NO +, - OR ZERO ?              00053001
00003C 4780 F08E            0008E   58         BZ    ERROR                 ZERO, BRANCH TO ERROR               00054001
000040 1B00                         59         SR    R0,R0                 SET NEGATIVE EXPN SWITCH TO 0       00055001
000042 1222                         60         LTR   R2,R2                 EXPONENT +, - OR ZERO ?             00056001
000044 4720 F052            00052   61         BP    PLUS                  +VE, BRANCH TO PLUS                 00057001
000048 4780 F084            00084   62         BZ    LOAD1                 ZERO, BRANCH TO LOAD1               00058001
00004C 1322                         63         LCR   R2,R2                 MINUS, CONVERT TO 2S COMPLIMENT     00059001
00004E 4100 0001            00001   64         LA    R0,1                  SET EXP SW TO ONE FOR MINUS EXPN    00060001
000052 6820 F098            00098   65 PLUS    LD    FPR2,KFPDONE          LOAD FACTOR OF ONE IN FPR2          00061001
000056 8C20 0001            00001   66 LOOP    SRDL  R2,1                  SHIFT LOW BIT R2 INTO R3            00062001
00005A 1233                         67         LTR   R3,R3                 LOWORDER BIT OF R2 MAKE R3 NEG ?    00063001
00005C 47B0 F062            00062   68         BNM   JUMP                  NO, BRANCH TO JUMP                  00064001
000060 2C20                         69         MDR   FPR2,FPR0             YES, MULTIPLY FPR2 BY FPR0          00065001
000062 1222                         70 JUMP    LTR   R2,R2                 EXPONENT +, - OR ZERO ?             00066001
000064 4780 F06E            0006E   71         BZ    NEXT                  EXPONENT ZERO, BRANCH TO NEXT       00067001
000068 2C00                         72         MDR   FPR0,FPR0             MULT FPR0 NO BY DOUBLING ITSELF     00068001
00006A 47F0 F056            00056   73         B     LOOP                  LOOP TO TEST NEXT EXPN BIT          00069001
                                    74 *                                                                          00070001
00006E 1200                         75 NEXT    LTR   R0,R0                 R0 +, - OR ZERO ?                   00071001
000070 4780 F07E            0007E   76         BZ    SWAP                  EXPN ¬ MINUS, BRANCH TO SWAP        00072001
000074 6800 F098            00098   77         LD    FPR0,KFPDONE          LOAD ONE IN FPR0 AS DIVIDEND        00073001
000078 2D02                         78         DDR   FPR0,FPR2             DIV FPR0  BY FPR2 (RESULT)          00074001
00007A 47F0 F088            00088   79         B     EXIT                  EXIT (RESULT IN FPR0)               00075001
                                    80 *                                                                          00076001
00007E 2802                         81 SWAP    LDR   FPR0,FPR2             LOAD FPR2 INTO FPR0                 00077001
000080 47F0 F088            00088   82         B     EXIT                  EXIT (RESULT IN FPR0)               00078001
                                    83 *                                                                          00079001
000084 6800 F098            00098   84 LOAD1   LD    FPR0,KFPDONE          LOAD PLUS 1 AS RESULT IN FPR0       00080001
                                    85 *                                                                          00081001
                                    86 EXIT    RETURN (14,12)              RESTORE CALLERS REGS AND RETURN     00082001
000088                              87+EXIT    DS    0H                                                    01-RETUR
000088 98EC D00C            0000C   88+        LM    14,12,12(13)                  RESTORE THE REGISTERS   01-RETUR
00008C 07FE                         89+        BR    14                            RETURN                  01-RETUR
                                    90 *                                                                          00083001
00008E 1222                         91 ERROR   LTR   R2,R2                 EXPONENT +, - OR ZERO ?             00084001
000090 4720 F088            00088   92         BP    EXIT                  EXPN IS POSITIVE, BRANCH TO EXIT    00085001
000094 47FD 0258            00258   93         B     FSAERR+35*4(13)       BASE NO = ZERO AND EXPONENT         00086001
                                    94 *                                  ¬> ZERO, UNDEFINED                  00087001
                                    95 *                                                                          00088001
                                    96 *        ADCONS AND CONSTANTS AREA                                         00089001
                                    97 *                                                                          00090001
```

Active USINGs: IHIFDIXP,R15

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                              X390 3.1.04  2012/08/17 13.21

000098 4110000000000000              98 KFPDONE  DC    D'+1'              CONSTANT ONE IN DOUBLE PREC FP   00091001
                                     99 *                                                                  00092001
                       001CC        100 FSAERR   EQU   X'1CC'                                              00093001
                                    101 *                                                                  00094001
                                    102 *        REGISTER EQUATES                                          00095001
                                    103 *                                                                  00096001
                                    104          IEZREGS                                                   00097001
                       00000        105+R0       EQU   0                                                   01-IEZRE
                       00001        106+R1       EQU   1                                                   01-IEZRE
                       00002        107+R2       EQU   2                                                   01-IEZRE
                       00003        108+R3       EQU   3                                                   01-IEZRE
                       00004        109+R4       EQU   4                                                   01-IEZRE
                       00005        110+R5       EQU   5                                                   01-IEZRE
                       00006        111+R6       EQU   6                                                   01-IEZRE
                       00007        112+R7       EQU   7                                                   01-IEZRE
                       00008        113+R8       EQU   8                                                   01-IEZRE
                       00009        114+R9       EQU   9                                                   01-IEZRE
                       0000A        115+R10      EQU   10                                                  01-IEZRE
                       0000B        116+R11      EQU   11                                                  01-IEZRE
                       0000C        117+R12      EQU   12                                                  01-IEZRE
                       0000D        118+R13      EQU   13                                                  01-IEZRE
                       0000E        119+R14      EQU   14                                                  01-IEZRE
                       0000F        120+R15      EQU   15                                                  01-IEZRE
                                    121 *                                                                  00098001
                                    122          END                                                       00099001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

Symbol	Length	Value	Id	Type	Asm	Program	Defn	References						
ERROR	2	0000008E	00000001	I			91	58B						
EXIT	2	00000088	00000001	H	H		87	79B	82B	92B				
FPR0	1	00000000		U			37	54M	57M	69	72M	77M	78M	81M	84M
FPR2	1	00000002		U			38	65M	69M	78	81				
FSAERR	1	000001CC		U			100	93B						
IHIFDI	4	00000000	00000001	I			46	33						
IHIFDIXP	1	00000000	00000001	J			31	52U						
JUMP	2	00000062	00000001	I			70	68B						
KFPDONE	8	00000098	00000001	D	D		98	65	77	84				
LOAD1	4	00000084	00000001	I			84	62B						
LOOP	4	00000056	00000001	I			66	73B						
NEXT	2	0000006E	00000001	I			75	71B						
PLUS	4	00000052	00000001	I			65	61B						
R0	1	00000000		U			105	59M	64M	75M				
R1	1	00000001		U			106	53	55					
R15	1	0000000F		U			120	52U						
R2	1	00000002		U			107	56M	60M	63M	66M	70M	91M	
R3	1	00000003		U			108	53M	54	55M	56	67M		
SWAP	2	0000007E	00000001	I			81	76B						

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   50   59M  64M  75M  88M
    1(1)   50   53   55   88M
    2(2)   50   56M  60M  63M  66M  70M  88M  91M
    3(3)   50   53M  54   55M  56   66M  67M  88M
    4(4)   50   88M
    5(5)   50   88M
    6(6)   50   88M
    7(7)   50   88M
    8(8)   50   88M
    9(9)   50   88M
   10(A)   50   88M
   11(B)   50   88M
   12(C)   50   88M
   13(D)   50   88   93N
   14(E)   50   88M  89B
   15(F)   46B  50   52U  88M
```

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
52		USING	Ordinary	00000001	00000000	00001000	15	00098	92	IHIFDIXP,R15

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIFDI PROCSTEP: X390

Primary input: lines 1 to 99 of SYSD.ALGOLFRT.ASM(IHIFDI)

SYSLIB library records read: 161

SYSUT1 work file size: 11628 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 7920 bytes

SYSLIN file records written: 5

TXA000I Return code 0, elapsed time 0.14 seconds.

Csect   Rel Addr(hex) Length(dec)

 No uninitialized areas found

IHIFII

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIFII)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0118
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                      2 *                                                                          00002001
                                      3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                      4 *                                                                          00004001
                                      5 *        STATUS - LEVEL 2.1                                                00005001
                                      6 *                                                                          00006001
                                      7 *        FUNCTION/OPERATION - SEE CODE                                     00007001
                                      8 *                                                                          00008001
                                      9 *        ENTRY POINT -                                                     00009001
                                     10 *        IHIFII - POWER FUNCTION, INT**INT                                 00010001
                                     11 *        LA     R1,PARMLIST                                                00011001
                                     12 *        BALR   R14,R15                                                    00012001
                                     13 *        DATA PASSED BY NAME                                               00013001
                                     14 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00014001
                                     15 *                                                                          00015001
                                     16 *        INPUT - N/A                                                       00016001
                                     17 *                                                                          00017001
                                     18 *        OUTPUT - N/A                                                      00018001
                                     19 *                                                                          00019001
                                     20 *        EXTERNAL ROUTINES - N/A                                           00020001
                                     21 *                                                                          00021001
                                     22 *        EXIT - NORMAL - RETURN VIA R14, RESULT IN R0                      00022001
                                     23 *                                                                          00023001
                                     24 *        EXIT - ERROR -                                                    00024001
                                     25 *        IF BASE IS ZERO AND EXPONENT NOT POSITIVE GOTO ERROR              00025001
                                     26 *        ROUTINE VIA                                                       00026001
                                     27 *        B    FSAERR+35*4(R13)                                             00027001
                                     28 *                                                                          00028001
                                     29 *        TABLES/WORKAREAS - N/A                                            00029001
                                     30 *                                                                          00030001
000000                 00000 000C0   31 IHIFIIXP CSECT                                                            00031001
                                     32 *                                                                          00032001
                                     33 *        GENERAL PURPOSE REGISTERS                                         00033001
                                     34 *                                                                          00034001
                                     35 *        R0                          PASSING ON FINAL RESULT               00035001
                                     36 *        R1                          PARAMETER LIST REF                    00036001
                                     37 *        R2                          MPY REG FOR FACTOR                    00037001
                                     38 *        R3                          FACTOR AND ANSWER                     00038001
                                     39 *        R4                          MPY REG FOR BASE NO                   00039001
                                     40 *        R5                          BASE NO IN COMPUTATION                00040001
                                     41 *        R6                          EXPONENT IN COMPUTATION               00041001
                                     42 *        R7                          INDEXING PARAMETER ADDR               00042001
                                     43 *                                                                          00043001
                                     44 IHIFII   SAVE  (14,12),,'IHIFIIXP LEVEL 2.1 &SYSDATE &SYSTIME'             00044001
000000 47F0 F026             00026  45+IHIFII  B     38(0,15)                    BRANCH AROUND ID      01-SAVE
000004 21                           46+        DC    AL1(33)                     LENGTH OF IDENTIFIER  01-SAVE
000005 C9C8C9C6C9C9E7D7             47+        DC    CL32'IHIFIIXP LEVEL 2.1 08/17/12 13.2' IDENTIFIER 01-SAVE
000025 F1                           48+        DC    CL1'1'                      IDENTIFIER            01-SAVE
000026 90EC D00C             0000C  49+        STM   14,12,12(13)                SAVE REGISTERS        01-SAVE
                                     50 *                                                                          00045001
                 R:F  00000          51         USING IHIFIIXP,R15                                                00046001
00002A 5870 1000             00000   52         L     R7,0(,R1)             LOAD PLIST OF BASE NO IN R7         00047001
00002E 5850 7000             00000   53         L     R5,0(,R7)             LOAD BASE NO INTO R5                00048001
000032 5870 1004             00004   54         L     R7,4(,R1)             LOAD PLIST OF EXPONENT IN R7        00049001
000036 5860 7000             00000   55         L     R6,0(,R7)             LOAD EXPONENT INTO R6               00050001
00003A 1205                          56         LTR   R0,R5                 LOAD BASE NO INTO RESULT REG        00051001
                                     57 *                                      BASE NO +, - OR ZERO ?            00052001
00003C 4780 F0B0             000B0   58         BZ    ERROR                 ZERO, BRANCH TO ERROR               00053001
000040 1266                          59         LTR   R6,R6                 EXPONENT +, - OR ZERO ?             00054001
000042 4780 F0A2             000A2   60         BZ    LOAD1                 ZERO, BRANCH TO LOAD1               00055001
000046 0650                          61         BCTR  R5,0                  DECR VALUE OF BASE NO               00056001
000048 1255                          62         LTR   R5,R5                 BASE NO + - OR ZERO ?               00057001
00004A 4780 F0A6             000A6   63         BZ    EXIT                  ZERO, BRANCH TO EXIT                00058001
00004E 4150 5002             00002   64         LA    R5,2(,R5)             INCR BY TWO VALUE OF BASE NO        00059001
000052 1255                          65         LTR   R5,R5                 BASE NO +, - OR ZERO ?              00060001
000054 4780 F098             00098   66         BZ    TEST                  ZERO, BRANCH TO TEST                00061001
000058 1266                          67         LTR   R6,R6                 EXPONENT +, - OR ZERO ?             00062001
00005A 4720 F064             00064   68         BP    PLUS                  POSITIVE, BRANCH TO PLUS            00063001
00005E 1B00                          69         SR    R0,R0                 EXPN MINUS, RESULT = ZERO           00064001
000060 47F0 F0A6             000A6   70         B     EXIT                  EXIT ROUTINE                        00065001
                                     71 *                                                                          00066001
000064 1850                          72 PLUS     LR    R5,R0                 RELOAD ORG BASE NO FROM RESULT      00067001
000066 5830 F0BC             000BC   73         L     R3,KF1                LOAD FACTOR OF ONE IN R3            00068001
00006A 8C60 0001             00001   74 LOOP     SRDL  R6,1                  SHIFT LOW BIT R6 INTO R7            00069001
00006E 1277                          75         LTR   R7,R7                 LOWORDER BIT OF R6 MAKE R7 NEG ?    00070001
000070 47B0 F07E             0007E   76         BNM   JUMP                  NO, BRANCH TO JUMP                  00071001
000074 1C25                          77         MR    R2,R5                 MULTIPLY FACTOR REG BY R5           00072001
000076 8F20 0020             00020   78         SLDA  R2,32                 CHECK OVERFLOW                      00073001
00007A 8E20 0020             00020   79         SRDA  R2,32                                                     00074001
00007E 1266                          80 JUMP     LTR   R6,R6                 EXPONENT +, - OR ZERO ?             00075001
000080 4780 F092             00092   81         BZ    NEXT                  EXPONENT ZERO, BRANCH TO NEXT       00076001
000084 1C45                          82         MR    R4,R5                 MULT BASE NO BY DOUBLING ITSELF     00077001
000086 8F40 0020             00020   83         SLDA  R4,32                                                     00078001
00008A 8E40 0020             00020   84         SRDA  R4,32                                                     00079001
00008E 47F0 F06A             0006A   85         B     LOOP                  LOOP TO TEST NEXT EXPN BIT          00080001
                                     86 *                                                                          00081001
000092 1803                          87 NEXT     LR    R0,R3                 LOAD FACTOR INTO RESULT             00082001
000094 47F0 F0A6             000A6   88         B     EXIT                  EXIT                                00083001
                                     89 *                                                                          00084001
000098 8C60 0001             00001   90 TEST     SRDL  R6,1                  SHIFT LOW BIT R6 INTO R7            00085001
00009C 1277                          91         LTR   R7,R7                 LOWORDER BIT OF R6 MAKE R7 NEG ?    00086001
00009E 4740 F0A6             000A6   92         BM    EXIT                  MINUS (EXPN ODD), GOTO EXIT         00087001
0000A2 5800 F0BC             000BC   93 LOAD1    L     R0,KF1                LOAD R0 WITH VALUE OF PLUS 1        00088001
0000A6 9001 D014             00014   94 EXIT     STM   R0,R1,20(R13)         UPDATE SAVEAREA WITH RESULT         00089001
                                     95 *                                                                          00090001
                                     96         RETURN (14,12)              RESTORE CALLERS REGS AND RETURN     00091001
0000AA 98EC D00C             0000C   97+        LM    14,12,12(13)                RESTORE THE REGISTERS     01-RETUR
```

```
  Active USINGs: IHIFIIXP,R15

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                  X390 3.1.04  2012/08/17 13.21

0000AE 07FE                          98+         BR    14                         RETURN            01-RETUR
                                     99 *                                                           00092001
0000B0 1266                         100 ERROR    LTR   R6,R6                EXPONENT +, - OR ZERO ? 00093001
0000B2 4720 F0A6              000A6 101          BP    EXIT                 EXPN IS POSITIVE, BRANCH TO EXIT 00094001
0000B6 47FD 0258              00258 102          B     FSAERR+35*4(R13)                             00095001
                                    103 *                                                           00096001
                                    104 *        ADCONS AND CONSTANTS AREA                          00097001
                                    105 *                                                           00098001
0000BA 0000
0000BC 00000001                     106 KF1      DC    F'1'                 INTERGER CONSTANT OF ONE 00099001
                                    107 *                                                           00100001
                      001CC         108 FSAERR   EQU   X'1CC'                                       00101001
                                    109 *                                                           00102001
                                    110 *        REGISTER EQUATES                                   00103001
                                    111 *                                                           00104001
                                    112          IEZREGS                                            00105001
                      00000         113+R0       EQU   0                                            01-IEZRE
                      00001         114+R1       EQU   1                                            01-IEZRE
                      00002         115+R2       EQU   2                                            01-IEZRE
                      00003         116+R3       EQU   3                                            01-IEZRE
                      00004         117+R4       EQU   4                                            01-IEZRE
                      00005         118+R5       EQU   5                                            01-IEZRE
                      00006         119+R6       EQU   6                                            01-IEZRE
                      00007         120+R7       EQU   7                                            01-IEZRE
                      00008         121+R8       EQU   8                                            01-IEZRE
                      00009         122+R9       EQU   9                                            01-IEZRE
                      0000A         123+R10      EQU   10                                           01-IEZRE
                      0000B         124+R11      EQU   11                                           01-IEZRE
                      0000C         125+R12      EQU   12                                           01-IEZRE
                      0000D         126+R13      EQU   13                                           01-IEZRE
                      0000E         127+R14      EQU   14                                           01-IEZRE
                      0000F         128+R15      EQU   15                                           01-IEZRE
                                    129 *                                                           00106001
                                    130          END                                                00107001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
ERROR           2 000000B0 00000001  I                 100   58B
EXIT            4 000000A6 00000001  I                  94   63B  70B  88B  92B 101B
FSAERR          1 000001CC           U                 108  102B
IHIFIIXP        1 00000000 00000001  J                  31   51U
JUMP            2 0000007E 00000001  I                  80   76B
KF1             4 000000BC 00000001  F F               106   73   93
LOAD1           4 000000A2 00000001  I                  93   60B
LOOP            4 0000006A 00000001  I                  74   85B
NEXT            2 00000092 00000001  I                  87   81B
PLUS            2 00000064 00000001  I                  72   68B
R0              1 00000000           U                 113   56M  69M  72   87M  93M  94
R1              1 00000001           U                 114   52   54   94
R13             1 0000000D           U                 126   94  102
R15             1 0000000F           U                 128   51U
R2              1 00000002           U                 115   77M  78M  79M
R3              1 00000003           U                 116   73M  87
R4              1 00000004           U                 117   82M  83M  84M
R5              1 00000005           U                 118   53M  56   61M  62M  64M  65M  72M  77   82
R6              1 00000006           U                 119   55M  59M  67M  74M  80M  90M 100M
R7              1 00000007           U                 120   52M  53   54M  55   75M  91M
TEST            4 00000098 00000001  I                  90   66B
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   49   56M  69M  72   87M  93M  94   97M
    1(1)   49   52   54   94   97M
    2(2)   49   77M  78M  79M  97M
    3(3)   49   73M  77M  78M  79M  87   97M
    4(4)   49   82M  83M  84M  97M
    5(5)   49   53M  56   61M  62M  64M  65M  72M  77   82M  83M  84M  97M
    6(6)   49   55M  59M  67M  74M  80M  90M  97M 100M
    7(7)   49   52M  53   54M  55   74M  75M  90M  91M  97M
    8(8)   49   97M
    9(9)   49   97M
   10(A)   49   97M
   11(B)   49   97M
   12(C)   49   97M
   13(D)   49   94   97  102N
   14(E)   49   97M  98B
   15(F)   45B  49   51U  97M
```

Con Source Members X390 3.1.04 2012/08/17 13.21

1 SYS1.MACLIB
IEZREGS RETURN SAVE
2 SYSD.TOOLS.MACLIB
3 SYSD.ALGOLFRT.ASM
4 SYSD.ALGOLFRT.MACLIB
5 SYS1.AMODGEN

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04	2012/08/17 13.21
51		USING	Ordinary	00000001	00000000	00001000	15	000BC	101	IHIFIIXP,R15		

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIFII PROCSTEP: X390

Primary input: lines 1 to 107 of SYSD.ALGOLFRT.ASM(IHIFII)

SYSLIB library records read: 161

SYSUT1 work file size: 12350 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 8560 bytes

SYSLIN file records written: 6

TXA000I Return code 0, elapsed time 0.14 seconds.

Csect   Rel Addr(hex) Length(dec)

 No uninitialized areas found

IHIFRI

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIFRI)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0122
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     2 *                                                                          00003001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00004001
                                     4 *                                                                          00005001
                                     5 *        STATUS - LEVEL 2.1                                                00006001
                                     6 *                                                                          00007001
                                     7 *        FUNCTION/OPERATION - SEE CODE                                     00008001
                                     8 *                                                                          00009001
                                     9 *        ENTRY POINT -                                                     00010001
                                    10 *        IHIFRI - POWER FUNCTION, REAL**INT, SHORT                         00011001
                                    11 *                 LA     R1,PARMLIST                                      00012001
                                    12 *                 BALR   R14,R15                                          00013001
                                    13 *                 DATA PASSED BY NAME                                     00014001
                                    14 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00015001
                                    15 *                                                                          00016001
                                    16 *        INPUT - N/A                                                       00017001
                                    17 *                                                                          00018001
                                    18 *        OUTPUT - N/A                                                      00019001
                                    19 *                                                                          00020001
                                    20 *        EXTERNAL ROUTINES - N/A                                           00021001
                                    21 *                                                                          00022001
                                    22 *        EXIT - NORMAL - RETURN VIA R14, RESULT IN FPR0                    00023001
                                    23 *                                                                          00024001
                                    24 *        EXIT - ERROR -                                                    00025001
                                    25 *        IF BASE IS ZERO AND EXPONENT NOT POSITIVE GOTO ERROR              00026001
                                    26 *        ROUTINE VIA                                                       00027001
                                    27 *        B    FSAERR+35*4(R13)                                             00028001
                                    28 *                                                                          00029001
                                    29 *        TABLES/WORKAREAS - N/A                                            00030001
                                    30 *                                                                          00031001
000000                00000 0009C   31 IHIFRIXP CSECT                                                           00032001
                                    32 *                                                                          00033001
                                    33          ENTRY   IHIFRI                                                    00034001
                                    34 *                                                                          00035001
                                    35 *        FLOATING POINT REGISTERS                                          00036001
                                    36 *                                                                          00037001
                      00000         37 FPR0     EQU   0                     REG FOR BASE NO, PASSING RESULT       00038001
                      00002         38 FPR2     EQU   2                     REG FOR FACTOR, COMPUTING RESULT      00039001
                                    39 *                                                                          00040001
                                    40 *        GENERAL PURPOSE REGISTERS                                         00041001
                                    41 *                                                                          00042001
                                    42 *        R0                          REG FOR TESTING FOR MINUS EXPN        00043001
                                    43 *        R2                          REG FOR EXPONENT IN COMPUTATION       00044001
                                    44 *                                                                          00045001
                                    45 IHIFRI   SAVE  (14,12),,'IHIFRIXP LEVEL 2.1 &SYSDATE &SYSTIME'             00046001
000000 47F0 F026            00026   46+IHIFRI   B     38(0,15)                        BRANCH AROUND ID        01-SAVE
000004 21                           47+         DC    AL1(33)                         LENGTH OF IDENTIFIER    01-SAVE
000005 C9C8C9C6D9C9E7D7             48+         DC    CL32'IHIFRIXP LEVEL 2.1 08/17/12 13.2' IDENTIFIER       01-SAVE
000025 F1                           49+         DC    CL1'1'                          IDENTIFIER              01-SAVE
000026 90EC D00C            0000C   50+         STM   14,12,12(13)                    SAVE REGISTERS          01-SAVE
                                    51 *                                                                          00047001
               R:F  00000           52          USING IHIFRIXP,R15                                                00048001
00002A 5830 1000            00000   53          L     R3,0(,R1)             LOAD PLIST OF BASE NO IN R3         00049001
00002E 7800 3000            00000   54          LE    FPR0,0(,R3)           LOAD BASE NO INTO FPR0              00050001
000032 5830 1004            00004   55          L     R3,4(,R1)             LOAD PLIST OF EXPONENT IN R3        00051001
000036 5820 3000            00000   56          L     R2,0(,R3)             LOAD EXPONENT INTO R2               00052001
00003A 3200                         57          LTER  FPR0,FPR0             BASE NO +, - OR ZERO ?              00053001
00003C 4780 F08E            0008E   58          BZ    ERROR                 ZERO, BRANCH TO ERROR               00054001
000040 1B00                         59          SR    R0,R0                 SET NEGATIVE EXPN SWITCH TO 0       00055001
000042 1222                         60          LTR   R2,R2                 EXPONENT +, - OR ZERO ?             00056001
000044 4720 F052            00052   61          BP    PLUS                  +VE, BRANCH TO PLUS                 00057001
000048 4780 F084            00084   62          BZ    LOAD1                 ZERO, BRANCH TO LOAD1               00058001
00004C 1322                         63          LCR   R2,R2                 MINUS, CONVERT TO 2S COMPLIMENT     00059001
00004E 4100 0001            00001   64          LA    R0,1                  SET EXP SW TO ONE FOR MINUS EXPN    00060001
000052 7820 F098            00098   65 PLUS     LE    FPR2,KFPONE           LOAD FACTOR OF ONE IN FPR2          00061001
000056 8C20 0001            00001   66 LOOP     SRDL  R2,1                  SHIFT LOW BIT R2 INTO R3            00062001
00005A 1233                         67          LTR   R3,R3                 LOWORDER BIT OF R2 MAKE R3 NEG ?    00063001
00005C 47B0 F062            00062   68          BNM   JUMP                  NO, BRANCH TO JUMP                  00064001
000060 3C20                         69          MER   FPR2,FPR0             YES, MULTIPLY FPR2 BY FPR0          00065001
000062 1222                         70 JUMP     LTR   R2,R2                 EXPONENT +, -, OR ZERO ?            00066001
000064 4780 F06E            0006E   71          BZ    NEXT                  EXPONENT ZERO, BRANCH TO NEXT       00067001
000068 3C00                         72          MER   FPR0,FPR0             MULT BASE NO BY DOUBLING ITSELF     00068001
00006A 47F0 F056            00056   73          B     LOOP                  LOOP TO TEST NEXT EXPN BIT          00069001
                                    74 *                                                                          00070001
00006E 1200                         75 NEXT     LTR   R0,R0                 R0 +, - OR ZERO ?                   00071001
000070 4780 F07E            0007E   76          BZ    SWAP                  EXPN ¬ MINUS, BRANCH TO SWAP        00072001
000074 7800 F098            00098   77          LE    FPR0,KFPONE           LOAD ONE IN FPR0 AS DIVIDEND        00073001
000078 3D02                         78          DER   FPR0,FPR2             DIV BASE REG BY FPR2 (RESULT)       00074001
00007A 47F0 F088            00088   79          B     EXIT                  EXIT (RESULT IN FPR0)               00075001
                                    80 *                                                                          00076001
00007E 3802                         81 SWAP     LER   FPR0,FPR2             LOAD FPR2 INTO FPR0                 00077001
000080 47F0 F088            00088   82          B     EXIT                  EXIT (RESULT IN FPR0)               00078001
                                    83 *                                                                          00079001
000084 7800 F098            00098   84 LOAD1    LE    FPR0,KFPONE           LOAD PLUS 1 AS RESULT IN FPR0       00080001
                                    85 *                                                                          00081001
                                    86 EXIT     RETURN (14,12)              RESTORE CALLERS REGS AND RETURN     00082001
000088                              87+EXIT     DS    0H                                                        01-RETUR
000088 98EC D00C            0000C   88+         LM    14,12,12(13)                  RESTORE THE REGISTERS     01-RETUR
00008C 07FE                         89+         BR    14                            RETURN                    01-RETUR
                                    90 *                                                                          00083001
00008E 1222                         91 ERROR    LTR   R2,R2                 EXPONENT +, - ZERO ?                00084001
000090 4720 F088            00088   92          BP    EXIT                  EXPN IS POSITIVE, BRANCH TO EXIT    00085001
000094 47FD 0258            00258   93          B     FSAERR+35*4(R13)      BASE NO = ZERO AND EXPONENT         00086001
                                    94 *                                    ¬> ZERO, UNDEFINED                  00087001
                                    95 *                                                                          00088001
                                    96 *        ADCONS AND CONSTANTS AREA                                         00089001
                                    97 *                                                                          00090001
```

```
  Active USINGs: IHIFRIXP,R15

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000098 41100000                    98 KFPONE   DC    E'1'                 CONSTANT ONE IN SINGLE PREC FP   00091001
                                   99 *                                                                    00092001
                     001CC        100 FSAERR   EQU   X'1CC'                                                00093001
                                  101 *                                                                    00094001
                                  102 *        REGISTER EQUATES                                            00095001
                                  103 *                                                                    00096001
                                  104          IEZREGS                                                     00097001
                     00000        105+R0       EQU   0                                                     01-IEZRE
                     00001        106+R1       EQU   1                                                     01-IEZRE
                     00002        107+R2       EQU   2                                                     01-IEZRE
                     00003        108+R3       EQU   3                                                     01-IEZRE
                     00004        109+R4       EQU   4                                                     01-IEZRE
                     00005        110+R5       EQU   5                                                     01-IEZRE
                     00006        111+R6       EQU   6                                                     01-IEZRE
                     00007        112+R7       EQU   7                                                     01-IEZRE
                     00008        113+R8       EQU   8                                                     01-IEZRE
                     00009        114+R9       EQU   9                                                     01-IEZRE
                     0000A        115+R10      EQU   10                                                    01-IEZRE
                     0000B        116+R11      EQU   11                                                    01-IEZRE
                     0000C        117+R12      EQU   12                                                    01-IEZRE
                     0000D        118+R13      EQU   13                                                    01-IEZRE
                     0000E        119+R14      EQU   14                                                    01-IEZRE
                     0000F        120+R15      EQU   15                                                    01-IEZRE
                                  121 *                                                                    00098001
                                  122          END                                                         00099001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
ERROR           2 0000008E 00000001  I                 91   58B
EXIT            2 00000088 00000001  H H               87   79B  82B  92B
FPR0            1 00000000           U                 37   54M  57M  69   72M  77M  78M  81M  84M
FPR2            1 00000002           U                 38   65M  69M  78   81
FSAERR          1 000001CC           U                100   93B
IHIFRI          4 00000000 00000001  I                 46   33
IHIFRIXP        1 00000000 00000001  J                 31   52U
JUMP            2 00000062 00000001  I                 70   68B
KFPONE          4 00000098 00000001  E E               98   65   77   84
LOAD1           4 00000084 00000001  I                 84   62B
LOOP            4 00000056 00000001  I                 66   73B
NEXT            2 0000006E 00000001  I                 75   71B
PLUS            4 00000052 00000001  I                 65   61B
R0              1 00000000           U                105   59M  64M  75M
R1              1 00000001           U                106   53   55
R13             1 0000000D           U                118   93
R15             1 0000000F           U                120   52U
R2              1 00000002           U                107   56M  60M  63M  66M  70M  91M
R3              1 00000003           U                108   53M  54   55M  56   67M
SWAP            2 0000007E 00000001  I                 81   76B
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   50   59M  64M  75M  88M
    1(1)   50   53   55   88M
    2(2)   50   56M  60M  63M  66M  70M  88M  91M
    3(3)   50   53M  54   55M  56   66M  67M  88M
    4(4)   50   88M
    5(5)   50   88M
    6(6)   50   88M
    7(7)   50   88M
    8(8)   50   88M
    9(9)   50   88M
   10(A)   50   88M
   11(B)   50   88M
   12(C)   50   88M
   13(D)   50   88   93N
   14(E)   50   88M  89B
   15(F)   46B  50   52U  88M
```

Con Source Members X390 3.1.04 2012/08/17 13.21

1 SYS1.MACLIB
IEZREGS RETURN SAVE
2 SYSD.TOOLS.MACLIB
3 SYSD.ALGOLFRT.ASM
4 SYSD.ALGOLFRT.MACLIB
5 SYS1.AMODGEN

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04	2012/08/17 13.21
52		USING	Ordinary	00000001	00000000	00001000	15	00098	92	IHIFRIXP,R15		

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIFRI PROCSTEP: X390

Primary input: lines 1 to 99 of SYSD.ALGOLFRT.ASM(IHIFRI)

SYSLIB library records read: 161

SYSUT1 work file size: 11657 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 7920 bytes

SYSLIN file records written: 5

TXA000I Return code 0, elapsed time 0.14 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIFRIXP	00009C	4

IHIFRR

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIFRR)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0126
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    2 *                                                                          00003001
                                    3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00004001
                                    4 *                                                                          00005001
                                    5 *        STATUS - LEVEL 2.1                                                00006001
                                    6 *                                                                          00007001
                                    7 *        FUNCTION/OPERATION - SEE CODE                                     00008001
                                    8 *                                                                          00009001
                                    9 *        ENTRY POINT -                                                     00010001
                                   10 *        IHIFRR - POWER FUNCTION, REAL**REAL, SHORT                        00011001
                                   11 *                 LA     R1,PARMLIST                                      00012001
                                   12 *                 BALR   R14,R15                                          00013001
                                   13 *                 DATA PASSED BY NAME                                     00014001
                                   14 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00015001
                                   15 *                                                                          00016001
                                   16 *        INPUT - N/A                                                       00017001
                                   17 *                                                                          00018001
                                   18 *        OUTPUT - N/A                                                      00019001
                                   19 *                                                                          00020001
                                   20 *        EXTERNAL ROUTINES -                                               00021001
                                   21 *        IHISLO - LOGARITHM FUNCTION, SHORT PRECISION                      00022001
                                   22 *        IHISEX - EXPONENTIAL FUNCTION, SHORT PRECISION                    00023001
                                   23 *                                                                          00024001
                                   24 *        EXIT - NORMAL - RETURN VIA R14, RESULT IN FPR0                    00025001
                                   25 *                                                                          00026001
                                   26 *        EXIT - ERROR -                                                    00027001
                                   27 *        IF BASE IS ZERO AND EXPONENT NOT POSITIVE GOTO ERROR              00028001
                                   28 *        ROUTINE VIA                                                       00029001
                                   29 *        B    FSAERR+35*4(R13)                                             00030001
                                   30 *                                                                          00031001
                                   31 *        TABLES/WORKAREAS - N/A                                            00032001
                                   32 *                                                                          00033001
000000                  00000 000F4  33 IHIFRRXP CSECT                                                          00034001
                                   34 *                                                                          00035001
                                   35         ENTRY   IHIFRR                                                    00036001
                                   36 *                                                                          00037001
                                   37 *        FLOATING POINT REGISTERS                                          00038001
                                   38 *                                                                          00039001
                        00000      39 FPR0     EQU   0                       BASE NO, PASSING RESULT             00040001
                        00002      40 FPR2     EQU   2                       EXPONENT IN COMPUTATION             00041001
                                   41 *                                                                          00042001
                                   42 *        GENERAL PURPOSE REGISTERS                                         00043001
                                   43 *                                                                          00044001
                                   44 *        R1                            PARAMETER LIST REF                  00045001
                                   45 *        R2                            SECOND BASE ADDR                    00046001
                                   46 *        R3                            INDEXING PARAMETER ADDR             00047001
                                   47 *                                                                          00048001
                                   48 IHIFRR   SAVE  (14,12),,'IHIFRRXP LEVEL 2.1 &SYSDATE &SYSTIME'           00049001
000000 47F0 F026            00026  49+IHIFRR  B     38(0,15)                        BRANCH AROUND ID      01-SAVE
000004 21                          50+        DC    AL1(33)                         LENGTH OF IDENTIFIER  01-SAVE
000005 C9C8C9C6D9D9E7D7            51+        DC    CL32'IHIFRRXP LEVEL 2.1 08/17/12 13.2' IDENTIFIER     01-SAVE
000025 F1                          52+        DC    CL1'1'                          IDENTIFIER            01-SAVE
000026 90EC D00C            0000C  53+        STM   14,12,12(13)                    SAVE REGISTERS        01-SAVE
                                   54 *                                                                          00050001
00002A 182F                        55         LR    R2,R15                                                    00051001
                 R:2  00000        56         USING IHIFRRXP,R2                                               00052001
00002C 183D                        57         LR    R3,R13                    CHAIN SAVE AREAS                00053001
00002E 41D0 2098            00098  58         LA    R13,SAVEAREA                                              00054001
000032 5030 D004            00004  59         ST    R3,4(,R13)                                                00055001
000036 50D0 3008            00008  60         ST    R13,8(,R3)                                                00056001
00003A 5830 1000            00000  61         L     R3,0(,R1)                 LOAD PLIST OF BASE NO IN R3     00057001
00003E 7800 3000            00000  62         LE    FPR0,0(,R3)               LOAD BASE NO INTO FPR0          00058001
000042 5830 1004            00004  63         L     R3,4(,R1)                 LOAD PLIST OF EXPONENT IN R3    00059001
000046 7820 3000            00000  64         LE    FPR2,0(,R3)               LOAD EXPONENT INTO FPR2         00060001
00004A 3200                        65         LTER  FPR0,FPR0                 BASE NO +, - OR ZERO ?          00061001
00004C 4780 208A            0008A  66         BZ    ERROR                     ZERO, BRANCH TO ERROR           00062001
000050 4740 2090            00090  67         BM    ERRORM                    NEGATIVE UNDEFINED, ERROR       00063001
000054 3222                        68         LTER  FPR2,FPR2                 EXPONENT +, - OR ZERO ?         00064001
000056 4780 207C            0007C  69         BZ    LOAD1                     ZERO, BRANCH TO LOAD1           00065001
00005A 7020 20E0            000E0  70         STE   FPR2,PARAM                STORE EXPONENT IN PARAM         00066001
00005E 58F0 20EC            000EC  71         L     R15,VIHISLO               R15 -> IHISLO ROUTINE           00067001
000062 05EF                        72         BALR  R14,R15                   CALL IHISLO ROUTINE             00068001
000064 7820 20E0            000E0  73         LE    FPR2,PARAM                RELOAD FPR2 WITH EXPONENT       00069001
000068 3C02                        74         MER   FPR0,FPR2                 MULT LOG OF BASE NO BY EXPONENT 00070001
00006A 7000 20E0            000E0  75         STE   FPR0,PARAM                STORE RESULT IN PARAM           00071001
00006E 4110 20E8            000E8  76         LA    R1,ADCPAR                 R1 -> EXP RTN PARAM             00072001
000072 58F0 20F0            000F0  77         L     R15,VIHISEX               R15 -> IHISEX ROUTINE           00073001
000076 05EF                        78         BALR  R14,R15                   CALL IHISEX ROUTINE             00074001
000078 47F0 2080            00080  79         B     EXIT                      EXIT (RESULT IN FPR0)           00075001
                                   80 *                                                                          00076001
00007C 7800 20E4            000E4  81 LOAD1    LE    FPR0,KFPONE               LOAD PLUS 1 AS RESULT IN FPR0   00077001
000080 58D0 D004            00004  82 EXIT     L     R13,4(,R13)               R13 -> CALLERS SAVE AREA        00078001
                                   83 *                                                                          00079001
                                   84         RETURN (14,12)                  RESTORE CALLERS REGS AND RETURN 00080001
000084 98EC D00C            0000C  85+        LM    14,12,12(13)                    RESTORE THE REGISTERS 01-RETUR
000088 07FE                        86+        BR    14                              RETURN                01-RETUR
                                   87 *                                                                          00081001
00008A 3222                        88 ERROR    LTER  FPR2,FPR2                 EXPONENT +, - OR ZERO           00082001
00008C 4720 2080            00080  89         BP    EXIT                      EXPN IS POSITIVE, BRANCH TO EXIT 00083001
000090 58D0 D004            00004  90 ERRORM   L     R13,4(,R13)               R13 -> CALLERS SAVE AREA        00084001
000094 47FD 0258            00258  91         B     FSAERR+35*4(R13)          BASE NO = ZERO AND EXPONENT     00085001
                                   92 *                                       ¬> ZERO, UNDEFINED              00086001
                                   93 *                                                                          00087001
                                   94 *        CONSTANTS AND ADCON AREAS                                         00088001
                                   95 *                                                                          00089001
000098 0000000000000000            96 SAVEAREA DC    18F'0'                    SAVE AREA                       00090001
0000E0 00000000                    97 PARAM    DC    F'0'                      PARAM FOR DATA IN EXP MATH RTN  00091001
```

Active USINGs: IHIFRRXP,R2

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                              X390 3.1.04  2012/08/17 13.21

0000E4 41100000                     98 KFPONE   DC    E'1'                 CONSTANT ONE IN SINGLE PREC FP   00092001
                                    99 *                                                                  00093001
0000E8 000000E0                    100 ADCPAR   DC    A(PARAM)             ADDR OF PARAMETER FOR EXP RTN    00094001
                                   101 *                                                                  00095001
0000EC 00000000                    102 VIHISLO  DC    V(IHISLO)            LOG MATH LIBRARY ROUTINE         00096001
0000F0 00000000                    103 VIHISEX  DC    V(IHISEX)            EXP MATH LIBRARY ROUTINE         00097001
                                   104 *                                                                  00098001
                     001CC         105 FSAERR   EQU   X'1CC'                                              00099001
                                   106 *                                                                  00100001
                                   107 *        REGISTER EQUATES                                          00101001
                                   108 *                                                                  00102001
                                   109          IEZREGS                                                   00103001
                     00000         110+R0       EQU   0                                                   01-IEZRE
                     00001         111+R1       EQU   1                                                   01-IEZRE
                     00002         112+R2       EQU   2                                                   01-IEZRE
                     00003         113+R3       EQU   3                                                   01-IEZRE
                     00004         114+R4       EQU   4                                                   01-IEZRE
                     00005         115+R5       EQU   5                                                   01-IEZRE
                     00006         116+R6       EQU   6                                                   01-IEZRE
                     00007         117+R7       EQU   7                                                   01-IEZRE
                     00008         118+R8       EQU   8                                                   01-IEZRE
                     00009         119+R9       EQU   9                                                   01-IEZRE
                     0000A         120+R10      EQU   10                                                  01-IEZRE
                     0000B         121+R11      EQU   11                                                  01-IEZRE
                     0000C         122+R12      EQU   12                                                  01-IEZRE
                     0000D         123+R13      EQU   13                                                  01-IEZRE
                     0000E         124+R14      EQU   14                                                  01-IEZRE
                     0000F         125+R15      EQU   15                                                  01-IEZRE
                                   126 *                                                                  00104001
                                   127          END                                                       00105001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

Symbol	Length	Value	Id	Type	Asm	Program	Defn	References
ADCPAR	4	000000E8	00000001	A	A		100	76
ERROR	2	0000008A	00000001	I			88	66B
ERRORM	4	00000090	00000001	I			90	67B
EXIT	4	00000080	00000001	I			82	79B 89B
FPR0	1	00000000		U			39	62M 65M 74M 75 81M
FPR2	1	00000002		U			40	64M 68M 70 73M 74 88M
FSAERR	1	000001CC		U			105	91B
IHIFRR	4	00000000	00000001	I			49	35
IHIFRRXP	1	00000000	00000001	J			33	56U
IHISEX	1	00000000	00000003	T			103	103
IHISLO	1	00000000	00000002	T			102	102
KFPONE	4	000000E4	00000001	E	E		98	81
LOAD1	4	0000007C	00000001	I			81	69B
PARAM	4	000000E0	00000001	F	F		97	70M 73 75M 100
R1	1	00000001		U			111	61 63 76M
R13	1	0000000D		U			123	57 58M 59 60 82M 90M 91
R14	1	0000000E		U			124	72M 78M
R15	1	0000000F		U			125	55 71M 72B 77M 78B
R2	1	00000002		U			112	55M 56U
R3	1	00000003		U			113	57M 59 60 61M 62 63M 64
SAVEAREA	4	00000098	00000001	F	F		96	58
VIHISEX	4	000000F0	00000001	V	V		103	77
VIHISLO	4	000000EC	00000001	V	V		102	71

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   53   85M
    1(1)   53   61   63   76M  85M
    2(2)   53   55M  56U  85M
    3(3)   53   57M  59   60   61M  62   63M  64   85M
    4(4)   53   85M
    5(5)   53   85M
    6(6)   53   85M
    7(7)   53   85M
    8(8)   53   85M
    9(9)   53   85M
   10(A)   53   85M
   11(B)   53   85M
   12(C)   53   85M
   13(D)   53   57   58M  59   60   82M  85   90M  91N
   14(E)   53   72M  78M  85M  86B
   15(F)   49B  53   55   71M  72B  77M  78B  85M
```

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
56		USING	Ordinary	00000001	00000000	00001000	2	000F0	89	IHIFRRXP,R2

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIFRR PROCSTEP: X390

Primary input: lines 1 to 105 of SYSD.ALGOLFRT.ASM(IHIFRR)

SYSLIB library records read: 161

SYSUT1 work file size: 12208 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 8400 bytes

SYSLIN file records written: 9

TXA000I Return code 0, elapsed time 0.14 seconds.

Csect	Rel Addr(hex)	Length(dec)
IHIFRRXP	0000F4	4

IHIFSA

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIFSA)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0130
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

```
                                    2 *                                                                    00002001
                                    3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                  00003001
                                    4 *                                                                    00004001
                                    5 *        FUNCTION/OPERATION -                                        00005001
                                    6 *        IHIFSA IS A COLLECTION OF ABOUT 20 ROUTINES WHICH ARE       00006001
                                    7 *        REQUIRED FOR THE EXECUTION OF ALGOL PROGRAMS. THE ENTRY     00007001
                                    8 *        POINT AND PURPOSE OF EACH ROUTINE IS LISTED UNDER ENTRY     00008001
                                    9 *        POINTS BELOW DETAILED INFORMATION ON THE FUNCTION,          00009001
                                   10 *        CALLING SEQUENCE, TRANSMISSION OF PARAMETERS ETC CAN BE     00010001
                                   11 *        FOUND IN THE COMMENTARY WHICH PRECEDES THE PROGRAM          00011001
                                   12 *        LISTING FOR EACH ROUTINE                                    00012001
                                   13 *                                                                    00013001
                                   14 *        THE MODULE CONSISTS OF TWO CONTROL SECTIONS, IHIFSARA       00014001
                                   15 *        AND IHIFSARB.                                               00015001
                                   16 *        IHIFSARA CONTAINS THE ROUTINES, TABLES AND OTHER            00016001
                                   17 *        INFORMATION USED DURING THE EXECUTION OF THE ALGOL          00017001
                                   18 *        OBJECT PROGRAM                                              00018001
                                   19 *        IHIFSARB CONTAINS MAINLY THE INITIALIZATION AND             00019001
                                   20 *        TERMINATION ROUTINES WITH THEIR ASSOCIATED TABLES AND       00020001
                                   21 *        WORK AREAS                                                  00021001
                                   22 *                                                                    00022001
                                   23 *        R13 - BASE REGISTER FOR IHIFSARA                            00023001
                                   24 *        R7  - BASE REGISTER FOR IHIFSARB                            00024001
                                   25 *                                                                    00025001
                                   26 *        ENTRY POINTS -                                              00026001
                                   27 *        MOST OF THE ENTRY POINTS LISTED HERE ARE COLLECTED IN A     00027001
                                   28 *        BRANCH LIST LOCATED AT BRLIST. THE ENTRY POINTS             00028001
                                   29 *        CONTAINED IN THIS BRANCH LIST ARE MARKED WITH AN            00029001
                                   30 *        ASTERISK AFTER THE NAME IN THE LISTING BELOW                00030001
                                   31 *                                                                    00031001
                                   32 *        CAP1*     - CALL ACTUAL PARAMETER                           00032001
                                   33 *                    PART 1. ENTER THUNK ROUTINE FROM A PROCEDURE  00033001
                                   34 *        CAP2*     - CALL ACTUAL PARAMETER                           00034001
                                   35 *                    PART 2. RETURN FROM THE THUNK ROUTINE TO      00035001
                                   36 *                    THE PROCEDURE                                 00036001
                                   37 *        PROLOGP*  - ENTER A PROCEDURE WHEN IT IS CALLED VIA AN      00037001
                                   38 *                    ACTUAL PARAMETER                              00038001
                                   39 *        PROLOG*   - ENTER A BLOCK OR A PROCEDURE                    00039001
                                   40 *        RETPROG*  - LEAVE A BLOCK OR PROCEDURE VIA A 'GO TO'        00040001
                                   41 *                    STATEMENT                                     00041001
                                   42 *        EPILOGP*  - RETURN FROM A PROCEDURE VIA THE 'END'           00042001
                                   43 *                    STATEMENT                                     00043001
                                   44 *        EPILOGB*  - LEAVE A BLOCK VIA THE 'END' STATEMENT           00044001
                                   45 *        FRDSA     - FREE STORAGE FOR DSA AND ARRAYS                 00045001
                                   46 *                    SYNONYM FOR EPILOGB WHEN USED AS A SUBROUTINE 00046001
                                   47 *                    BY THE ERROR ROUTINE IHGERROR                 00047001
                                   48 *        CSWE1*    - CALL SWITCH ELEMENT, PART 1                     00048001
                                   49 *        CSWE2*    - CALL SWITCH ELEMENT, PART 2                     00049001
                                   50 *        LOADPP*   - LOAD A PRECOMPILED PROCEDURE                    00050001
                                   51 *        SPDECL    - STANDARD PROCEDURE DECLARATION ROUTINE          00051001
                                   52 *                    (ENTERED VIA THE PROLOG ROUTINE)              00052001
                                   53 *        VALUCALL* - HANDLE FORMAL PARAMETERS CALLED BY VALUE        00053001
                                   54 *        GETMSTO*  - GET MAIN STORAGE FOR ARRAYS                     00054001
                                   55 *        CNVIRD    - CONVERT INTEGER TO REAL                         00055001
                                   56 *        CNVRDI    - CONVERT REAL TO INTEGER                         00056001
                                   57 *        ENTIER    - EXECUTE ALGOL ENTIER FUNCTION                   00057001
                                   58 *        TRACE*    - STORE THE CURRENT SEMICOLON NUMBER              00058001
                                   59 *        IHGFSAIN  - INITIALIZE FOR PROGRAM EXECUTION AND GIVE       00059001
                                   60 *                    CONTROL TO THE OBJECT MODULE                  00060001
                                   61 *        TERMNTE*  - TERMINATE THE EXECUTION                         00061001
                                   62 *        PIEROUT   - PROGRAM INTERRUPT ROUTINE                       00062001
                                   63 *        FSAERR    - STORE ERROR NUMBER AND CALL THE ERROR           00063001
                                   64 *                    ROUTINE IHIERROR                              00064001
                                   65 *                                                                  00065001
                                   66 *        INPUT -                                                   00066001
                                   67 *        IF THE TRACE OPTION IS USED, THE TERMINATION ROUTINE MAY  00067001
                                   68 *        READ A TABLE OF SEMICOLON NUMBERS, WHICH HAS BEEN         00068001
                                   69 *        WRITTEN ON SYSUT1 BY THE TRACE ROUTINE                    00069001
                                   70 *                                                                  00070001
                                   71 *        OUTPUT -                                                  00071001
                                   72 *        IF THE TRACE OPTION IS USED, THE TRACE ROUTINE MAY WRITE  00072001
                                   73 *        A TABLE OF SEMICOLON NUMBERS ON SYSUT1. THIS TABLE IS     00073001
                                   74 *        READ AND THEN WRITTEN ON SYSPRINT IN EDITED FORMAT BY     00074001
                                   75 *        THE TERMINATION ROUTINE.                                  00075001
                                   76 *        THE MESSAGE 'END OF ALGOL PROGRAM EXECUTION' IS WRITTEN   00076001
                                   77 *        ON SYSPRINT AS THE FINAL OUTPUT FROM THE EXECUTION.       00077001
                                   78 *                                                                  00078001
                                   79 *        EXTERNAL ROUTINES -                                       00079001
                                   80 *        IHIIOROP - OPEN A DATASET (USED ONLY FOR SYSPRINT)        00080001
                                   81 *        IHIIORCL - CLOSE A DATASET (USED ONLY FOR SYSPRINT)       00081001
                                   82 *        IHIIORCP - CLOSE ALL OPEN DATASETS (EXCEPT SYSUT1)        00082001
                                   83 *        IHIIORNX - HANDLE THE NEXT I/O RECORD                     00083001
                                   84 *        IHIERROR - EDIT AND PRINT AN ERROR MESSAGE AND, IF        00084001
                                   85 *                   REQUESTED, AN ALGOL STORAGE DUMP.              00085001
                                   86 *                   (ENTERED BY CALL)                              00086001
                                   87 *                                                                  00087001
                                   88 *        THE FOLLOWING TWO EXTERNAL TABLES ARE IN THE OBJECT       00088001
                                   89 *        MODULE -                                                  00089001
                                   90 *        IHIENTIF - INFORMATION NEEDED FOR ENTERING THE OBJECT MODULE 00090001
                                   91 *             FORMAT -                                             00091001
                                   92 *             IHIENTIF DC A(PBTAB)  ADDR OF PROGRAM BLOCK TABLE    00092001
                                   93 *                      DC A(LATAB)  ADDR OF LABEL ADDR TABLE       00093001
                                   94 *                      DC X'02' OR X'00' FOR SHORT/LONG PREC       00094001
                                   95 *                      DC AL3(ENTRYPOINT)  ADDR OF FIRST INSTRUCTION 00095001
                                   96 *                                                                  00096001
                                   97 *        IHIDSTAB - INFORMATION ABOUT THE STATUS OF EACH DATASET USED 00097001
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  Loc  Object Code     Addr1 Addr2  Stmt   Source Statement                                    X390 3.1.04  2012/08/17 13.21

                                      98 *          FORMAT AND USE -                                           00098001
                                      99 *          SEE THE DSECT DSTABLE AND THE LISTING OF                   00099001
                                     100 *          THE I/O SUBROUTINE MODULE IHIIORTN                         00100001
                                     101 *                                                                     00101001
                                     102 *     EXITS - NORMAL -                                                00102001
                                     103 *     THE TERMINATION ROUTINE IS ENTERED BY A BRANCH TO               00103001
                                     104 *     TERMNTE, AND A FINAL RETURN IS BY A RETURN MACRO WITH           00104001
                                     105 *     THE RETURN CODE ZERO IN R15                                     00105001
                                     106 *                                                                     00106001
                                     107 *     EXITS - ERRORS -                                                00107001
                                     108 *     ON RETURN FROM THE ERROR ROUTINE IHIERROR, THE                  00108001
                                     109 *     TERMINATION ROUTINE IS ENTERED BY A BRANCH TO ALGTRMA,          00109001
                                     110 *     AND A FINAL RETURN IS MADE BY A RETURN MACRO WITH THE           00110001
                                     111 *     RETURN CODE 16 IN R15                                           00111001
                                     112 *                                                                     00112001
                                     113 *     TABLES/WORK AREAS -                                             00113001
                                     114 *     THE LOWER PART OF IHIFSARA CONTAINS A BLOCK OF WORK             00114001
                                     115 *     AREAS AND CONSTANTS WHICH ARE USED IN COMMON BY SEVERAL         00115001
                                     116 *     ROUTINES.                                                       00116001
                                     117 *     THE MOST IMPORTANT ARE -                                        00117001
                                     118 *     SAVE     - STANDARD SAVEAREA USED BY ALL FIRST LEVEL            00118001
                                     119 *                SUBROUTINES EXCEPT THOSE CONTAINED IN THIS MODULE    00119001
                                     120 *     ASAVE    - SAVE AREA USED BY SOME ROUTINES IN THIS MODULE       00120001
                                     121 *     FCTVALST - STORAGE FOR THE RESULT OF AN ALGOL FUNCTION          00121001
                                     122 *     PROLPBN  - PROGRAM BLOCK NUMBER OF A BLOCK OR PROCEDURE         00122001
                                     123 *                TO BE ENTERED VIA THE PROLOG ROUTINE                 00123001
                                     124 *     PGOPSW   - THE OLD PSW IN CASE OF A PROGRAM INTERRUPT           00124001
                                     125 *     SCRCS    - THE CURRENT SEMICOLON NUMBER                         00125001
                                     126 *     OPTSW    - FLAG BITS REPRESENTING EXECUTION TIME OPTIONS        00126001
                                     127 *                AND SWITCHES FOR CONTROLLING THE PROGRAM FLOW        00127001
                                     128 *     FSAERCOD - ERROR NUMBER IDENTIFYING AN EXECUTION ERROR          00128001
                                     129 *     IHIFSARS - FOUR POINTERS FOR CONTROLLING THE RETURN             00129001
                                     130 *                ADDR STACK                                           00130001
                                     131 *     BRLIST   - A LIST OF ENTRY POINTS TO MOST OF THE ROUTINES       00131001
                                     132 *                MENTIONED UNDER 'ENTRY POINTS'. THE LIST CONSISTS    00132001
                                     133 *                MAINLY OF BRANCH INSTRUCTIONS                        00133001
                                     134 *     IHIFSAER - A LIST OF BAL INSTRUCTIONS, EACH                     00134001
                                     135 *                CORRESPONDING TO ONE TYPE OF ERROR, THE              00135001
                                     136 *                NUMBER OF WHICH IS DETERMINED BY ITS POSITION        00136001
                                     137 *                IN THE LIST                                          00137001
                                     138 *                                                                     00138001
                                     139 *     OTHER WORK AREAS AND CONSTANTS OF GENERAL                       00139001
                                     140 *     INTEREST ARE -                                                  00140001
                                     141 *     PARMLIST - A LIST OF THE VALID EXECUTION OPTION                 00141001
                                     142 *                PARAMETERS                                           00142001
                                     143 *     TRBUF    - BUFFER POINTERS AND RECORD COUNTER FOR               00143001
                                     144 *                CONTROLLING THE OUTPUT OF TRACING                    00144001
                                     145 *                INFORMATION ON SYSUT1                                00145001
                                     146 *     PIETAB   - A LIST OF 16 ADDR CONSTANTS EACH POINTING            00146001
                                     147 *                TO AN ENTRY IN IHIFSAER, WHICH CORRESPONDS           00147001
                                     148 *                TO A TYPE OF PROGRAM INTERRUPT                       00148001
                                     149 *     FPINST   - A LIST OF FLOATING POINT INSTRUCTIONS USED BY        00149001
                                     150 *                THE VALUCALL AND SPDECL ROUTINES                     00150001
                                     151 *     CNVINSTE - INSTRUCTIONS TO BE INSERTED INTO THE CONVERT         00151001
                                     152 *                ROUTINE FOR SHORT PRECISION                          00152001
                                     153 *     CNVINSTD - INSTRUCTIONS TO BE INSERTED INTO THE CONVERT         00153001
                                     154 *                ROUTINE FOR LONG PRECISION                           00154001
                                     155 *                                                                     00155001
                                     156 *     ATTRIBUTES - THIS MODULE IS SERIALLY REUSABLE                   00156001
                                     157 *                                                                     00157001
                                     158 *     NOTES -                                                         00158001
                                     159 *     THIS MODULE IS ONLY INTENDED TO BE USED WHEN LINKAGE            00159001
                                     160 *     EDITED TOGETHER WITH AN OS/360 ALGOL OBJECT MODULE AND          00160001
                                     161 *     WITH THE OS/360 ALGOL I/O ROUTINES. FOR REASONS OF              00161001
                                     162 *     EFFICIENCY CERTAIN LOCAL CONVENTIONS ARE OBEYED IN THE          00162001
                                     163 *     COMMUNICATION BETWEEN THESE MODULES                             00163001
                                     164 *     REGISTER SAVING AND RESTORING IS ONLY DONE WHEN                 00164001
                                     165 *     REQUIRED AND THEN GENERALLY IN A NON STANDARD FASHION           00165001
                                     166 *                                                                     00166001
                                     167 *     USE OF GENERAL REGISTERS WHEN COMMUNICATING WITH THE            00167001
                                     168 *     OBJECT MODULE -                                                 00168001
                                     169 *     R8 (ADR)     MAY BE USED AS RETURN REGISTER AND                 00169001
                                     170 *                  PARAMETER POINTER                                  00170001
                                     171 *     R10 (CDSA)   -> CURRENT ACTIVE DATA STORAGE AREA                00171001
                                     172 *     R11 (PBT)    -> PROGRAM BLOCK TABLE IN THE OBJECT MODULE        00172001
                                     173 *     R12 (LAT)    -> LABEL ADDR TABLE IN THE OBJECT MODULE           00173001
                                     174 *     R13 (FSA)    SERVES BOTH AS THE STANDARD SAVE AREA              00174001
                                     175 *                  REGISTER AND AS BASE REGISTER FOR THE              00175001
                                     176 *                  CSECT IHIFSARA                                     00176001
                                     177 *     R14          TRANSMIT INTEGER VALUES TO OR                      00177001
                                     178 *                  FROM CONVERT ROUTINES                              00178001
                                     179 *     R15          RETURN REGISTER AND PARAMETER POINTER              00179001
                                     180 *     FP0          TRANSMIT REAL VALUES TO OR FROM CONVERT ROUTINES   00180001
                                     181 *                                                                     00181001
                                     182 *     USE OF GENERAL REGISTERS WHEN COMMUNICATING WITH THE            00182001
                                     183 *     I/O ROUTINES -                                                  00183001
                                     184 *                                                                     00184001
                                     185 *     R5      (DSN)     -> RELEVANT ENTRY IN THE DATASET TABLE        00185001
                                     186 *     R6      (DSNR)       DATASET NUMBER                             00186001
                                     187 *     R12     (FSAA)       BASE ADDR OF IHIFSARA                      00187001
                                     188 *                                                                     00188001
                                     189 *     PARAMETER VALUES AND OTHER INFORMATION ARE OFTEN                00189001
                                     190 *     TRANSMITTED IMPLICITLY VIA THE COMMONLY ACCESSIBLE              00190001
                                     191 *     WORKING STORAGE IN THE LOWER PART OF IHIFSARA AND (FOR          00191001
                                     192 *     I/O ROUTINES) VIA THE DATASET TABLE IN THE OBJECT               00192001
                                     193 *     MODULE                                                          00193001
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Active USINGs: None

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    194 *                                                                          00194001
                                    195 *        THE MODULE WORKS FOR EITHER SINGLE OR DOUBLE FLOATING             00195001
                                    196 *        POINT PRECISION. IT SENSES THE PRECISION FOR WHICH THE            00196001
                                    197 *        OBJECT MODULE WAS COMPILED AND INITIALIZES ITSELF                 00197001
                                    198 *        ACCORDINGLY. THE AREAS AFFECTED ARE THE LIST OF FLOATING          00198001
                                    199 *        POINT INSTRUCTIONS AT FPINST AND THE BLOCK OF                     00199001
                                    200 *        INSTRUCTIONS STARTING AT CNVINST IN THE CONVERT                   00200001
                                    201 *        ROUTINES                                                          00201001
                                    202 *                                                                          00202001
                                    203 *        THE OPERATION OF THIS MODULE DEPENDS UPON AN INTERNAL             00203001
                                    204 *        REPRESENTATION OF THE EXTERNAL CHARACTER SET WHICH IS             00204001
                                    205 *        EQUIVALENT TO THE ONE USED AT ASSEMBLY TIME                       00205001
                                    206 *                                                                          00206001
000000                  00000 00E6E 207 IHIFSARA CSECT                                                             00207001
                                    208 *                                                                          00208001
                                    209 *        REGISTERS FOR COMMUNICATION WITH THE OBJECT MODULE                00209001
                                    210 *                                                                          00210001
                                    211 *        R8                          ADDRESSING REGISTER                   00211001
                        00009       212 GDSA     EQU   9                     GLOBAL DSA                            00212001
                        0000A       213 CDSA     EQU   10                    CURRENT DSA                           00213001
                        0000B       214 PBT      EQU   11                    PROGRAM BLOCK TABLE                   00214001
                        0000C       215 LAT      EQU   12                    LABEL ADDR TABLE                      00215001
                                    216 *        R13                         IHIFSARA BASE REGISTER                00216001
                                    217 *                                                                          00217001
                                    218 *        REGISTERS FOR COMMUNICATION WITH I/O SUBROUTINES                  00218001
                                    219 *                                                                          00219001
                                    220 *        R5                          -> DATASET TABLE ENTRY                00220001
                                    221 *        R6                          DATASET NUMBER                        00221001
                        0000C       222 FSAA     EQU   12                    ALTERNATE FSA BASE REGISTER           00222001
                                    223 *                                                                          00223001
                                    224 *        REGISTERS USED BY TRACE AND TERMINATION ROUTINES                  00224001
                                    225 *                                                                          00225001
                                    226 *        R4                          BYTE POINTER IN TRACE BUFFER          00226001
                                    227 *        R5                          SEMICOLON NUMBER                      00227001
                                    228 *        R6                          LOWER TRACE LIMIT                     00228001
                                    229 *        R7                          UPPER TRACE LIMIT                     00229001
                                    230 *        R8                          TRACE BUFFER ADDR                     00230001
                                    231 *        R9                          ALTERNATE TRACE BUFFER ADDR           00231001
                                    232 *        R10                         LENGTH OF TRACE BUFFER                00232001
                                    233 *        R11                         NUMBER OF TRACE RECORDS               00233001
                                    234 *                                                                          00234001
                                    235 *        FLOATING POINT REGISTER                                           00235001
                                    236 *                                                                          00236001
                        00000       237 FPR0     EQU   0                                                           00237001
                                    238 *                                                                          00238001
                                    239 *        BIT PATTERNS                                                      00239001
                                    240 *                                                                          00240001
                        0000C       241 BETABM   EQU   X'0C'                 MASK FOR BETA BLOCK FLAG IN PBT       00241001
                        00010       242 CODEPRM  EQU   X'10'                 MASK FOR CODE PROCEDURE IN PBT        00242001
                        00004       243 PIMASK   EQU   X'04'                 MASK FOR PI PROCEDURE IN PBT          00243001
                        000FE       244 RASLOADM EQU   X'FE'                 LOAD PROCEDURE ENTRY IN RAS           00244001
                        00000       245 RASPARMM EQU   X'00'                 CAP OR CSWE ENTRY IN RAS              00245001
                        00010       246 SHORTBIT EQU   X'10'                 FP OPCODE MODIFIER                    00246001
                                    247 *                                                                          00247001
                                    248 *        SWITCHES IN OPTSW                                                 00248001
                                    249 *                                                                          00249001
                        00080       250 DPSW     EQU   X'80'                 DUMP  OPTION SWITCH                   00250001
                        00040       251 TRSW     EQU   X'40'                 TRACE OPTION SWITCH                   00251001
                        00020       252 SHSW     EQU   X'20'                 SHORT PRECISION OPTION SWITCH         00252001
                        00010       253 TERMSW   EQU   X'10'                 TERMINATION ROUTINE ENTERED           00253001
                        00008       254 ERROR    EQU   X'08'                 ERROR ROUTINE ENTERED                 00254001
                        00004       255 UT1ERR   EQU   X'04'                 ERROR ON SYSUT1                       00255001
                        00002       256 PRNTERR  EQU   X'02'                 ERROR ON SYSPRINT                     00256001
                        00041       257 UCTRSW   EQU   X'41'                 UNCONDITIONAL TRACE OPTION            00257001
                        00001       258 PPTRSW   EQU   X'01'                 TRACE PRECOMP PROCEDURES              00258001
                                    259 *                                                                          00259001
                                    260 *        ESD SYMBOLS                                                       00260001
                                    261 *                                                                          00261001
                                    262          ENTRY IHIFSAIN                                                    00262001
                                    263 *                                                                          00263001
                                    264          EXTRN IHIDSTAB                                                    00264001
                                    265          EXTRN IHIENTIF                                                    00265001
                                    266          EXTRN IHIIOROP,IHIIORCL,IHIIORNX,IHIIORCI,IHIIOREV                00266001
                                    267          EXTRN IHIIOROQ,IHIIOREN,IHIIORGP,IHIIORCP,IHIIORER                00267001
                                    268 *                                                                          00268001
                                    269          COPY  FSAREA                                                      00269001
                                    270=*                                                                          00001001
                                    271=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00002001
                                    272=*                                                                          00003001
                                    273=*        STATUS - LEVEL 2.1                                                00004001
                                    274=*                                                                          00005001
                                    275=**************************************************************************00006001
                                    276=*                                                                          00007001
                                    277=*        COMMON DATA AREA                                                  00008001
                                    278=*                                                                          00009001
                                    279=*        FSAREA                                                            00010001
                                    280=*                                                                          00011001
                                    281=**************************************************************************00012001
                                    282=*                                                                          00013001
                                    283=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                        00014001
                                    284=*        MODULES DURING THE EXECUTION                                      00015001
                                    285=*                                                                          00016001
                                    286=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY                     00017001
                                    287=*        SUBROUTINES) BY R12                                               00018001
                                    288=*                                                                          00019001
                        00000       289=FSAREA   EQU   *                                                           00020001
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Active USINGs: None

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    290=*                                                                        00021001
                                    291=*        SAVE AREAS                                                      00022001
                                    292=*                                                                        00023001
000000                              293=         DS    18F                  STANDARD SAVE AREA                   00024001
                         00048      294=ASAVE    EQU   *-FSAREA             ALTERNATE SAVE AREA USED BY          00025001
000048                              295=         DS    18F                  CERTAIN SUBROUTINES                  00026001
                                    296=*                                                                        00027001
                                    297=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                          00028001
                                    298=*                                                                        00029001
                         00090      299=FCTVALST EQU   *-FSAREA             TEMPORARY STORAGE FOR                00030001
000090                              300=         DS    D                    FUNCTION VALUES                      00031001
                         00098      301=ASTLOC   EQU   *-FSAREA             DISPL FOR ADDR OF STAND LOCTN        00032001
000098 00000090                     302=         DC    A(FSAREA+FCTVALST)                                        00033001
                         0009C      303=BRRST    EQU   *-FSAREA             TEMPORARY SAVE REG BRR               00034001
                         0009C      304=HW       EQU   BRRST                TEMPORARY HALFWORD STORAGE           00035001
00009C                              305=         DS    F                                                       00036001
                         000A0      306=PROLREG  EQU   *-FSAREA             STORAGE FOR PBT AND LAT WHEN         00037001
0000A0                              307=         DS    2A                   A PROCEDURE IS FORMAL PARAM          00038001
                                    308=*                                                                        00039001
                                    309=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE          00040001
                                    310=*                                                                        00041001
0000A8                              311=         DS    0H                                                      00042001
0000A8 00                           312=         DC    X'00'                                                   00043001
                         000A9      313=PROLPBN  EQU   *-FSAREA             STORAGE FOR CALLED PBN               00044001
0000A9 00                           314=         DC    X'00'                                                   00045001
                         000AA      315=EIGHT    EQU   *-FSAREA             CONST FOR REDUCING RAS               00046001
0000AA 0008                         316=         DC    H'8'                                                    00047001
                                    317=*                                                                        00048001
0000AC                              318=         DS    0F                                                      00049001
                         000AC      319=ADSTAB   EQU   *-FSAREA             ADDR OF DSTABLE                      00050001
0000AC                              320=         DS    A                    IN THE OBJECT PROGRAM                00051001
                         000B0      321=ANOTTAB  EQU   *-FSAREA             ADDR OF NOTE TABLE                   00052001
0000B0                              322=         DS    A                    (INSERTED BY THE OPEN ROUTINE)       00053001
                                    323=*                                                                        00054001
                         000B4      324=IHIFSAST EQU   *                                                        00055001
                         000B4      325=PGOPSW   EQU   *-FSAREA             PROGRAM CHECK OLD PSW                00056001
0000B4                              326=         DS    2F                                                      00057001
                         000BC      327=FSAPICA  EQU   *-FSAREA             OLD PICA ADDR                        00058001
0000BC 00000000                     328=         DC    F'0'                                                    00059001
                         000C0      329=SCRCS    EQU   *-FSAREA             SEMICOLON NUMBER                     00060001
0000C0                              330=         DS    H                                                       00061001
                         000C2      331=DTSW     EQU   *-FSAREA             OPTION SWITCHES                      00062001
                         000C2      332=OPTSW    EQU   DTSW                                                    00063001
0000C2 00                           333=         DC    X'00'                DUMP-80, TRACE-40, SHORT-20          00064001
                         000C3      334=FSAERCOD EQU   *-FSAREA             ERROR CODE FOR ERROR ROUTINE         00065001
0000C3                              335=         DS    C                                                       00066001
                                    336=*                                                                        00067001
                                    337=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER               00068001
                                    338=*                                                                        00069001
0000C4                              339=         DS    0F                                                      00070001
                         000C4      340=IHIFSARS EQU   *                                                        00071001
                         000C4      341=RASSTART EQU   *-FSAREA             ADDR OF FIRST ENTRY IN RAS-8         00072001
0000C4                              342=         DS    F                                                       00073001
                         000C8      343=RASPT    EQU   *-FSAREA             RAS POINTER FROM TOP                 00074001
0000C8                              344=         DS    F                                                       00075001
                         000CC      345=RASEND   EQU   *-FSAREA             ADDR OF LAST  ENTRY IN RAS+8         00076001
0000CC                              346=         DS    F                                                       00077001
                         000D0      347=RASPB    EQU   *-FSAREA             RAS POINTER FROM BOTTOM              00078001
0000D0                              348=         DS    F                                                       00079001
                                    349=*                                                                        00080001
                                    350=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES        00081001
                                    351=*                                                                        00082001
0000D4                              352=BRLIST   DS    0F                                                      00083001
                         000D4      353=CAP1     EQU   *-FSAREA             FIRST PART CAPS                      00084001
0000D4 4700 0000            00000   354=         NOP   0                                                       00085001
                         000D8      355=CAP2     EQU   *-FSAREA             SECOND PART CAPS                     00086001
0000D8 4700 0000            00000   356=         NOP   0                                                       00087001
                         000DC      357=PROLOGP  EQU   *-FSAREA             PROLOGUE FORMAL PARAMETER ENTRY      00088001
                         000DC      358=PROLOGFP EQU   PROLOGP                                                 00089001
0000DC 4700 0000            00000   359=         NOP   0                                                       00090001
                         000E0      360=PROLOG   EQU   *-FSAREA             PROLOGUE PROGRAM USUAL ENTRY         00091001
0000E0 4700 0000            00000   361=         NOP   0                                                       00092001
                         000E4      362=RETPROG  EQU   *-FSAREA             DISPLACEMENT RETURN PROGRAM          00093001
0000E4 4700 0000            00000   363=         NOP   0                                                       00094001
                         000E8      364=EPILOGP  EQU   *-FSAREA             EPILOGUE PROGRAM,PROCEDURE ENTRY     00095001
0000E8 4700 0000            00000   365=         NOP   0                                                       00096001
                         000EC      366=EPILOGB  EQU   *-FSAREA             EPILOGE PROGRAM,BETA-BLOCK ENTRY     00097001
0000EC 4700 0000            00000   367=         NOP   0                                                       00098001
                         000F0      368=EPILPR3  EQU   *-FSAREA             EPILOGUE PROGRAM ENTRY 3             00099001
0000F0 4700 0000            00000   369=         NOP   0                                                       00100001
                         000F4      370=CSWE1    EQU   *-FSAREA             FIRST PART CSWES                     00101001
0000F4 4700 0000            00000   371=         NOP   0                                                       00102001
                         000F8      372=CSWE2    EQU   *-FSAREA             SECOND PART CSWES                    00103001
0000F8 4700 0000            00000   373=         NOP   0                                                       00104001
                         000FC      374=LOADPP   EQU   *-FSAREA             LOAD PRECOMPILED PROC ROUTINE        00105001
0000FC 4700 0000            00000   375=         NOP   0                                                       00106001
                         00100      376=TRACE    EQU   *-FSAREA                                               00107001
000100 D200 0000 0000 00000 00000   377=         MVC   0(0),0                                                  00108001
000106 4700 0000            00000   378=         NOP   0                                                       00109001
00010A 4700 0000            00000   379=         NOP   0                                                       00110001
                         0010E      380=TERMNTE  EQU   *-FSAREA             NORMAL TERMINATION EXIT              00111001
00010E 4700 0000            00000   381=         NOP   0                                                       00112001
                         00112      382=BCR      EQU   *-FSAREA                                               00113001
000112 0700                         383=         BCR   0,0                  VARIABLE CONDITIONAL BRANCH          00114001
                         00114      384=GETMSTO  EQU   *-FSAREA                                               00115001
000114 4700 0000            00000   385=         NOP   0                                                       00116001
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Active USINGs: None

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    386=*                                                                          00117001
                      00118         387=VALUCALL EQU   *-FSAREA                                                  00118001
000118 4700 0000            00000   388=         NOP   0                                                         00119001
                      0011C         389=IORLST   EQU   *-FSAREA                                                  00120001
00011C 4700 0000            00000   390=         NOP   0                                                         00121001
                                    391=*                                                                          00122001
                      001CC         392=FSAERR   EQU   X'1CC'                  DISPL  FOR ERROR LIST             00123001
                                    393=*                                                                          00124001
                                    394=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                      00125001
                                    395=*                                                                          00126001
                      0020C         396=OUTOFB   EQU   FSAERR+4*16                                               00127001
                      00218         397=NUMBIND  EQU   FSAERR+4*19                                               00128001
                      00208         398=ARRAYBD  EQU   FSAERR+4*15                                               00129001
                      0026C         399=ERROR40  EQU   FSAERR+4*40                                               00130001
                      00224         400=OERR22   EQU   FSAERR+4*22                                               00131001
                      00210         401=ENDLESL  EQU   FSAERR+4*17                                               00132001
                      00220         402=OERR21   EQU   FSAERR+4*21                                               00133001
                                    403=*                                                                          00134001
                                    404 *                                                                          00270001
                                    405          COPY  FSACONV                                                     00271001
                                    406=*                                                                          00001001
                                    407=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00002001
                                    408=*                                                                          00003001
                                    409=*        STATUS - LEVEL 2.1                                                00004001
                                    410=*                                                                          00005001
                                    411=***************************************************************************00006001
                                    412=*                                                                          00007001
                                    413=*        TYPE CONVERSION ROUTINES                                          00008001
                                    414=*                                                                          00009001
                                    415=*        FSACONV                                                           00010001
                                    416=*                                                                          00011001
                                    417=***************************************************************************00012001
                                    418=*                                                                          00013001
                                    419=*        PERFORM CONVERSION BETWEEN INTEGER AND REAL TYPE                  00014001
                                    420=*        FOR EITHER SINGLE OR DOUBLE PRECISION                             00015001
                                    421=*                                                                          00016001
                                    422=*        CALLING SEQUENCES -                                               00017001
                                    423=*                                                                          00018001
                                    424=*        REAL TO INTEGER CONVERSION                                        00019001
                                    425=*        BAL   R8,CNVRDI(R13)          REAL NUMBER IN FPR0                 00020001
                                    426=*                                      RETURN WITH INTEGER IN R14          00021001
                                    427=*                                                                          00022001
                                    428=*        INTEGER TO REAL CONVERSION                                        00023001
                                    429=*        BAL   R8,CNVIRD(R13)          INTEGER NUMBER IN R14               00024001
                                    430=*                                      RETURN WITH REAL NO IN FPR0         00025001
                                    431=*                                                                          00026001
                                    432=*        ALGOL ENTIER FUNCTION                                             00027001
                                    433=*        BAL   R8,ENTIER(R13)          REAL NUMBER IN FPR0                 00028001
                                    434=*                                      RETURN WITH INTEGER IN R14          00029001
                                    435=*                                                                          00030001
                                    436=*        INTEGER TO REAL CONVERSION                                        00031001
                                    437=*                                                                          00032001
                 R:D  00000         438=         USING FSAREA,R13                                                  00033001
                      00120         439=CONVIR   EQU   *                                                         00034001
                      00120         440=CNVIRD   EQU   *-FSAREA                                                  00035001
000120 57E0 D1B4            001B4   441=         X     R14,CNVCNST1+4                                             00036001
000124 50E0 D194            00194   442=         ST    R14,CNVBUF1+4                                              00037001
000128 6800 D190            00190   443=         LD    FPR0,CNVBUF1                                               00038001
00012C 6B00 D1B0            001B0   444=         SD    FPR0,CNVCNST1                                              00039001
                      00130         445=CNVINST  EQU   *                          ***                             00040001
000130 6000 D198            00198   446=         STD   FPR0,CNVBUF2                *                               00041001
000134 D202 D199 D1B1 00199 001B1   447=         MVC   CNVBUF2+1(3),CNVCNST1+1     *                               00042001
00013A 6A00 D198            00198   448=         AD    FPR0,CNVBUF2                *                               00043001
00013E 07F8                         449=         BR    R8                          *                               00044001
                                    450=*                                         * FOR LONG PRECISION, THESE     00045001
                                    451=*        REAL TO INTEGER CONVERSION       * ARE REPLACED AT EXECUTION     00046001
                                    452=*                                         * TIME BY THE INSTRUCTIONS      00047001
                                    453=*                                         * AT CNVINSTD                   00048001
                      00140         454=ENTIER   EQU   *-FSAREA                   *                               00049001
000140 7000 D1A0            001A0   455=         STE   FPR0,CNVBUF3                *                               00050001
000144 6800 D1A0            001A0   456=         LD    FPR0,CNVBUF3                *                               00051001
000148 47F0 D158            00158   457=         B     ENTIER1                     *                               00052001
                                    458=*                                         *                               00053001
                      0014C         459=CNVRDI   EQU   *-FSAREA                   *                               00054001
00014C 7000 D1A0            001A0   460=         STE   FPR0,CNVBUF3                *                               00055001
000150 6800 D1A0            001A0   461=         LD    FPR0,CNVBUF3                *                               00056001
                                    462=*                                         ***                             00057001
000154 6A00 D1B8            001B8   463=         AD    FPR0,CNVCNST2                                              00058001
000158 6000 D1A8            001A8   464=ENTIER1  STD   FPR0,CNVBUF4                                              00059001
00015C 7900 D1C8            001C8   465=         CE    FPR0,CNVCNST3                                              00060001
000160 47BD 026C            0026C   466=         BNL   ERROR40(R13)                                               00061001
000164 6E00 D1B0            001B0   467=         AW    FPR0,CNVCNST1                                              00062001
000168 4720 D176            00176   468=         BP    LABEL1                                                     00063001
00016C D507 D1A8 D1C0 001A8 001C0   469=         CLC   CNVBUF4(8),CNVCNST4                                        00064001
000172 472D 026C            0026C   470=         BH    ERROR40(R13)                                               00065001
000176 6000 D198            00198   471=LABEL1   STD   FPR0,CNVBUF2                                              00066001
00017A 58E0 D19C            0019C   472=         L     R14,CNVBUF2+4                                              00067001
00017E 57E0 D1B4            001B4   473=         X     R14,CNVCNST1+4                                             00068001
000182 6B00 D1B0            001B0   474=         SD    FPR0,CNVCNST1                                              00069001
000186 6900 D1A8            001A8   475=         CD    FPR0,CNVBUF4                                               00070001
00018A 07D8                         476=         BNHR  R8                                                         00071001
00018C 06E8                         477=         BCTR  R14,R8                                                     00072001
                                    478=*                                                                          00073001
00018E 0000
000190                              479=         DC    0D'0'                                                      00074001
000190 4E00000000000000             480=CNVBUF1  DC    X'4E00000000000000'                                        00075001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000198 0000000000000000             481=CNVBUF2  DC    D'0'                                                    00076001
0001A0 0000000000000000             482=CNVBUF3  DC    X'0000000000000000'                                     00077001
0001A8 0000000000000000             483=CNVBUF4  DC    D'0'                                                    00078001
0001B0 4E00000080000000             484=CNVCNST1 DC    X'4E00000080000000'                                     00079001
0001B8 4080000000000000             485=CNVCNST2 DC    X'4080000000000000'                                     00080001
0001C0 C880000000000000             486=CNVCNST4 DC    X'C880000000000000'                                     00081001
0001C8 48800000                     487=CNVCNST3 DC    X'48800000'                                             00082001
                                    488=*                                                                      00083001
0001CC                              489=         DC    0F'0'                                                   00084001
                                    490=*                                                                      00085001
                                    491=*        END OF SYMLIB PART OF FIXED STORAGE AREA                      00086001
                                    492=*                                                                      00087001
                                    493 *                                                                      00272001
0001CC               001CC 000AC    494          ORG   FSAREA+ADSTAB                                           00273001
0000AC 00000000                     495          DC    A(IHIDSTAB)                                             00274001
                                    496 *                                                                      00275001
                                    497 ************************************************************************ 00276001
                                    498 *                                                                      00277001
                                    499 *        INSTRUCTIONS/DATA INSERTED INTO THE FSA AT BRLIST              00278001
                                    500 *                                                                      00279001
                                    501 ************************************************************************ 00280001
                                    502 *                                                                      00281001
0000B0               000B0 000D4    503          ORG   BRLIST                                                  00282001
                R:D  00000          504          USING IHIFSARA,R13                                            00283001
                                    505 *                                                                      00284001
0000D4 47F0 D36C            0036C   506          B     CAP1A                   CAP1                            00285001
0000D8 47F0 D3B6            003B6   507          B     CAP2A                   CAP2                            00286001
0000DC 47F0 D3E0            003E0   508          B     PROLP                   PROLOGP                         00287001
0000E0 47F0 D3E8            003E8   509          B     PROL                    PROLOG                          00288001
0000E4 47F0 D828            00828   510          B     RETPROGA                RETPROG                         00289001
0000E8 47F0 D85C            0085C   511          B     EPILP                   EPILOGP                         00290001
0000EC 47F0 D874            00874   512          B     EPILB                   EPILOGB                         00291001
0000F0 47F0 D8A0            008A0   513          B     EPIL3                   EPILPR3                         00292001
0000F4 47F0 DB4A            00B4A   514          B     CSWE1A                  CSWE1                           00293001
0000F8 47F0 DB9E            00B9E   515          B     CSWE2A                  CSWE2                           00294001
0000FC 47F0 DBC6            00BC6   516          B     LOADPPA                 LOADPP                          00295001
                                    517 *                                                                      00296001
                                    518 *        TRACE                                                         00297001
                                    519 *                                                                      00298001
000100 D201 D0C0 F000 000C0 00000   520          MVC   SCRCS(2,R13),0(R15)     INSERT SEMICOLON NUMBER         00299001
000106 47FF 0002            00002   521          B     2(R15)                  MODIFIED TO NOP IF TRACE        00300001
00010A 47F0 DC44            00C44   522          B     TRACEA                                                  00301001
00010E 47F0 D2D2            002D2   523          B     TERMN                   TERMNTE                         00302001
000112 070F                         524          NOPR  R15                     BCR                             00303001
000114 47F0 D344            00344   525          B     GETMAIN                 GETMSTO                         00304001
000118 47F0 D60C            0060C   526          B     VALUCAL                 VALUCALL                        00305001
                                    527 *                                                                      00306001
                                    528 *        COMMON I/O ROUTINES IHIIOR @ IORLST                           00307001
                                    529 *                                                                      00308001
00011C 00000DD8                     530          DC    A(ADRLST)                                               00309001
                                    531 *                                                                      00310001
                                    532 ************************************************************************ 00311001
                                    533 *                                                                      00312001
                                    534 *        EXITS FOR EXECUTION ERRORS                                    00313001
                                    535 *                                                                      00314001
                                    536 ************************************************************************ 00315001
                                    537 *                                                                      00316001
                                    538 *                                                                      00317001
                                    539 *        ENTRY POINTS FOR ALL TYPES OF EXECUTION ERRORS                00318001
                                    540 *                                                                      00319001
                                    541 *        STORE THE ERROR NUMBER AND LINK TO THE ERROR                  00320001
                                    542 *        ROUTINE IHIFSAER                                              00321001
                                    543 *        THE NUMBER OF EACH ERROR IS DETERMINED BY ITS POSITION        00322001
                                    544 *        IN THE BRANCH LIST                                            00323001
                                    545 *                                                                      00324001
                                    546 *        CALLING SEQUENCE -                                            00325001
                                    547 *        BC    ERRORCONDITION,FSAERR+4*ERRORNUMBER(R13)                00326001
                                    548 *                                                                      00327001
000120               00120 001CC    549          ORG   FSAERR+FSAREA                                           00328001
                                    550 *                                                                      00329001
0001CC 4510 D27C            0027C   551 IHIFSAER BAL   R1,FSAERRL               0                           00330001
0001D0 4510 D27C            0027C   552          BAL   R1,FSAERRL               1                           00331001
0001D4 4510 D27C            0027C   553          BAL   R1,FSAERRL               2                           00332001
0001D8 4510 D27C            0027C   554          BAL   R1,FSAERRL               3                           00333001
0001DC 4510 D27C            0027C   555          BAL   R1,FSAERRL               4                           00334001
0001E0 4510 D27C            0027C   556          BAL   R1,FSAERRL               5                           00335001
0001E4 4510 D27C            0027C   557          BAL   R1,FSAERRL               6                           00336001
0001E8 4510 D27C            0027C   558          BAL   R1,FSAERRL               7                           00337001
0001EC 4510 D27C            0027C   559          BAL   R1,FSAERRL               8                           00338001
0001F0 4510 D27C            0027C   560          BAL   R1,FSAERRL               9                           00339001
0001F4 4510 D27C            0027C   561          BAL   R1,FSAERRL              10                           00340001
0001F8 4510 D27C            0027C   562          BAL   R1,FSAERRL              11                           00341001
0001FC 4510 D27C            0027C   563          BAL   R1,FSAERRL              12                           00342001
000200 4510 D27C            0027C   564          BAL   R1,FSAERRL              13                           00343001
000204 4510 D27C            0027C   565          BAL   R1,FSAERRL              14                           00344001
000208 4510 D27C            0027C   566          BAL   R1,FSAERRL              15                           00345001
00020C 4510 D27C            0027C   567          BAL   R1,FSAERRL              16                           00346001
000210 4510 D27C            0027C   568          BAL   R1,FSAERRL              17                           00347001
                     00214          569 NOMAIN   EQU   *-FSAREA                                             00348001
000214 4510 D27C            0027C   570          BAL   R1,FSAERRL              18                           00349001
000218 4510 D27C            0027C   571          BAL   R1,FSAERRL              19                           00350001
                     0021C          572 ERROR20  EQU   *                                                    00351001
                     0021C          573 OERR20   EQU   *-FSAREA                                             00352001
                     0021C          574 PARERR   EQU   *-FSAREA                                             00353001
00021C 4510 D27C            0027C   575          BAL   R1,FSAERRL              20                           00354001
000220 4510 D27C            0027C   576 ERROR21  BAL   R1,FSAERRL              21                           00355001
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Active USINGs: IHIFSARA,R13

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000224 4510 D27C            0027C   577          BAL   R1,FSAERRL             22                                 00356001
000228 4510 D27C            0027C   578          BAL   R1,FSAERRL             23                                 00357001
00022C 4510 D27C            0027C   579          BAL   R1,FSAERRL             24                                 00358001
000230 4510 D27C            0027C   580          BAL   R1,FSAERRL             25                                 00359001
000234 4510 D27C            0027C   581          BAL   R1,FSAERRL             26                                 00360001
000238 4510 D27C            0027C   582 ERROR27  BAL   R1,FSAERRL             27                                 00361001
00023C 4510 D27C            0027C   583 ERROR28  BAL   R1,FSAERRL             28    0C8 FROM SPIE                00362001
000240 4510 D27C            0027C   584 ERROR29  BAL   R1,FSAERRL             29    0CC FROM SPIE                00363001
000244 4510 D27C            0027C   585 ERROR30  BAL   R1,FSAERRL             30    0C9 FROM SPIE                00364001
000248 4510 D27C            0027C   586 ERROR31  BAL   R1,FSAERRL             31                                 00365001
00024C 4510 D27C            0027C   587 ERROR32  BAL   R1,FSAERRL             32                                 00366001
000250 4510 D27C            0027C   588 ERROR33  BAL   R1,FSAERRL             33    0CX FROM SPIE                00367001
                      00254         589 ERROR34  EQU   *                                                          00368001
                      00254         590 SWDMERR  EQU   *-FSAREA                                                   00369001
000254 4510 D27C            0027C   591          BAL   R1,FSAERRL             34                                 00370001
000258 4510 D27C            0027C   592 ERROR35  BAL   R1,FSAERRL             35                                 00371001
                      0025C         593 ERROR36  EQU   *                                                          00372001
                      0025C         594 RASOVERF EQU   *-FSAREA                                                   00373001
00025C 4510 D27C            0027C   595          BAL   R1,FSAERRL             36                                 00374001
000260 4510 D27C            0027C   596          BAL   R1,FSAERRL             37                                 00375001
000264 4510 D27C            0027C   597          BAL   R1,FSAERRL             38                                 00376001
000268 4510 D27C            0027C   598          BAL   R1,FSAERRL             39                                 00377001
00026C 4510 D27C            0027C   599          BAL   R1,FSAERRL             40                                 00378001
                      00270         600 DDERROR  EQU   *-FSAREA                                                   00379001
000270 4510 D27C            0027C   601          BAL   R1,FSAERRL             41                                 00380001
                      00274         602 INVOPT   EQU   *-FSAREA                                                   00381001
000274 4510 D27C            0027C   603          BAL   R1,FSAERRL             42                                 00382001
000278 4510 D27C            0027C   604          BAL   R1,FSAERRL             43                                 00383001
                                    605 *                                                                         00384001
                                    606 *        LINK TO ERROR ROUTINE IHIFSAERR                                  00385001
                                    607 *                                                                         00386001
00027C 4110 1000            00000   608 FSAERRL  LA    R1,0(,R1)              ZERO HIORDER BYTE                  00387001
000280 5B10 DE40            00E40   609          S     R1,=A(IHIFSAER+4)      ERRORNUMBER*4 IN R1                00388001
000284 421D 00C3            000C3   610          STC   R1,FSAERCOD(R13)       SAVE ERROR CODE                    00389001
000288 9108 D0C2      000C2         611          TM    OPTSW(R13),ERROR       TO PREVENT ENTERING                00390001
00028C 4710 D2CA            002CA   612          BO    TERMAA                 ERROR ROUTINE                      00391001
000290 9608 D0C2      000C2         613          OI    OPTSW(R13),ERROR       MORE THAN ONCE                     00392001
                                    614 *                                                                         00393001
                                    615          CALL  IHIERROR,                                                X00394001
                                                       (FRDSA,SPDAP,IHIIOROP,IHIIORCP,IHIIORNX)                 00395001
000294                              616+         CNOP  0,4                                                      01-CALL
000294 47F0 D29C            0029C   617+         B     *+8                          BRANCH AROUND VCON          01-CALL
000298 00000000                     618+IHB0001B DC    V(IHIERROR)                  ENTRY POINT ADDRESS         01-CALL
00029C                              619+         CNOP  0,4                                                      02-IHBOP
00029C 4510 D2B4            002B4   620+         BAL   1,IHB0002A                   LOAD LIST ADDR IN REG1      02-IHBOP
                      002A0         621+IHB0002  EQU   *                                                        02-IHBOP
0002A0 00000874                     622+         DC    A(FRDSA)           PROB.PROG.PARAMETER                 02-IHBOP
0002A4 00000B44                     623+         DC    A(SPDAP)           PROB.PROG.PARAMETER                 02-IHBOP
0002A8 00000000                     624+         DC    A(IHIIOROP)        PROB.PROG.PARAMETER                 02-IHBOP
0002AC 00000000                     625+         DC    A(IHIIORCP)        PROB.PROG.PARAMETER                 02-IHBOP
0002B0 00                           626+         DC    B'00000000'                SET VL SWITCH BIT           02-IHBOP
0002B1 000000                       627+         DC    AL3(IHIIORNX)              PROB. PROG. PARAMETER       02-IHBOP
                      002B4         628+IHB0002A EQU   *                                                        02-IHBOP
0002B4 58F0 D298            00298   629+         L     15,IHB0001B                LOAD 15 WITH ENTRY ADR      01-CALL
0002B8 05EF                         630+         BALR  14,15                      BRANCH TO ENTRY POINT       01-CALL
                                    631 *                                                                         00396001
               R:7    00E70         632          USING IHIFSARB,R7                                              00397001
                                    633 *                                                                         00398001
                                    634 *        ABNORMAL TERMINATION                                             00399001
                                    635 *                                                                         00400001
0002BA 5870 DE44            00E44   636 TERMA    L     R7,=A(IHIFSARB)                                          00401001
0002BE 9110 D0C2      000C2         637          TM    OPTSW(R13),TERMSW                                        00402001
0002C2 4710 74F2            01362   638          BO    ALGTRMAA               IF ERROR IN TERM ROUTINE          00403001
0002C6 47F0 72A8            01118   639          B     ALGTRMA                                                  00404001
                                    640 *                                                                         00405001
                                    641 *        VERY ABNORMAL TERMINATION                                        00406001
                                    642 *                                                                         00407001
0002CA 5870 DE44            00E44   643 TERMAA   L     R7,=A(IHIFSARB)                                          00408001
0002CE 47F0 74F2            01362   644          B     ALGTRMAA                                                 00409001
                                    645 *                                                                         00410001
                                    646 *        NORMAL TERMINATION                                               00411001
                                    647 *                                                                         00412001
0002D2 5870 DE44            00E44   648 TERMN    L     R7,=A(IHIFSARB)                                          00413001
0002D6 47F0 72B0            01120   649          B     ALGTRMN                                                  00414001
                                    650 *                                                                         00415001
                                    651          DROP  R7                                                       00416001
0002DA                      002DA 002DA  652          ORG                                                      00417001
                                    653 *                                                                         00418001
                                    654 ************************************************************************ 00419001
                                    655 *                                                                         00420001
                                    656 *        INSTRUCTIONS FOR SHORT OR LONG FLOATING POINT PRECISION          00421001
                                    657 *                                                                         00422001
                                    658 ************************************************************************ 00423001
                                    659 *                                                                         00424001
                                    660 *        THE FOLLOWING INSTRUCTIONS ARE MODIFIED BY THE                   00425001
                                    661 *        INITIALIZATION ROUTINE FOR SHORT OR LONG PRECISION AS            00426001
                                    662 *        REQUIRED                                                         00427001
                                    663 *                                                                         00428001
                      002DA         664 FPINST   EQU   *                                                          00429001
                                    665 *                                       USED BY VALUCALL                  00430001
0002DA 7801 0000            00000   666 VALLD    LE    0,0(R1)                                                  00431001
0002DE 7002 0000            00000   667 VALST    STE   0,0(R2)                                                  00432001
                                    668 *                                       USED BY SPDECL                    00433001
0002E2 7802 0000            00000   669 LINSTR   LE    0,0(R2)                                                  00434001
0002E6 700D 0090            00090   670 STINSTR  STE   0,FCTVALST(R13)                                          00435001
0002EA 3200                         671 LTRINSTR LTER  0,0                                                      00436001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

0002EC 0700                          672          NOPR  0                                                          00437001
                     002EE           673 FPINSTE  EQU   *                                                          00438001
0002EE 3000                          674 LPRINSTR LPER  0,0                                                        00439001
                                     675 *                                                                        00440001
0002F0 000002DA00000004              676 FPINSTAD DC    A(FPINST,4,FPINSTE)                                       00441001
                                     677 *                                                                        00442001
                                     678 *        ONE OF THE FOLLOWING SETS OF INSTRUCTIONS IS INSERTED           00443001
                                     679 *        INTO THE CONVERT ROUTINE BY THE INITIALIZATION ROUTINE          00444001
                                     680 *        IN ORDER TO SET UP FOR LONG OR SHORT PRECISION AS               00445001
                                     681 *        REQUIRED                                                        00446001
                                     682 *                                                                        00447001
                                     683 *        SHORT PRECISION                                                 00448001
                                     684 *                                                                        00449001
0002FC 6000 D198            00198    685 CNVINSTE STD   FPR0,CNVBUF2                                             00450001
000300 D202 D199 D1B1 00199 001B1    686          MVC   CNVBUF2+1(3),CNVCNST1+1                                  00451001
000306 6A00 D198            00198    687          AD    FPR0,CNVBUF2                                             00452001
00030A 07F8                          688          BR    R8                                                       00453001
                                     689 *                                                                        00454001
00030C 7000 D1A0            001A0    690          STE   FPR0,CNVBUF3                                             00455001
000310 6800 D1A0            001A0    691          LD    FPR0,CNVBUF3                                             00456001
000314 47F0 D158            00158    692          B     ENTIER1                                                  00457001
                                     693 *                                                                        00458001
000318 7000 D1A0            001A0    694          STE   FPR0,CNVBUF3                                             00459001
00031C 6800 D1A0            001A0    695          LD    FPR0,CNVBUF3                                             00460001
                                     696 *                                                                        00461001
                                     697 *        LONG PRECISION                                                  00462001
                                     698 *                                                                        00463001
000320 07F8                          699 CNVINSTD BR    R8                                                       00464001
                                     700 *                                                                        00465001
000322 FFFFFFFFFFFFFFFF              701          DC    14X'FF'                                                  00466001
000330 47F0 D158            00158    702          B     ENTIER1                                                  00467001
                                     703 *                                                                        00468001
000334 FFFFFFFFFFFFFFFF              704          DC    8X'FF'                                                   00469001
00033C 6A00 D1B8            001B8    705          AD    FPR0,CNVCNST2                                            00470001
000340 47F0 D158            00158    706          B     ENTIER1                                                  00471001
                                     707 *                                                                        00472001
                     00024           708 CNVINSTL EQU   *-CNVINSTD                                               00473001
                                     709 *                                                                        00474001
                                     710 ************************************************************************ 00475001
                                     711 *                                                                        00476001
                                     712 *        GETMAIN ROUTINE                                                 00477001
                                     713 *                                                                        00478001
                                     714 ************************************************************************ 00479001
                                     715 *                                                                        00480001
                                     716 *        ISSUE A CONDITIONAL GETMAIN IN RESPONSE TO A REQUEST BY         00481001
                                     717 *        THE OBJECT MODULE FOR STORAGE FOR AN ARRAY. IF STORAGE          00482001
                                     718 *        IS NOT AVAILABLE, AN ERROR EXIT IS TAKEN                        00483001
                                     719 *                                                                        00484001
                                     720 *        CALLING SEQUENCE - (ENTRY VIA BRLIST)                           00485001
                                     721 *                                                                        00486001
                                     722 *        BAL   R8,GETMSTO(R13)         LENGTH OF AREA IN R0              00487001
                                     723 *        ---                           RETURN WITH ADDR IN R1            00488001
                                     724 *                                                                        00489001
000344 1820                          725 GETMAIN  LR    R2,R0                    LENGTH VALUE                      00490001
                                     726 *                                                                        00491001
                                     727          GETMAIN EC,LV=(R2),A=STORAGE                                    00492001
                                    728+*        OS/VS2 RELEASE 4 VERSION -- 10/21/75                            01-GETMA
000346 0700                         729+         CNOP  0,4                                                       01-GETMA
000348 4510 D356            00356   730+         BAL   1,*+14                        BRANCH AROUND LIST          01-GETMA
00034C 00000000                     731+         DC    A(0)                          LENGTH                      01-GETMA
000350 00000368                     732+         DC    A(STORAGE)            ADDR. OF ADDR. LIST               01-GETMA
000354 20                           733+         DC    BL1'00100000'                 MODE AND OPTION FLAGS       01-GETMA
000355 00                           734+         DC    AL1(0)                        SUBPOOL VALUE               01-GETMA
000356 5020 1000            00000   735+         ST    R2,0(0,1)                     STORE LENGTH INTO LIST      01-GETMA
00035A 0A04                         736+         SVC   4                             ISSUE GETMAIN SVC           01-GETMA
                                     737 *                                                                        00493001
00035C 12FF                          738          LTR   R15,R15                                                  00494001
00035E 477D 0214            00214    739          BNZ   NOMAIN(R13)                                              00495001
000362 5810 D368            00368    740          L     R1,STORAGE                                               00496001
000366 07F8                          741          BR    R8                        RETURN TO CALLING PROG           00497001
                                     742 *                                                                        00498001
000368 00000000                      743 STORAGE  DC    A(0)                      ADDR OF THE AREA                 00499001
                                     744 *                                                                        00500001
                                     745 ************************************************************************ 00501001
                                     746 *                                                                        00502001
                                     747 *        CALL ACTUAL PARAMETER ROUTINE                                   00503001
                                     748 *                                                                        00504001
                                     749 ************************************************************************ 00505001
                                     750 *                                                                        00506001
                                     751 *                                                                        00507001
                                     752 *        THIS ROUTINE IS AN INTERMEDIATE LINK BETWEEN A PROCEDURE        00508001
                                     753 *        AND THE THUNK FOR AN ACTUAL PARAMETER TO THE PROCEDURE.         00509001
                                     754 *        IT SEARCHES THE DSA CHAIN FOR THE DSA OF THE PROCEDURE          00510001
                                     755 *        DECLARATION. THEN IT LOADS THE THUNK ADDR FROM THIS             00511001
                                     756 *        DSA, LOADS CDSA WITH THE DSA ADDR OF THE ENCLOSING              00512001
                                     757 *        BLOCK AND BRANCHES TO THE THUNK                                 00513001
                                     758 *                                                                        00514001
                                     759 *        CALLING SEQUENCE - (ENTRY VIA BRLIST)                           00515001
                                     760 *                                                                        00516001
                                     761 *        BAL   R15,CAP1(R13)                                             00517001
                                     762 *        DC    H'PBN1'                 PBN OF PROCEDURE                  00518001
                                     763 *        DS    H                                                         00519001
                                     764 *        L     R8,DISPL(CDSA)          LOAD ADDR OF THUNK                00520001
                                     765 *        ---                           RETURN FROM THUNK VIA CAP2        00521001
                                     766 *                                      WITH PARAM ADDR IN R8             00522001
                                     767 *                                                                        00523001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.21

                      0036C         768 CAP1A    EQU   *                                                      00524001
00036C 58ED 00C8            000C8   769 CAPA     L     R14,RASPT(R13)          RAS POINTER FROM TOP           00525001
000370 50F0 E00C            0000C   770          ST    R15,12(,R14)            SAVE RETURN ADDR IN RAS        00526001
000374 4810 F000            00000   771          LH    R1,0(,R15)              PBN OF PROCEDURE               00527001
000378 4111 B000            00000   772          LA    R1,0(R1,PBT)            PROCEDURE ENTRY IN PBT         00528001
00037C 41E0 E008            00008   773 CAPI1    LA    R14,8(,R14)             RESERVE ONE ENTRY IN RAS       00529001
000380 59ED 00D0            000D0   774          C     R14,RASPB(R13)          CHECK FOR STACK OVERFLOW       00530001
000384 47BD 025C            0025C   775          BNL   RASOVERF(R13)                                          00531001
000388 50A0 E000            00000   776          ST    CDSA,0(,R14)            SAVE DSA POINTER IN RAS        00532001
00038C 4AB0 A008            00008   777          AH    PBT,8(,CDSA)            ADDR OF CURRENT PBT ENTRY      00533001
000390 5820 A000            00000   778          L     R2,0(,CDSA)             LAST GENERATION DSA POINTER    00534001
000394 5020 B000            00000   779          ST    R2,0(,PBT)              IS STORED IN PBT ENTRY         00535001
000398 191B                         780          CR    R1,PBT                  RIGHT PROCEDURE REACHED        00536001
00039A 4400 F004            00004   781          EX    0,4(,R15)               LOAD ADDR OF THUNK             00537001
00039E 58A0 A004            00004   782          L     CDSA,4(,CDSA)           LOAD DYNAMICALLY ENCLOSING DSA 00538001
0003A2 98BC A010            00010   783          LM    PBT,LAT,16(CDSA)        PBT AND LAT CAN BE DIFFERENT   00539001
0003A6 50ED 00C8            000C8   784          ST    R14,RASPT(R13)          SAVE RAS TOP POINTER           00540001
0003AA 0788                         785          BZR   R8                      TO THUNK OF ACTUAL PARAM       00541001
                                    786 *                                       IF RIGHT BLOCK REACHED         00542001
0003AC 1B22                         787          SR    R2,R2                   ZERO TO RETURN ENTRY IN        00543001
0003AE 5020 E00C            0000C   788          ST    R2,12(,R14)             RAS INSTEAD OF R15             00544001
0003B2 47F0 D37C            0037C   789          B     CAPI1                                                  00545001
                                    790 *                                                                    00546001
                                    791 *        HANDLE THE TRANSFER FROM THE THUNK BACK TO THE PROCEDURE   00547001
                                    792 *                                                                    00548001
                                    793 *        RELOAD CDSA WITH THE ADDR OF THE DSA THAT WAS ACTIVE       00549001
                                    794 *        WHEN CAP1 WAS ENTERED                                       00550001
                                    795 *                                                                    00551001
                                    796 *        CALLING SEQUENCE - (ENTRY VIA BRLIST)                       00552001
                                    797 *        B     CAP2(R13)                                             00553001
                                    798 *                                                                    00554001
                      003B6         799 CAP2A    EQU   *                                                      00555001
                      003B6         800 CAPB     EQU   *                                                      00556001
0003B6 58ED 00C8            000C8   801          L     R14,RASPT(R13)          RAS POINTER FROM TOP           00557001
0003BA 58A0 E000            00000   802 CAPI3    L     CDSA,0(,R14)            DSA POINTER FROM RAS           00558001
0003BE 98BC A010            00010   803          LM    PBT,LAT,16(CDSA)        PBT AND LAT CAN BE DIFFERENT   00559001
0003C2 58FE 0004            00004   804          L     R15,4(R14)              RETURN ADDR FROM RAS           00560001
0003C6 4BED 00AA            000AA   805          SH    R14,EIGHT(R13)          RELEASE ONE ENTRY IN RAS       00561001
0003CA 481A 0008            00008   806          LH    R1,8(CDSA)              PROGRAM BLOCK NUMBER TO REG    00562001
0003CE 50A1 B000            00000   807          ST    CDSA,0(R1,PBT)          CURRENT DSA POINTER TO PBT     00563001
0003D2 12FF                         808          LTR   R15,R15                 CALLING BLOCK REACHED          00564001
0003D4 4780 D3BA            003BA   809          BZ    CAPI3                   NO CONTINUE                    00565001
0003D8 50ED 00C8            000C8   810 CAPI4    ST    R14,RASPT(R13)          SAVE RAS TOP POINTER           00566001
0003DC 47F0 F008            00008   811          B     8(,R15)                 RETURN TO CALLING SEQUENCE     00567001
                                    812 *                                                                    00568001
                                    813 ************************************************************************ 00569001
                                    814 *                                                                    00570001
                                    815 *        PROLOGUE PROGRAM                                            00571001
                                    816 *                                                                    00572001
                                    817 ************************************************************************ 00573001
                                    818 *                                                                    00574001
                                    819 *        THIS ROUTINE IS EXECUTED WHENEVER A BLOCK OR PROCEDURE      00575001
                                    820 *        IS TO BE ENTERED                                            00576001
                                    821 *                                                                    00577001
                                    822 *        IT CREATES AND INITIALIZES A NEW DSA. FOR A PROCEDURE       00578001
                                    823 *        WITH PARAMETERS IT MOVES THE PARAMETER LIST TO THE DSA      00579001
                                    824 *        AND CHECKS IT AGAINST THE FORMAL PARAMETER LIST IN THE      00580001
                                    825 *        PROCEDURE DECLARATION. THEN IT ENTERS THE BLOCK OR          00581001
                                    826 *        PROCEDURE                                                   00582001
                                    827 *        THE ENTRY POINT PROLOGP IS USED ONLY WHEN THE PROCEDURE     00583001
                                    828 *        IS CALLED VIA AN ACTUAL PARAMETER TO ANOTHER                00584001
                                    829 *        PROCEDURE                                                   00585001
                                    830 *                                                                    00586001
                                    831 *        CALLING SEQUENCE (ENTRY VIA BRLIST)                         00587001
                                    832 *        BAL   R15,PROLOG(R13)                                       00588001
                                    833 *        MVI   PROLPBN(R13),PBN         PBN OF BLOCK TO BE ENTERED   00589001
                                    834 *                                       PARAMETER LIST FOR PROCEDURE 00590001
                                    835 *        DC    A(THUNK1)                ADDR OF THUNK FOR 1ST PARAM  00591001
                                    836 *        DC    H'CH'                    CHARACTERISTICS OF 1ST PARAM 00592001
                                    837 *        DC    H'N'                     NUMBER OF PARAMETERS         00593001
                                    838 *         .                                                          00594001
                                    839 *         .                                                          00595001
                                    840 *         .                                                          00596001
                                    841 *        DC    A(THUNKN)                ADDR OF THUNK FOR LAST PARAM 00597001
                                    842 *        DC    H'CH'                                                 00598001
                                    843 *        DC    H'0'                                                  00599001
                                    844 *                                                                    00600001
0003E0 9200 D0A8      000A8         845 PROLP    MVI   PROLPBN-1(R13),X'00'                                   00601001
                                    846 *                                                                    00602001
                                    847 *        SET OFF SW SET BY GENERATE PROG TO DETECT ERROR             00603001
                                    848 *        SEE BELOW                                                   00604001
                                    849 *                                                                    00605001
0003E4 98BC D0A0            000A0   850          LM    PBT,LAT,PROLREG(R13)    UPDATE PBT AND LAT             00606001
                                    851 *                                                                    00607001
0003E8 483D 00A8            000A8   852 PROL     LH    R3,PROLPBN-1(R13)       CALLED PROGRAM BLOCK NUMBER    00608001
0003EC 8930 0003            00003   853          SLL   R3,3                    CALCULATE PBT DISPLACEMENT     00609001
0003F0 1223                         854          LTR   R2,R3                   STANDARD PROCEDURE CALLED ?    00610001
0003F2 4780 D924            00924   855          BZ    SPDECL(,R13)            YES, BRANCH                    00611001
0003F6 474D 0220            00220   856          BM    OERR21(R13)             ERROR, ACTUAL PROCEDURE        00612001
                                    857 *                                                                    00613001
                                    858 *        PARAMETER IS PARAMETERLESS WHILE FORMAL PROCEDURE IS        00614001
                                    859 *        CALLED WITH PARAMETERS                                      00615001
                                    860 *        PROLPBN-1 WAS SET TO X'FF' BY GENERATED PROG BEFORE CAP1    00616001
                                    861 *        WAS CALLED                                                  00617001
                                    862 *                                                                    00618001
0003FA 1A3B                         863          AR    R3,PBT                  ADDR OF PBT ENTRY              00619001
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Active USINGs: IHIFSARA,R13

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

0003FC 910C 3006      00006         864          TM    6(R3),BETABM           PROCEDURE CALLED ?                00620001
000400 4780 D414            00414   865          BZ    PROLOG1                NO                                00621001
000404 5980 D098            00098   866          C     R8,ASTLOC(,R13)        COMP CONT OF ADDR WITH ADDR OF    00622001
                                    867 *                                     FUNCTION VALUE STORAGE            00623001
000408 4780 D220            00220   868          BE    OERR21(,R13)           EQUAL, BRANCH                     00624001
00040C 9110 3006      00006         869          TM    6(R3),CODEPRM          CODE PROCDURE CALLED ?            00625001
000410 4710 D5EA            005EA   870          BO    PROLOG2                YES.                              00626001
000414 4800 3004            00004   871 PROLOG1  LH    R0,4(,R3)              LENGTH OF DSA TO REG 0            00627001
000418 184F                         872          LR    R4,R15                 SAVE R15 DURING GETMAIN           00628001
                                    873 *                                                                      00629001
                                    874          GETMAIN R,LV=(0)             GETMAIN FOR DSA                   00630001
                                    875+*        OS/VS2 RELEASE 4 VERSION -- 10/21/75                           01-GETMA
00041A 4510 D41E            0041E   876+         BAL   1,*+4                              INDICATE GETMAIN      01-GETMA
00041E 0A0A                         877+         SVC   10                                 ISSUE GETMAIN SVC     01-GETMA
                                    878 *                                                                      00631001
000420 18F4                         879          LR    R15,R4                                                   00632001
000422 5802 B000            00000   880          L     R0,0(R2,PBT)           LOAD POINTER OF LAST GENERATION   00633001
000426 5000 1000            00000   881          ST    R0,0(,R1)              STORE IT IN DSA                   00634001
00042A 50A0 1004            00004   882          ST    CDSA,4(,R1)            STORE POINTER OF EMBRACING PB     00635001
00042E 4020 1008            00008   883          STH   R2,8(,R1)              STORE PBT DISPLACEMENT            00636001
000432 9200 100A      0000A         884          MVI   10(R1),0               ZEROS TO VALUE ARRAY AND          00637001
000436 D204 100B 100A 0000B 0000A   885          MVC   11(5,R1),10(R1)        ARRAY POINTERS                    00638001
00043C 5012 B000            00000   886          ST    R1,0(R2,PBT)           STORE CURR DSA POINTER IN PBT     00639001
000440 18A1                         887          LR    CDSA,R1                SET CDSA POINTER                  00640001
000442 90BC A010            00010   888          STM   PBT,LAT,16(CDSA)                                         00641001
000446 58ED 00C8            000C8   889          L     R14,RASPT(R13)         RAS-POINTER TOP                   00642001
00044A 41EE 0008            00008   890          LA    R14,8(R14)             RESERVE ONE ENTRY                 00643001
00044E 59ED 00D0            000D0   891          C     R14,RASPB(R13)         COMPARE WITH RAS-POINTER BOTTOM   00644001
000452 47BD 025C            0025C   892          BNL   RASOVERF(R13)          STACK OVERFLOW                    00645001
000456 50A0 E000            00000   893          ST    CDSA,0(,R14)                                             00646001
00045A 92FF E000      00000         894          MVI   0(R14),X'FF'                                             00647001
00045E 50ED 00C8            000C8   895          ST    R14,RASPT(R13)         SAVE POINTER                      00648001
000462 910C 3006      00006         896          TM    6(R3),BETABM           PROCEDURE CALLED ?                00649001
000466 078F                         897          BZR   R15                    NO, USUAL BLOCK RETURN, EXIT 1    00650001
000468 9500 3007      00007         898 A4       CLI   7(R3),0                ANY FORMAL PARAMETERS ?           00651001
00046C 4780 D5E4            005E4   899          BE    F4                     ZERO, BRANCH                      00652001
000470 D500 3007 F007 00007 00007   900          CLC   7(1,R3),7(R15)         COMP NO OF FORM AND ACT PARAM     00653001
000476 4770 D220            00220   901          BNE   OERR21(,R13)           ¬=, BRANCH                        00654001
00047A 1B22                         902          SR    R2,R2                                                    00655001
00047C 4320 3007            00007   903          IC    R2,7(,R3)              FETCH NUMBER OF PARAMETERS        00656001
000480 1842                         904          LR    R4,R2                  SAVE NUMBER IN R4                 00657001
000482 8920 0003            00003   905          SLL   R2,3                   CALCULATE LENGTH OF PARAMETER     00658001
000486 0620                         906          BCTR  R2,0                   ENTRY-1                           00659001
000488 411A 0018            00018   907          LA    R1,24(CDSA)            START OF PARAM IF PROC            00660001
00048C 9104 3006      00006         908          TM    6(R3),PIMASK           FUNCTION PROCEDURE CALLED         00661001
000490 4780 D4A8            004A8   909          BZ    PROLOG3                YES                               00662001
000494 4420 D49C            0049C   910          EX    R2,PIMOVE                                                00663001
000498 47F0 D4B0            004B0   911          B     LOOP                                                     00664001
                                    912 *                                                                      00665001
00049C D200 A018 F000 00018 00000   913 PIMOVE   MVC   24(1,CDSA),0(R15)       MOVE PROCEDURE PARAMETERS         00666001
0004A2 D200 A020 F000 00020 00000   914 PHIMOVE  MVC   32(1,CDSA),0(R15)       MOVE FUNCTION PARAMETERS          00667001
0004A8 4420 D4A2            004A2   915 PROLOG3  EX    R2,PHIMOVE                                               00668001
0004AC 4111 0008            00008   916          LA    R1,8(R1)               START OF PARAM. IF TYPE           00669001
0004B0 9101 8000      00000         917 LOOP     TM    0(R8),X'01'            FORM PAR 'STRING' ?               00670001
0004B4 4710 D4FC            004FC   918          BO    STRTST                 YES, GOTO STRINGTEST              00671001
0004B8 95D0 8001      00001         919          CLI   1(R8),X'D0'            FORM PAR 'PROC' WITHOUT TYP ?     00672001
0004BC 4780 D508            00508   920          BE    PROTST                 YES, GOTO PROCEDURE TEST          00673001
0004C0 951C 8001      00001         921          CLI   1(R8),X'1C'            FORM PAR 'SWITCH' ?               00674001
0004C4 4780 D514            00514   922          BE    SWTTST                 YES, GOTO SWITCH TEST             00675001
0004C8 9108 8001      00001         923          TM    1(R8),X'08'            FORM PAR 'LABEL' ?                00676001
0004CC 4710 D51C            0051C   924          BO    LBLTST                 YES, GOTO LABEL TEST              00677001
0004D0 9104 8001      00001         925          TM    1(R8),X'04'            FORM PAR 'ARRAY' ?                00678001
0004D4 4710 D530            00530   926          BO    ARRTST                 YES, GOTO ARRAY TEST              00679001
0004D8 91C0 8001      00001         927          TM    1(R8),X'C0'            FORM PAR A TYP PROCEDURE ?        00680001
0004DC 4710 D53C            0053C   928          BO    TPRTST                 YES, GOTO TYP PROCEDURE TEST      00681001
0004E0 9104 F005      00005         929          TM    5(R15),X'04'           ACT PAR 'ARRAY' ?                 00682001
0004E4 4710 D21C            0021C   930          BO    OERR20(,R13)           YES, ERR 20                       00683001
0004E8 9103 8001      00001         931 TYPTST   TM    1(R8),X'03'            TEST TYP                          00684001
0004EC 4740 D548            00548   932          BM    ARITST                 IF ARITHM TYP GOTO ARITH TEST     00685001
0004F0 9103 F005      00005         933          TM    5(R15),X'03'           ACT PAR BOOL ?                    00686001
0004F4 4710 D574            00574   934          BO    ASSFLAG                YES, SPECIAL ASSIGNMENT TEST      00687001
0004F8 47F0 D21C            0021C   935          B     OERR20(,R13)           NO, GOTO ERR 20                   00688001
                                    936 *                                                                      00689001
0004FC 9101 F004      00004         937 STRTST   TM    4(R15),X'01'           ACT PAR 'STRING' ?                00690001
000500 4710 D5D4            005D4   938          BO    EXIT                   YES, TEST NEXT PAR                00691001
000504 47F0 D21C            0021C   939          B     OERR20(,R13)           NO, BRANCH TO OBJEXT TIME ERR 20  00692001
                                    940 *                                                                      00693001
000508 91C0 F005      00005         941 PROTST   TM    5(R15),X'C0'           ACT PAR IS 'PROCEDURE' ?          00694001
00050C 4780 D21C            0021C   942          BZ    OERR20(,R13)           NO, ERR 20                        00695001
000510 47F0 D5D4            005D4   943          B     EXIT                   YES, TEST NEXT PAR                00696001
                                    944 *                                                                      00697001
000514 910C F005      00005         945 SWTTST   TM    5(R15),X'0C'           ACT PAR 'SWITCH' ?                00698001
000518 47F0 D500            00500   946          B     STRTST+4               BRANCH TO STRTST+4 TO TEST CC     00699001
                                    947 *                                                                      00700001
00051C 9108 F005      00005         948 LBLTST   TM    5(R15),X'08'           ACT PAR 'LABEL' ?                 00701001
000520 4780 D21C            0021C   949          BZ    OERR20(,R13)           NO, ERR 20                        00702001
000524 9104 F005      00005         950          TM    5(R15),X'04'           ACT PAR 'SWITCH' ?                00703001
000528 4710 D21C            0021C   951          BO    OERR20(,R13)           YES, ERR 20                       00704001
00052C 47F0 D5D4            005D4   952          B     EXIT                   TEST NEXT PAR                     00705001
                                    953 *                                                                      00706001
000530 9104 F005      00005         954 ARRTST   TM    5(R15),X'04'           ACT PAR 'ARRAY' ?                 00707001
000534 4780 D21C            0021C   955          BZ    OERR20(0,R13)          NO, ERR 20                        00708001
000538 47F0 D4E8            004E8   956          B     TYPTST                 YES, GOTO TYP TEST                00709001
                                    957 *                                                                      00710001
00053C 91C0 F005      00005         958 TPRTST   TM    5(R15),X'C0'           ACT PAR 'PROCEDURE' ?             00711001
000540 4780 D21C            0021C   959          BZ    OERR20(0,R13)          NO, ERR 20                        00712001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.21

000544 47F0 D4E8            004E8   960          B     TYPTST                 YES, GOTO TYP TEST              00713001
                                    961 *                                                                     00714001
000548 9103 F005      00005         962 ARITST   TM    5(R15),X'03'           ACTUAL PAR ARITHMETIC ?         00715001
00054C 47BD 021C            0021C   963          BNM   OERR20(R13)            NO                              00716001
000550 9110 8001      00001         964          TM    1(R8),X'10'            FORMAL PARAMETER CALLED BY NAME? 00717001
000554 4780 D5B4            005B4   965          BZ    PARAMPR                NO                              00718001
000558 9102 8001      00001         966          TM    1(R8),X'02'            FORMAL PARAMETER REAL TYPE ?    00719001
00055C 4780 D56C            0056C   967          BZ    INTTST                 NO, INTEGER TYPE                00720001
000560 9102 F005      00005         968          TM    5(R15),X'02'           ACTUAL PARAMETER REAL ?         00721001
000564 478D 021C            0021C   969          BZ    OERR20(R13)            NO, ERROR                       00722001
000568 47F0 D57C            0057C   970          B     ASSFLAG2               SPECIAL ASSIGNMENT TEST         00723001
                                    971 *                                                                     00724001
00056C 9101 F005      00005         972 INTTST   TM    5(R15),X'01'           ACTUAL PARAMETER INTEGER ?      00725001
000570 478D 021C            0021C   973          BZ    OERR20(R13)            NO, ERROR                       00726001
                                    974 *                                                                     00727001
                                    975 *        SPECIAL TEST IF ACTUAL PARAMETER IS FORMAL BY NAME AND       00728001
                                    976 *        THEN MOVE THE ASGNMENT FLAG FR ACT PARAMETER ENT IN DSA      00729001
                                    977 *        TO THE NEW PARAMETER ENT IN DSA OF BLK TO BE ENTERED         00730001
                                    978 *                                                                     00731001
                                    979 *        NOTE: THIS CODE IS EXTREMELY DEPENDENT ON CODE               00732001
                                    980 *        GENERATED FOR FORMAL PARAMETERS CALLED BY NAME               00733001
                                    981 *                                                                     00734001
000574 9110 8001      00001         982 ASSFLAG  TM    1(R8),X'10'            FORMAL PARM BY NAME ?           00735001
000578 4780 D5B4            005B4   983          BZ    PARAMPR                NO                              00736001
00057C 9110 F005      00005         984 ASSFLAG2 TM    5(R15),X'10'           ACT IS TYPE CALLED BY NAME ?    00737001
000580 4780 D5B4            005B4   985          BZ    PARAMPR                                                00738001
000584 9120 F005      00005         986          TM    5(R15),X'20'           IF NOT GOTO SPECIAL             00739001
000588 4710 D5B4            005B4   987          BO    PARAMPR                PARAMETERLESS PR TEST           00740001
00058C 582A 0004            00004   988          L     R2,4(CDSA)             DSA OF CALLING SEQUENSE         00741001
000590 5820 2010            00010   989          L     R2,16(,R2)             PBT ADDR OF CALLING SEQ         00742001
000594 5830 1000            00000   990          L     R3,0(,R1)              ADDR OF THUNK OF ACT PARM       00743001
                                    991 *                                    WHICH IS FORMAL                 00744001
000598 D200 D5B3 300B 005B3 0000B   992          MVC   ORI+5(1),11(R3)        MOVE DISPL OF PARAM FOUND       00745001
                                    993 *                                    IN THUNK CODE TO OR INST        00746001
00059E 4330 3004            00004   994          IC    R3,4(,R3)              DISPLACEMENT OF                 00747001
0005A2 5430 D608            00608   995          N     R3,MASKFF              PROCEDURE IN PBT                00748001
0005A6 5833 2000            00000   996          L     R3,0(R3,R2)            ADDR OF DSA OF PROCEDURE        00749001
0005AA 4130 3004            00004   997          LA    R3,4(,R3)              ADDR CHARACTERISTIC PART        00750001
                                    998 *                                    OF PARAMETER ENTRY              00751001
0005AE D600 1004 3000 00004 00000   999 ORI      OC    4(1,R1),0(R3)          MOVE ASGNMENT BIT FROM          00752001
                                   1000 *                                    CALLING PARAMETER ENT IN        00753001
                                   1001 *                                    DSA TO NEW DSA ENT              00754001
                                   1002 *                                                                    00755001
                                   1003 *        TEST IF ACTUAL PARAMETER IS PARAMETERLESS PROCEDURE          00756001
                                   1004 *                                                                    00757001
0005B4 91C0 F005      00005        1005 PARAMPR  TM    5(R15),X'C0'           ACTUAL PARAMETER PROCEDURE ?    00758001
0005B8 4780 D5D4            005D4  1006          BZ    EXIT                   NO                              00759001
0005BC 9130 F005      00005        1007          TM    5(R15),X'30'                                           00760001
0005C0 4740 D5D4            005D4  1008          BM    EXIT                                                   00761001
0005C4 91D0 8001      00001        1009          TM    1(R8),X'D0'            FORMAL PROC CALLED BY NAME ?    00762001
0005C8 4710 D5D4            005D4  1010          BO    EXIT                   YES, EXIT                       00763001
0005CC 91C0 F004      00004        1011          TM    4(R15),X'C0'           PROCEDURE CALLED ?              00764001
0005D0 471D 021C            0021C  1012          BO    OERR20(R13)                                            00765001
0005D4 41F0 F008            00008  1013 EXIT     LA    R15,8(,R15)            GET NEXT ACT PAR ADDR           00766001
0005D8 4180 8002            00002  1014          LA    R8,2(,R8)              GET NEXT FORM PAR ADDR          00767001
0005DC 4110 1008            00008  1015          LA    R1,8(,R1)              NEXT PARAMETER IN DSA           00768001
0005E0 4640 D4B0            004B0  1016          BCT   R4,LOOP                IF A NEXT PAR OCCURS GOTO LOOP  00769001
0005E4 50F0 E004            00004  1017 F4       ST    R15,4(,R14)            STORE RETURN ADDR IN RAS        00770001
0005E8 07F8                        1018          BR    R8                     EXIT 2                          00771001
                                   1019 *                                                                    00772001
                                   1020 *        PRECOMPILED PROCEDURE CALLED                                00773001
                                   1021 *                                                                    00774001
0005EA 5810 3000            00000  1022 PROLOG2  L     R1,0(,R3)              ADDR OF PRECOMP PR CONST        00775001
0005EE 98BC 1000            00000  1023          LM    PBT,LAT,0(R1)          LOAD NEW PBT AND LAT ADDRS      00776001
0005F2 D500 3007 B00F 00007 0000F  1024          CLC   7(1,R3),15(PBT)        PARAMETER DEFINITION IN CODE    00777001
                                   1025 *                                    PROCEDURE SAME AS IN LOADED     00778001
                                   1026 *                                    PRECOMPILED PROCEDURE ?         00779001
0005F8 477D 0220            00220  1027          BNE   OERR21(R13)            NO, ERROR 21                    00780001
0005FC 5880 1008            00008  1028          L     R8,8(,R1)              PROCEDURE DECLAR ENTRY POINT    00781001
000600 9201 D0A9      000A9        1029          MVI   PROLPBN(R13),1         PBN OF PROCEDURE IS 1           00782001
000604 47FD 00E0            000E0  1030          B     PROLOG(R13)            CALL PRECOMPILED PROCEDURE      00783001
                                   1031 *                                                                    00784001
000608 000000FF                    1032 MASKFF   DC    X'000000FF'            MASK TO CLEAR 3 BYTES OF REG    00785001
                                   1033 *                                                                    00786001
                                   1034 ************************************************************************ 00787001
                                   1035 *                                                                    00788001
                                   1036 *        VALUE CALL ROUTINE                                          00789001
                                   1037 *                                                                    00790001
                                   1038 ************************************************************************ 00791001
                                   1039 *                                                                    00792001
                                   1040 *        SUBROUTINE FOR HANDLING FORMAL PARAMETERS                   00793001
                                   1041 *                                                                    00794001
                                   1042 *        CALLED BY VALUE                                             00795001
                                   1043 *                                                                    00796001
                                   1044 *        USED FOR FORMAL PARAMETERS OF TYPE REAL, INTEGER OR         00797001
                                   1045 *        BOOLEAN, INCLUDING ARRAYS                                   00798001
                                   1046 *                                                                    00799001
                                   1047 *        CALLING SEQUENCE - (ENTRY VIA BRLIST)                       00800001
                                   1048 *        CALL  ACTUAL PARAMETER                                      00801001
                                   1049 *        BAL   R15,VALUCALL(R13)                                     00802001
                                   1050 *        DC    H'DISPL'               FORMAL PARAMETER DISPLACEMENT   00803001
                                   1051 *        DC    XL2'  '                CHARACTERISTIC OF PARAMETER     00804001
                                   1052 *        ---                          RETURN FROM VALUCALL            00805001
                                   1053 *                                                                    00806001
                                   1054 *        DISPL(CDSA) CONTAINS IF PARAMETER IS AN ARRAY ADDR OF       00807001
                                   1055 *        SMF OTHERWISE VALUE OF THE ACTUAL PARAMETER, CONVERTED      00808001
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 Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                  1056 *        IF NECESSARY                                                        00809001
                                  1057 *                                                                            00810001
00060C 9200 D826      00826       1058 VALUCAL  MVI   CONVFL,0               ZERO TO CONVERSION FLAG               00811001
000610 50F0 D810            00810 1059          ST    R15,BRRSAVE            SAVE R15, R8                          00812001
000614 5080 D814            00814 1060          ST    R8,ADRSAVE                                                   00813001
000618 4810 F000            00000 1061          LH    R1,0(,R15)                                                   00814001
00061C 41E1 A000            00000 1062 VALUC10  LA    R14,0(R1,CDSA)                                               00815001
                                  1063 *                                                                            00816001
                                  1064 *        INSERT COMPONENT SIZE OF ORIGINAL                                   00817001
                                  1065 *                                                                            00818001
000620 9201 D823      00823       1066          MVI   CSIZORIG+1,X'01'       ONE TO COMP SIZE INCASE BOOLEAN       00819001
000624 9103 E005      00005       1067          TM    5(R14),X'03'           TEST ACTUAL PARAMETER TYPE            00820001
000628 4710 D668            00668 1068          BO    VALUC12                BOOLEAN, BRANCH                       00821001
00062C 9204 D823      00823       1069          MVI   CSIZORIG+1,X'04'       FOUR TO COMPONENT SIZE                00822001
000630 9101 E005      00005       1070          TM    5(R14),X'01'           ACTUAL PAR INTEGER ?                  00823001
000634 4710 D644            00644 1071          BO    VALUC00                INTEGER, BRANCH                       00824001
000638 9120 D0C2      000C2       1072          TM    OPTSW(R13),X'20'       PRECISION ?                           00825001
00063C 4710 D644            00644 1073          BO    VALUC00                SHORT PRECISION, BRANCH               00826001
000640 9208 D823      00823       1074          MVI   CSIZORIG+1,X'08'       LONG, EIGHT TO COMPONENT SIZE         00827001
                                  1075 *                                                                            00828001
000644 9102 E005      00005       1076 VALUC00  TM    5(R14),X'02'           ACTUAL PARAMETER REAL                 00829001
000648 4710 D65C            0065C 1077          BO    VALUC11                YES, BRANCH                           00830001
                                  1078 *                                                                            00831001
                                  1079 *        ACTUAL PARAMETER INTEGER                                            00832001
                                  1080 *                                                                            00833001
00064C 9101 F003      00003       1081          TM    3(R15),X'01'           FORMAL PAR INTEGER ?                  00834001
000650 4710 D668            00668 1082          BO    VALUC12                YES, BRANCH                           00835001
                                  1083 *                                                                            00836001
000654 9201 D826      00826       1084          MVI   CONVFL,X'01'           1 (= INTEGER TO REAL) TO FLAG         00837001
000658 47F0 D668            00668 1085          B     VALUC12                                                      00838001
                                  1086 *                                                                            00839001
                                  1087 *        ACTUAL PARAMETER REAL                                               00840001
                                  1088 *                                                                            00841001
00065C 9102 F003      00003       1089 VALUC11  TM    3(R15),X'02'           FORMAL PAR REAL ?                     00842001
000660 4710 D668            00668 1090          BO    VALUC12                YES, BRANCH                           00843001
000664 9203 D826      00826       1091          MVI   CONVFL,X'03'           3 (=REAL TO INTEGER) TO FLG           00844001
000668 D200 D825 D823 00825 00823 1092 VALUC12  MVC   CSIZCOPY+1(1),CSIZORIG+1  COPY COMPONENT SIZE               00845001
00066E 9104 F003      00003       1093          TM    3(R15),X'04'           ARRAY ?                               00846001
000672 4710 D6AA            006AA 1094          BO    VALUC21                YES, BRANCH                           00847001
000676 D207 E000 8000 00000 00000 1095 VALUC13  MVC   0(8,R14),0(R8)          MOVE CONT OF R8 TO CDSA               00848001
00067C 181E                       1096          LR    R1,R14                 ADDR OF FORMAL PARAM ENTRY            00849001
00067E 1821                       1097          LR    R2,R1                  STORE BACK AFTER CONVERSION           00850001
000680 4150 F004            00004 1098          LA    R5,4(,R15)             RETURN ADDR                           00851001
000684 9103 D826      00826       1099 VALUC14  TM    CONVFL,X'03'           CONVERSION NECESSARY ?                00852001
000688 0785                       1100          BZR   R5                     NO, RETURN                            00853001
00068A 4710 D69C            0069C 1101          BO    VALUC15                REAL INTEGER                          00854001
                                  1102 *                                                                            00855001
                                  1103 *        CALL INTEGER REAL CONVERSION ROUTINE                                00856001
                                  1104 *                                                                            00857001
00068E 58E0 1000            00000 1105          L     R14,0(,R1)                                                   00858001
000692 458D 0120            00120 1106          BAL   R8,CNVIRD(R13)                                               00859001
000696 4400 D2DE            002DE 1107          EX    0,VALST                                                      00860001
00069A 07F5                       1108          BR    R5                     RETURN                                00861001
                                  1109 *                                                                            00862001
                                  1110 *        CALL REAL-INTEGER CONVERSION ROUTINE                                00863001
                                  1111 *                                                                            00864001
00069C 4400 D2DA            002DA 1112 VALUC15  EX    0,VALLD                                                      00865001
0006A0 458D 014C            0014C 1113          BAL   R8,CNVRDI(R13)                                               00866001
0006A4 50E0 2000            00000 1114          ST    R14,0(,R2)                                                   00867001
0006A8 07F5                       1115          BR    R5                     RETURN                                00868001
                                  1116 *                                                                            00869001
                                  1117 *        HANDLE VALUE CALL OF ARRAY                                          00870001
                                  1118 *                                                                            00871001
0006AA D203 D81C 8010 0081C 00010 1119 VALUC21  MVC   SIZEARR(4),16(R8)      SIZE OF ORIGINAL ARRAY                00872001
0006B0 58F0 8008            00008 1120          L     R15,8(,R8)                                                   00873001
0006B4 5BF0 8004            00004 1121          S     R15,4(,R8)             DIFF (ADDRLOWCOMP - ADRZEROCOMP)      00874001
0006B8 50F0 D818            00818 1122          ST    R15,DIFFLZ                                                   00875001
                                  1123 *                                                                            00876001
0006BC 9200 D827      00827       1124          MVI   SMFFL,0                ZERO TO SMF FLAG                      00877001
                                  1125 *                                                                            00878001
0006C0 9120 D0C2      000C2       1126          TM    OPTSW(R13),X'20'       PRECISION ?                           00879001
0006C4 4710 D70E            0070E 1127          BO    VALUC31                SHORT PRECISION, BRANCH               00880001
0006C8 9103 D826      00826       1128          TM    CONVFL,X'03'           LONG, TEST CONV FLAG                  00881001
0006CC 4780 D70E            0070E 1129          BZ    VALUC31                NO CONV NEEDED, BRANCH                00882001
0006D0 D200 D827 D826 00827 00826 1130          MVC   SMFFL(1),CONVFL        CONV FLAG TO SMF FLAG                 00883001
0006D6 58F0 D81C            0081C 1131          L     R15,SIZEARR                                                  00884001
0006DA 58E0 D818            00818 1132          L     R14,DIFFLZ                                                   00885001
0006DE 4810 D824            00824 1133          LH    R1,CSIZCOPY                                                  00886001
0006E2 4710 D6F6            006F6 1134          BO    VALUC25                                                      00887001
                                  1135 *                                                                            00888001
                                  1136 *        INCREMENT 'SIZE OF ARRAY', DIFF AND COMPONENT SIZE                  00889001
                                  1137 *                                                                            00890001
0006E6 8BF0 0001            00001 1138          SLA   R15,1                                                        00891001
0006EA 8BE0 0001            00001 1139          SLA   R14,1                                                        00892001
0006EE 8B10 0001            00001 1140          SLA   R1,1                                                         00893001
0006F2 47F0 D702            00702 1141          B     VALUC26                                                      00894001
                                  1142 *                                                                            00895001
                                  1143 *        DECREMENT 'SIZE OF ARRAY', DIFF AND COMPONENT SIZE                  00896001
                                  1144 *                                                                            00897001
0006F6 8AF0 0001            00001 1145 VALUC25  SRA   R15,1                                                        00898001
0006FA 8AE0 0001            00001 1146          SRA   R14,1                                                        00899001
0006FE 8A10 0001            00001 1147          SRA   R1,1                                                         00900001
000702 50F0 D81C            0081C 1148 VALUC26  ST    R15,SIZEARR                                                  00901001
000706 50E0 D818            00818 1149          ST    R14,DIFFLZ                                                   00902001
00070A 4010 D824            00824 1150          STH   R1,CSIZCOPY                                                  00903001
                                  1151 *                                                                            00904001
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Active USINGs: IHIFSARA,R13

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 Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.21

                                  1152 *        EXECUTE SUBROUTINE WITH GETMAIN                                  00905001
                                  1153 *                                                                         00906001
00070E 1BFF                       1154 VALUC31  SR    R15,R15                                                    00907001
000710 43F8 0000            00000 1155          IC    R15,0(R8)             NUMBER OF SUBSCRIPTS                 00908001
000714 41FF 0005            00005 1156          LA    R15,5(R15)                                                 00909001
000718 8BF0 0002            00002 1157          SLA   R15,2                                                      00910001
00071C 9508 D825      00825       1158          CLI   CSIZCOPY+1,X'08'      REAL ARRAY LONG ?                  00911001
000720 4770 D730            00730 1159          BNE   VALUC32               NO                                 00912001
000724 9101 8000      00000       1160          TM    0(R8),X'01'           SMF LENGTH DOUBLE WORDS            00913001
000728 4710 D730            00730 1161          BO    VALUC32               YES                                00914001
00072C 41F0 F004            00004 1162          LA    R15,4(,R15)           FORCE ARRAY TO DOUBLE WORD         00915001
000730 42F0 D821            00821 1163 VALUC32  STC   R15,SIZESMF+1         INSERT SIZE OF SMF                 00916001
000734 4800 D820            00820 1164          LH    0,SIZESMF                                                  00917001
000738 5A00 D81C            0081C 1165          A     0,SIZEARR             NUMBER OF BYTES REQUESTED          00918001
00073C 458D 0114            00114 1166          BAL   R8,GETMSTO(R13)                                          00919001
                                  1167 *                                                                         00920001
                                  1168 *        COPY SMF                                                         00921001
                                  1169 *                                                                         00922001
000740 5880 D814            00814 1170          L     R8,ADRSAVE                                                 00923001
000744 D200 1000 8000 00000 00000 1171 VALUC33  MVC   0(1,R1),0(R8)                                             00924001
                                  1172 *                                                                         00925001
                                  1173 *        INSERT FIRST FOUR WORDS INTO SMF COPY                            00926001
                                  1174 *                                                                         00927001
00074A D201 1002 A00A 00002 0000A 1175          MVC   2(2,R1),10(CDSA)      CHAIN DISPL FROM DSA               00928001
000750 58F0 D810            00810 1176          L     R15,BRRSAVE                                                00929001
000754 4820 F000            00000 1177          LH    R2,0(,R15)            DISPL OF FORMAL PARAM ENTRY        00930001
000758 4020 A00A            0000A 1178          STH   R2,10(,CDSA)          CHAIN DISPL                        00931001
00075C 5012 A000            00000 1179          ST    R1,0(R2,CDSA)         ADDR OF VALUE ARRAY                00932001
                                  1180 *                                    TO FORMAL PARAMETER ENTRY          00933001
000760 18F1                       1181          LR    R15,R1                                                     00934001
000762 4AF0 D820            00820 1182          AH    R15,SIZESMF                                                00935001
000766 50F0 1008            00008 1183          ST    R15,8(,R1)                                                 00936001
00076A 5BF0 D818            00818 1184          S     R15,DIFFLZ                                                 00937001
00076E 50F0 1004            00004 1185          ST    R15,4(,R1)                                                 00938001
000772 5AF0 D818            00818 1186          A     R15,DIFFLZ                                                 00939001
000776 5AF0 D81C            0081C 1187          A     R15,SIZEARR                                                00940001
00077A 50F0 100C            0000C 1188          ST    R15,12(,R1)                                                00941001
                                  1189 *                                                                         00942001
                                  1190 *        COPY DOUBLE OR HALF P-VALUES INTO NEW SMF                        00943001
                                  1191 *                                                                         00944001
00077E 41F0 1010            00010 1192          LA    R15,16(,R1)                                                00945001
000782 4120 8010            00010 1193          LA    R2,16(,R8)                                                 00946001
                                  1194 *                                                                         00947001
000786 58E2 0000            00000 1195 VALUC35  L     R14,0(R2)                                                  00948001
00078A 9103 D827      00827       1196          TM    SMFFL,X'03'           TEST IF P-VALUES MUST CHANGE       00949001
00078E 4780 D79E            0079E 1197          BZ    VALUC36                                                    00950001
000792 89E0 0001            00001 1198          SLL   R14,1                                                      00951001
000796 4740 D79E            0079E 1199          BM    VALUC36               BR IF FLAG=1 (INCREM IS OK)        00952001
00079A 88E0 0002            00002 1200          SRL   R14,2                 DECREMENT INSTEAD                  00953001
00079E 50E0 F000            00000 1201 VALUC36  ST    R14,0(,R15)                                                00954001
0007A2 41F0 F004            00004 1202          LA    R15,4(,R15)                                                00955001
0007A6 4120 2004            00004 1203          LA    R2,4(,R2)                                                  00956001
0007AA 59F0 1008            00008 1204          C     R15,8(,R1)                                                 00957001
0007AE 4740 D786            00786 1205          BL    VALUC35                                                    00958001
                                  1206 *                                                                         00959001
                                  1207 *        COPY ARRAY                                                       00960001
                                  1208 *                                                                         00961001
                                  1209 *        INITIALIZE COPYING                                               00962001
                                  1210 *                                                                         00963001
0007B2 5830 D81C            0081C 1211 VALUC41  L     R3,SIZEARR            SIZE OF ARRAY                      00964001
0007B6 5820 1008            00008 1212          L     R2,8(,R1)             ADDR OF COPY ARRAY                 00965001
0007BA 5810 8008            00008 1213          L     R1,8(,R8)             ADDR OF ORIGINAL ARRAY             00966001
0007BE 9103 D826      00826       1214          TM    CONVFL,X'03'          CONVERSION NECESSARY ?             00967001
0007C2 4780 D7E2            007E2 1215          BZ    VALUC61               NO, MOVE ARRAY                     00968001
0007C6 4550 D684            00684 1216 VALUC51  BAL   R5,VALUC14           CONVERT ONE ELEMENT, STORE IT      00969001
0007CA 4A10 D822            00822 1217          AH    R1,CSIZORIG           NEXT ELEMENT FROM ORIGINAL         00970001
0007CE 4A20 D824            00824 1218          AH    R2,CSIZCOPY           NEXT ELEMENT FROM COPY             00971001
0007D2 4B30 D824            00824 1219          SH    R3,CSIZCOPY                                              00972001
0007D6 4720 D7C6            007C6 1220          BP    VALUC51               CONTINUE IF ELEMENTS LEFT          00973001
0007DA 58F0 D810            00810 1221 VALUC52  L     R15,BRRSAVE                                              00974001
0007DE 47F0 F004            00004 1222          B     4(,R15)               RETURN                             00975001
                                  1223 *                                                                         00976001
0007E2 4140 00FF            000FF 1224 VALUC61  LA    R4,255                MAX IN ONE MOVE                    00977001
0007E6 0630                       1225 VALUC61A BCTR  R3,0                  SIZE-1                             00978001
0007E8 1934                       1226          CR    R3,R4                                                    00979001
0007EA 47D0 D800            00800 1227          BNH   VALUC62               NOT MORE THAN 256 BYTES            00980001
0007EE 4440 D808            00808 1228          EX    R4,VALUC63            MOVE 256 BYTES                     00981001
0007F2 1B34                       1229          SR    R3,R4                 REDUCE SIZE                        00982001
0007F4 4110 1100            00100 1230          LA    R1,256(,R1)                                              00983001
0007F8 4120 2100            00100 1231          LA    R2,256(,R2)                                              00984001
0007FC 47F0 D7E6            007E6 1232          B     VALUC61A              CONTINUE                           00985001
                                  1233 *                                                                         00986001
000800 4430 D808            00808 1234 VALUC62  EX    R3,VALUC63            MOVE LAST PART OF ARRAY            00987001
000804 47F0 D7DA            007DA 1235          B     VALUC52               RETURN                             00988001
                                  1236 *                                                                         00989001
000808 D200 2000 1000 00000 00000 1237 VALUC63  MVC   0(0,R2),0(R1)         ORIGINAL ARRAY TO COPY             00990001
                                  1238 *                                                                         00991001
                                  1239 *        WORK AREA                                                        00992001
                                  1240 *                                                                         00993001
00080E 0000
000810 00000000                   1241 BRRSAVE  DC    F'0'                  STORAGE OF R15                     00994001
000814 00000000                   1242 ADRSAVE  DC    F'0'                  STORAGE OF R8                      00995001
000818 00000000                   1243 DIFFLZ   DC    F'0'                  DIFFERENCE BETWEEN LOW             00996001
                                  1244 *                                    AND ZERO COMPONENTS                00997001
00081C 00000000                   1245 SIZEARR  DC    F'0'                  SIZE OF ARRAY                      00998001
000820 0000                       1246 SIZESMF  DC    H'0'                  SIZE OF SMF                        00999001
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Active USINGs: IHIFSARA,R13

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000822 0000                       1247 CSIZORIG DC    H'0'                  COMPONENT SIZE, ORIGINAL          01000001
000824 0000                       1248 CSIZCOPY DC    H'0'                  COMPONENT SIZE, COPY              01001001
000826 00                         1249 CONVFL   DC    X'00'                 CONVERSION FLAG                   01002001
000827 00                         1250 SMFFL    DC    X'00'                 ARRAY SIZE FLAG                   01003001
                                  1251 *                                                                    01004001
                                  1252 ********************************************************************** 01005001
                                  1253 *                                                                    01006001
                                  1254 *        RETURN PROGRAM                                              01007001
                                  1255 *                                                                    01008001
                                  1256 ********************************************************************** 01009001
                                  1257 *                                                                    01010001
                                  1258 *        THIS ROUTINE IS ENTERED WHEN A BRANCH IS MADE OUT OF A      01011001
                                  1259 *        BLOCK OR PROCEDURE BY MEANS OF A 'GO TO' STATEMENT          01012001
                                  1260 *                                                                    01013001
                                  1261 *        IT SEARCHES RAS FOR AN ENTRY POINTING TO THE DSA OF THE     01014001
                                  1262 *        TARGET BLOCK. FOR EACH BLOCK THAT IS BYPASSED, THE          01015001
                                  1263 *        FREEDSA ROUTINE IS INVOKED TO RELEASE STORAGE FOR DSA       01016001
                                  1264 *        AND ARRAYS. CALLING SEQUENCE - (ENTRY VIA BRLIST)           01017001
                                  1265 *                                                                    01018001
                                  1266 *        B     RETPROG(R13)                                          01019001
                                  1267 *                                                                    01020001
000828 05F0                       1268 RETPROGA BALR  R15,0                 SET RETURN REGISTER               01021001
00082A 58ED 00C8           000C8  1269          L     R14,RASPT(R13)        FETCH RAS TOP POINTER             01022001
00082E 9500 E000      00000       1270 RETPR1   CLI   0(R14),RASPARMM        RAS PARAMETER ENTRY ?             01023001
000832 4770 D83E           0083E  1271          BNE   PBNENTRY              NO                                01024001
000836 4BE0 D0AA           000AA  1272          SH    R14,EIGHT(,R13)       CLEAR PARAMETER ENTRY             01025001
00083A 47F0 D82E           0082E  1273          B     RETPR1                TEST NEXT ENTRY                   01026001
                                  1274 *                                                                    01027001
00083E 431E 0000           00000  1275 PBNENTRY IC    R1,0(R14)             SAVE FLAG                         01028001
000842 9200 E000      00000       1276          MVI   0(R14),0              CLEAR FLAG                        01029001
000846 58A0 E000           00000  1277          L     CDSA,0(,R14)          UPDATE DSA REG                    01030001
00084A 5990 E000           00000  1278          C     GDSA,0(,R14)          COMPARE DSA ADDR                  01031001
00084E 4210 E000           00000  1279          STC   R1,0(,R14)            RESTORE FLAG                      01032001
000852 50ED 00C8           000C8  1280          ST    R14,RASPT(R13)        SAVE RAS POINTER                  01033001
000856 0788                       1281          BER   R8                    EQUAL, EXIT TO ADDR IN R8         01034001
000858 47FD 00EC           000EC  1282          B     FREEDSA(R13)          FREE DSA SUBROUTINE IN EPILOG     01035001
                                  1283 *                                                                    01036001
                                  1284 ********************************************************************** 01037001
                                  1285 *                                                                    01038001
                                  1286 *        EPILOGUE PROGRAM                                            01039001
                                  1287 *                                                                    01040001
                                  1288 ********************************************************************** 01041001
                                  1289 *                                                                    01042001
                                  1290 *        THIS ROUTINE IS EXECUTED WHENEVER AN EXIT IS MADE FROM      01043001
                                  1291 *        A PROCEDURE (ENTRY POINT EPILOGP) OR BLOCK (ENTRY POINT     01044001
                                  1292 *        EPILOGB) VIA THE 'END' STATEMENT                            01045001
                                  1293 *                                                                    01046001
                                  1294 *        CLEAR THE CORRESPONDING ENTRY FROM RAS AND FREES            01047001
                                  1295 *        THE STORAGE FOR DSA AND ARRAYS. IF THE EXIT WAS FROM A      01048001
                                  1296 *        PRECOMPILED PROCEDURE, THE PROCEDURE IS DELETED             01049001
                                  1297 *                                                                    01050001
                                  1298 *        CALLING SEQUENCE - (ENTRY VIA BRLIST)                       01051001
                                  1299 *                                                                    01052001
                                  1300 *        B     EPILOGP(R13)                                          01053001
                                  1301 *                                                                    01054001
00085C D207 D090 A018 00090 00018 1302 EPILP    MVC   FCTVALST(8,R13),24(CDSA) FUNCTION VALUE TO FSA      01055001
000862 418D 0090           00090  1303          LA    R8,FCTVALST(R13)        FUNCTION VALUE ADDR TO R8   01056001
000866 45FD 00EC           000EC  1304          BAL   R15,FREEDSA(R13)        LEAVE BLOCK AND UPDATE REG  01057001
00086A 58ED 00C8           000C8  1305          L     R14,RASPT(R13)                                    01058001
00086E 58F0 E00C           0000C  1306          L     R15,12(,R14)            RETURN ADDR FROM RAS      01059001
000872 07FF                       1307          BR    R15                     RETURN                    01060001
                                  1308 *                                                                    01061001
                                  1309 *        CALLING SEQUENCE - (ENTRY VIA BRLIST)                       01062001
                                  1310 *                                                                    01063001
                                  1311 *        B     EPILOGB(R13)                                          01064001
                                  1312 *                                                                    01065001
                      00874       1313 EPILB    EQU   *                                                   01066001
                      000EC       1314 FREEDSA  EQU   EPILOGB               LEAVE A BLOCK                   01067001
                      00874       1315 FRDSA    EQU   *                     FREEMAIN UPDATE REG             01068001
000874 50FD 009C           0009C  1316          ST    R15,BRRST(R13)        SAVE RETURN ADDR                  01069001
000878 58ED 00C8           000C8  1317          L     R14,RASPT(R13)        FETCH RAS POINTER                 01070001
00087C 4BED 00AA           000AA  1318          SH    R14,EIGHT(R13)        REDUCE RETURN ADDR STACK          01071001
000880 50ED 00C8           000C8  1319          ST    R14,RASPT(R13)        SAVE RAS POINTER                  01072001
000884 95FE E008      00008       1320          CLI   8(R14),RASLOADM       LOAD PROCEDURE ENTRY ?            01073001
000888 4770 D8A0           008A0  1321          BNE   VTEST                 NO                                01074001
00088C 581D 00D0           000D0  1322          L     R1,RASPB(R13)         FETCH ADDR OF NAME OF             01075001
000890 1801                       1323          LR    R0,R1                 PROCEDURE TO BE DELETED           01076001
000892 4110 1008           00008  1324          LA    R1,8(,R1)             CLEAR PRECOMPILED PROCEDURE       01077001
000896 501D 00D0           000D0  1325          ST    R1,RASPB(R13)         NAME FROM RAS                     01078001
                                  1326 *                                                                    01079001
                                  1327          DELETE  EPLOC=(0)                                         01080001
00089A 0A09                       1328+         SVC   9                                 ISSUE DELETE SVC  01-DELET
                                  1329 *                                                                    01081001
00089C 47F0 D878           00878  1330          B     FRDSA+4               CONTINUE                          01082001
                                  1331 *                                                                    01083001
                                  1332 *        VALUE ARRAY HANDLING                                        01084001
                                  1333 *                                                                    01085001
                      008A0       1334 EPIL3    EQU   *                                                   01086001
0008A0 BF03 A00A           0000A  1335 VTEST    ICM   R0,B'0011',10(CDSA)     TEST VALUE ARRAY FIELD        01087001
0008A4 4780 D8DA           008DA  1336          BZ    ATEST                   ZERO, GOTO NEXT TEST          01088001
0008A8 4820 A00A           0000A  1337          LH    R2,10(,CDSA)            LOAD LAST VALUE ARRAY DISPL   01089001
0008AC 5812 A000           00000  1338          L     R1,0(R2,CDSA)           LOAD ADDR OF STOR MAP FCT     01090001
0008B0 5800 1010           00010  1339          L     R0,16(,R1)              LOAD LENGTH OF ARRAY          01091001
0008B4 4820 1002           00002  1340          LH    R2,2(,R1)               LOAD BEFORE LAST VALUE        01092001
                                  1341 *                                       ARRAY DISPLACEMENT           01093001
0008B8 4020 A00A           0000A  1342          STH   R2,10(,CDSA)            STORE BEFORE LAST VALUE       01094001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                   1343 *                                 ARRAY DISPLACEMENT                01095001
0008BC 1B22                        1344          SR    R2,R2              CLEAR A WORK REGISTER             01096001
0008BE 4320 1000            00000  1345          IC    R2,0(,R1)                                            01097001
0008C2 4120 2001            00001  1346          LA    R2,1(,R2)          CALCULATE LENGTH OF STORAGE       01098001
0008C6 8920 0002            00002  1347          SLL   R2,2               MAPPING FUNCTION                  01099001
0008CA 4120 2010            00010  1348          LA    R2,16(,R2)                                           01100001
0008CE 1A02                        1349          AR    R0,R2              ADD ST MAP FUNCT LENGTH           01101001
                                   1350 *                                 AND ARRAY LENGTH                  01102001
                                   1351 *                                 FREEMAIN FOR VAL ARRAY            01103001
                                   1352          FREEMAIN R,LV=(0),A=(1)  INCL ST MAP FCT                   01104001
                                   1353+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                      01-FREEM
0008D0 4110 1000            00000  1354+         LA    1,0(0,1)                       CLEAR HI ORDER BYTE   01-FREEM
0008D4 0A0A                        1355+         SVC   10                             ISSUE FREEMAIN SVC    01-FREEM
                                   1356 *                                                                    01105001
0008D6 47F0 D8A0            008A0  1357          B     VTEST              RETURN TO VALUE ARRAY TEST        01106001
                                   1358 *                                                                    01107001
                                   1359 *        ARRAY HANDLING                                              01108001
                                   1360 *                                                                    01109001
0008DA 1B22                        1361 ATEST    SR    R2,R2              CLEAR WORK REGISTER               01110001
0008DC BF23 A00E            0000E  1362          ICM   R2,B'0011',14(CDSA)  TEST LAST ARRAY DISPLACEMENT     01111001
0008E0 4780 D8FE            008FE  1363          BZ    DSAHDL             ZERO, GOTO DSAHDL                 01112001
0008E4 4832 A002            00002  1364          LH    R3,2(R2,CDSA)      LOAD BEFORE LAST ARRAY DISPL      01113001
0008E8 4030 A00E            0000E  1365          STH   R3,14(,CDSA)       STORE BEFORELAST ARRAY DISPL      01114001
0008EC 5812 A008            00008  1366          L     R1,8(R2,CDSA)      LOAD ADDR OF LOWEST COMPON        01115001
0008F0 5802 A010            00010  1367          L     R0,16(R2,CDSA)     LOAD LENGTH OF ARRAY              01116001
                                   1368 *                                                                    01117001
                                   1369          FREEMAIN R,LV=(0),A=(1)  FREEMAIN FOR ARRAY                01118001
                                   1370+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                      01-FREEM
0008F4 4110 1000            00000  1371+         LA    1,0(0,1)                       CLEAR HI ORDER BYTE   01-FREEM
0008F8 0A0A                        1372+         SVC   10                             ISSUE FREEMAIN SVC    01-FREEM
                                   1373 *                                                                    01119001
0008FA 47F0 D8DA            008DA  1374          B     ATEST              RETURN TO ARRAY TEST              01120001
                                   1375 *                                                                    01121001
                                   1376 *        DSA HANDLING                                                01122001
                                   1377 *                                                                    01123001
0008FE 181A                        1378 DSAHDL   LR    R1,CDSA            LOAD DSA ADDR                     01124001
000900 4820 A008            00008  1379          LH    R2,8(,CDSA)        LOAD PBT DISPL                    01125001
000904 5830 A000            00000  1380          L     R3,0(,CDSA)        UPDATE DSA ADDR                   01126001
000908 5032 B000            00000  1381          ST    R3,0(R2,PBT)       IN PBT                            01127001
00090C 4802 B004            00004  1382          LH    R0,4(R2,PBT)       LENGTH OF DSA TO R0               01128001
000910 58A0 A004            00004  1383          L     CDSA,4(,CDSA)      RESET CDSA POINTER                01129001
000914 98BC A010            00010  1384          LM    PBT,LAT,16(CDSA)   UPDATE PBT AND LAT REGISTERS      01130001
                                   1385 *                                                                    01131001
                                   1386          FREEMAIN R,LV=(0),A=(1)  FREEMAIN FOR DSA                  01132001
                                   1387+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                      01-FREEM
000918 4110 1000            00000  1388+         LA    1,0(0,1)                       CLEAR HI ORDER BYTE   01-FREEM
00091C 0A0A                        1389+         SVC   10                             ISSUE FREEMAIN SVC    01-FREEM
                                   1390 *                                                                    01133001
00091E 58FD 009C            0009C  1391          L     R15,BRRST(R13)     RESTORE RETURN ADDR               01134001
000922 07FF                        1392          BR    R15                BRANCH                            01135001
                                   1393 *                                                                    01136001
                                   1394 ************************************************************************01137001
                                   1395 *                                                                    01138001
                                   1396 *        STANDARD PROCEDURE DECLARATION ROUTINE                      01139001
                                   1397 *                                                                    01140001
                                   1398 ************************************************************************01141001
                                   1399 *                                                                    01142001
                                   1400 *                                                                    01143001
                                   1401 *        ENTERED FROM THE PROLOG ROUTINE IF PBN IS ZERO, IE A        01144001
                                   1402 *        STANDARD PROCEDURE IS CALLED VIA AN ACTUAL PARAMETER TO     01145001
                                   1403 *        AN ANOTHER PROCEDURE                                        01146001
                                   1404 *                                                                    01147001
                                   1405 *        ON ENTRY, R15 CONTAINS THE ADDR OF THE PARAMETER            01148001
                                   1406 *        LIST, WHILE R8 CONTAINS THE INTERNAL NAME OF THE            01149001
                                   1407 *        STANDARD PROCEDURE.                                         01150001
                                   1408 *        THE ROUTINE BUILDS THE PARAMETER LIST AND EXECUTES THE      01151001
                                   1409 *        CALL IN THE SAME WAY AS WOULD NORMALLY BE DONE BY THE       01152001
                                   1410 *        GENERATED OBJECT CODE. SINCE THE ROUTINE MAY BE ENTERED     01153001
                                   1411 *        REPEATEDLY DURING THE EVALUATION OF THE ACTUAL              01154001
                                   1412 *        PARAMETERS, THE PARAMETER LIST AND OTHER INFORMATION IS     01155001
                                   1413 *        STORED IN A DYNAMIC AREA CALLED SPDA.                       01156001
                                   1414 *                                                                    01157001
000924                             1415          DS    0H                                                    01158001
                    00924          1416 SPDECL   EQU   *-FSAREA                                              01159001
                                   1417 *                                                                    01160001
                                   1418 *        TEST FOR AUXILIARY ROUTINE INPUT OR OUTPUT                  01161001
                                   1419 *                                                                    01162001
000924 1288                        1420          LTR   R8,R8                                                 01163001
000926 0728                        1421          BPR   R8                 TO ROUTINE INPUT OR OUTPUT        01164001
                                   1422 *                                                                    01165001
                                   1423 *        GET DYNAMIC STORAGE AREA                                    01166001
                                   1424 *                                                                    01167001
000928 182F                        1425 SPDECL00 LR    R2,R15             SAVE R15 DURING GETMAIN           01168001
                                   1426 *                                                                    01169001
                                   1427          GETMAIN R,LV=SPDALG                                         01170001
                                   1428+*        OS/VS2 RELEASE 4 VERSION -- 10/21/75                       01-GETMA
00092A 0700                        1429+         CNOP  0,4                                                   01-GETMA
00092C 4510 D934            00934  1430+         BAL   1,*+8                            BRANCH AROUND LENGTH 01-GETMA
000930 00000048                    1431+         DC    A(SPDALG)                        LENGTH               01-GETMA
000934 5800 1000            00000  1432+         L     0,0(0,1)                         LOAD LENGTH          01-GETMA
000938 0A0A                        1433+         SVC   10                               ISSUE GETMAIN SVC    01-GETMA
                                   1434 *                                                                    01171001
00093A 18F2                        1435          LR    R15,R2                                                01172001
00093C D203 1000 DB44 00000 00B44  1436          MVC   0(4,R1),SPDAP            INSERT CHAIN ADDR          01173001
000942 5010 DB44            00B44  1437          ST    R1,SPDAP                 STORE CURRENT AREA POINTER 01174001
000946 1851                        1438          LR    R5,R1                                                 01175001
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Active USINGs: IHIFSARA,R13

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                R:5  00000        1439          USING SPDA,R5                                                    01176001
000948 5080 501C            0001C 1440          ST    R8,PRID                                                    01177001
00094C 184C                       1441          LR    R4,LAT                  R4 IS NOW LAT POINTER              01178001
00094E 1808                       1442          LR    R0,R8                                                      01179001
000950 1820                       1443          LR    R2,R0                                                      01180001
000952 8820 000C            0000C 1444          SRL   R2,12                                                      01181001
000956 5400 DE48            00E48 1445          N     R0,=F'3'                NUMBER OF FORMAL PARAMETERS        01182001
00095A 4770 D962            00962 1446          BNZ   *+8                     ZERO MEANS ONE PARAMETER           01183001
00095E 4100 0001            00001 1447          LA    R0,1                                                       01184001
000962 4900 F006            00006 1448          CH    R0,6(,R15)              COMPARE NUMBER OF ACTUAL PARAM     01185001
000966 4770 D220            00220 1449          BNE   ERROR21                                                    01186001
                                  1450 *                                                                         01187001
                                  1451 *        INITIALIZE FOR CREATING PARAMETER LIST                           01188001
                                  1452 *                                                                         01189001
00096A 4110 5020            00020 1453          LA    R1,PARLIST                                                 01190001
00096E 4130 5030            00030 1454          LA    R3,PARAMS                                                  01191001
000972 9200 1000      00000       1455          MVI   0(R1),0                                                    01192001
000976 D20A 1001 1000 00001 00000 1456          MVC   1(11,R1),0(R1)          RESET PARAMETER LIST               01193001
00097C 4220 DB49            00B49 1457 SPDECL02 STC   R2,FPTYPA                                                01194001
000980 4220 DB48            00B48 1458          STC   R2,FPTYP                                                 01195001
000984 D700 DB48 F005 00B48 00005 1459          XC    FPTYP,5(R15)            COMPARE WITH ACTUAL PAR CHAR       01196001
00098A 9107 DB48      00B48       1460          TM    FPTYP,X'07'                                              01197001
00098E 4780 D9B2            009B2 1461          BZ    SPDECL15                IDENTICAL TYPES                    01198001
000992 471D 021C            0021C 1462          BO    PARERR(R13)             NOT COMPATIBLE TYPES               01199001
                                  1463 *                                                                         01200001
                                  1464 *        TYPES ARE NOT IDENTICAL BUT MAY BE COMPATIBLE                    01201001
                                  1465 *                                                                         01202001
000996 9108 DB49      00B49       1466          TM    FPTYPA,X'08'            TEST FOR VALUE OR NAME             01203001
00099A 471D 021C            0021C 1467          BO    PARERR(R13)             CALL BY NAME AND NOT SAME TYPE     01204001
00099E 9103 DB48      00B48       1468          TM    FPTYP,X'03'             TEST IF REAL-INTEGER COMPATIBLE    01205001
0009A2 47ED 021C            0021C 1469          BNO   PARERR(R13)                                                01206001
0009A6 9103 F005      00005       1470          TM    5(R15),X'03'            TEST ACTUAL PARAMETER              01207001
0009AA 47BD 021C            0021C 1471          BNM   PARERR(R13)             IF NOT REAL OR INTEGER             01208001
0009AE 9680 1000      00000       1472          OI    0(R1),X'80'             SET TYPE CONVERSION FLAG           01209001
                                  1473 *                                                                         01210001
                                  1474 *        ACTIVATE THUNK TO GET ADDR OF ACTUAL PARAMETER                   01211001
                                  1475 *                                                                         01212001
0009B2 90F4 5004            00004 1476 SPDECL15 STM   R15,R4,SPSAVE                                             01213001
0009B6 D203 DB40 F000 00B40 00000 1477          MVC   SPTHAD(4),0(R15)        THUNK ADDR TO FULLWORD LOCATION    01214001
0009BC 583D 00C8            000C8 1478          L     R3,RASPT(R13)                                              01215001
0009C0 4130 3008            00008 1479          LA    R3,8(,R3)               NEXT ENTRY IN RAS                  01216001
0009C4 593D 00D0            000D0 1480          C     R3,RASPB(R13)                                              01217001
0009C8 47BD 025C            0025C 1481          BNL   RASOVERF(R13)           IF RAS FULL                        01218001
0009CC 503D 00C8            000C8 1482          ST    R3,RASPT(R13)                                              01219001
0009D0 50A0 3000            00000 1483          ST    CDSA,0(,R3)             DSA POINTER TO RAS                 01220001
0009D4 98BC A010            00010 1484          LM    PBT,LAT,16(CDSA)                                           01221001
0009D8 4120 D9DE            009DE 1485          LA    R2,SPDECL17-8                                              01222001
0009DC 5023 0004            00004 1486          ST    R2,4(R3)                ADDR USED BY CAP2                  01223001
0009E0 58F0 DB40            00B40 1487          L     R15,SPTHAD              ADDR OF THUNK                      01224001
0009E4 07FF                       1488          BR    R15                     BRANCH TO THUNK                    01225001
                                  1489 *                                                                         01226001
                                  1490 *        RETURN HERE VIA CAP2                                             01227001
                                  1491 *        R8 CONTAINS ADDR OF ACTUAL PARAM                                 01228001
                                  1492 *                                                                         01229001
0009E6 5850 DB44            00B44 1493 SPDECL17 L     R5,SPDAP                RESTORE SPDA POINTER               01230001
0009EA 98F4 5004            00004 1494          LM    R15,R4,SPSAVE           RESTORE REGISTERS                  01231001
0009EE 598D 0098            00098 1495          C     R8,ASTLOC(R13)                                             01232001
0009F2 4770 D9FE            009FE 1496          BNE   SPDECL19                                                   01233001
0009F6 D207 3000 8000 00000 00000 1497          MVC   0(8,R3),0(R8)           SAVE PARAM VALUE IN SPDA           01234001
0009FC 1883                       1498          LR    R8,R3                                                      01235001
0009FE 5680 1000            00000 1499 SPDECL19 O     R8,0(,R1)               COMBINE FLAGS AND PARAM ADDR       01236001
000A02 5080 1000            00000 1500          ST    R8,0(,R1)               STORE PARAM ADDR IN PARLIST        01237001
000A06 9103 501C      0001C       1501          TM    PRID,X'03'              I/O PROCEDURE ?                    01238001
000A0A 4770 DA2A            00A2A 1502          BNZ   SPDECL01                NO, BRANCH                         01239001
                                  1503 *                                                                         01240001
                                  1504 *        I/O PROCEDURE                                                    01241001
                                  1505 *                                                                         01242001
000A0E 9102 501E      0001E       1506          TM    PRID+2,X'02'            SYSACT ?                           01243001
000A12 4780 DA2A            00A2A 1507          BZ    SPDECL01                NO, BRANCH                         01244001
000A16 4900 DE68            00E68 1508          CH    R0,=H'1'                TEST IF THIRD PARAM                01245001
000A1A 4770 DA2A            00A2A 1509          BNE   SPDECL01                BR IF NO                           01246001
000A1E 9108 F004      00004       1510          TM    4(R15),X'08'            ASSIGNMENT POSSIBLE ?              01247001
000A22 4780 DA2A            00A2A 1511          BZ    SPDECL01                YES, BRANCH                        01248001
000A26 9640 1000      00000       1512          OI    0(R1),X'40'             SET NO ASSIGNMENT FLAG             01249001
                                  1513 *                                                                         01250001
000A2A 4110 1004            00004 1514 SPDECL01 LA    R1,4(,R1)               STEP PARLIST POINTER               01251001
000A2E 4130 3008            00008 1515          LA    R3,8(,R3)               STEP PARAMETER POINTER             01252001
000A32 41F0 F008            00008 1516          LA    R15,8(,R15)             STEP ACTUAL PARAMETER POINTER      01253001
000A36 8820 0004            00004 1517          SRL   R2,4                                                       01254001
000A3A 4600 D97C            0097C 1518          BCT   R0,SPDECL02             BRANCH IF MORE PARAMETERS          01255001
                                  1519 *                                                                         01256001
                                  1520 *        PARAMETER LIST COMPLETE - ACTIVATE THE PROCEDURE                 01257001
                                  1521 *                                                                         01258001
000A3E 50F0 5004            00004 1522          ST    R15,SPSAVE              SAVE RETURN ADDR                   01259001
000A42 4110 5020            00020 1523          LA    R1,PARLIST                                                 01260001
000A46 9180 501F      0001F       1524          TM    PRID+3,X'80'            ABS/SIGN/LENGTH/ENTIER ?           01261001
000A4A 4710 DA68            00A68 1525          BO    SPDECL03                YES, BRANCH                        01262001
000A4E 4320 501F            0001F 1526          IC    R2,PRID+3                                                  01263001
000A52 5420 DE4C            00E4C 1527          N     R2,=X'000000FC'         GET DISPLACEMENT IN LAT            01264001
000A56 58F2 4000            00000 1528          L     R15,0(R2,R4)            LOAD ADDR OF PROCEDURE             01265001
000A5A 9103 501C      0001C       1529          TM    PRID,X'03'              I/O PROCEDURE ?                    01266001
000A5E 4770 DAC6            00AC6 1530          BNZ   SPDECL04                NO, BRANCH                         01267001
                                  1531 *                                                                         01268001
                                  1532 *        I/O PROCEDURE EXIT                                               01269001
                                  1533 *                                                                         01270001
000A62 05EF                       1534          BALR  R14,R15                                                    01271001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000A64 47F0 DB1A            00B1A  1535          B     SPDECL18                                                    01272001
                                   1536 *                                                                          01273001
000A68 9150 501F      0001F        1537 SPDECL03 TM    PRID+3,X'50'                                                01274001
000A6C 47B0 DAC6            00AC6  1538          BNM   SPDECL04               BR IF ABS OR ENTIER FUNCTION      01275001
000A70 9120 501F      0001F        1539          TM    PRID+3,X'20'                                                01276001
000A74 4780 DA92            00A92  1540          BZ    SPDECL05               BR IF SIGN FUNCTION                01277001
                                   1541 *                                                                          01278001
                                   1542 *        LENGTH FUNCTION                                                   01279001
                                   1543 *                                                                          01280001
000A78 5811 0000            00000  1544          L     R1,0(R1)                                                    01281001
000A7C D201 D09C 1000 0009C 00000  1545          MVC   HW(2,R13),0(R1)                                             01282001
000A82 480D 009C            0009C  1546          LH    R0,HW(R13)             LENGTH OF ENTIRE STRING FIELD      01283001
000A86 0600                        1547          BCTR  R0,0                   REDUCE BY TWO TO GET               01284001
000A88 0600                        1548          BCTR  R0,0                   ACTUAL STRING LENGTH               01285001
000A8A 500D 0090            00090  1549          ST    R0,FCTVALST(R13)                                            01286001
000A8E 47F0 DB16            00B16  1550          B     SPDECL13                                                    01287001
                                   1551 *                                                                          01288001
                                   1552 *        SIGN FUNCTION                                                     01289001
                                   1553 *                                                                          01290001
000A92 5820 1000            00000  1554 SPDECL05 L     R2,0(,R1)              LOAD PARAMETER ADDR                01291001
000A96 1B00                        1555          SR    R0,R0                  INITIALIZE OUTPUT VALUE            01292001
000A98 9180 1000      00000        1556          TM    0(R1),X'80'            TYPE CONVERSION ?                  01293001
000A9C 4710 DAAC            00AAC  1557          BO    SPDECL06               YES, BRANCH                        01294001
000AA0 4400 D2E2            002E2  1558          EX    0,LINSTR               VALUE TO FPR0                      01295001
000AA4 4400 D2EA            002EA  1559          EX    0,LTRINSTR             TEST SIGN                          01296001
000AA8 47F0 DAB0            00AB0  1560          B     SPDECL07                                                    01297001
                                   1561 *                                                                          01298001
000AAC BF0F 2000            00000  1562 SPDECL06 ICM   R0,B'1111',0(R2)        VALUE TO R0                        01299001
000AB0 4780 DABE            00ABE  1563 SPDECL07 BZ    SPDECL08               TEST SIGN                          01300001
000AB4 4100 0001            00001  1564          LA    R0,1                   FUNCTION VALUE=1                   01301001
000AB8 4720 DABE            00ABE  1565          BP    SPDECL08                                                    01302001
000ABC 1300                        1566          LCR   R0,R0                  FUNCTION VALUE=-1                  01303001
000ABE 5000 D090            00090  1567 SPDECL08 ST    R0,FCTVALST(,R13)                                           01304001
000AC2 47F0 DB16            00B16  1568          B     SPDECL13                                                    01305001
                                   1569 *                                                                          01306001
                                   1570 *        MATHEMATICAL FUNCTIONS (INCLUDING ABS, ENTIER)                    01307001
                                   1571 *                                                                          01308001
000AC6 5820 1000            00000  1572 SPDECL04 L     R2,0(,R1)                                                   01309001
000ACA 9180 1000      00000        1573          TM    0(R1),X'80'            TYPE CONVERSION ?                  01310001
000ACE 4780 DAE8            00AE8  1574          BZ    SPDECL09                                                    01311001
000AD2 58E0 2000            00000  1575          L     R14,0(,R2)             LOAD PARAMETER VALUE               01312001
000AD6 458D 0120            00120  1576          BAL   R8,CNVIRD(R13)                                              01313001
000ADA 4400 D2E6            002E6  1577          EX    0,STINSTR                                                   01314001
000ADE D203 1000 D098 00000 00098  1578          MVC   0(4,R1),ASTLOC(R13)    CHANGE PARAMETER ADDR              01315001
000AE4 47F0 DAEC            00AEC  1579          B     SPDECL10                                                    01316001
                                   1580 *                                                                          01317001
000AE8 4400 D2E2            002E2  1581 SPDECL09 EX    0,LINSTR                                                    01318001
000AEC 9580 501F      0001F        1582 SPDECL10 CLI   PRID+3,X'80'           ABS ?                              01319001
000AF0 4770 DAFC            00AFC  1583          BNE   SPDECL11               NO, BRANCH                         01320001
                                   1584 *                                                                          01321001
                                   1585 *        ABS FUNCTION                                                      01322001
                                   1586 *                                                                          01323001
000AF4 4400 D2EE            002EE  1587          EX    0,LPRINSTR             ABS VALUE TO FPR0                  01324001
000AF8 47F0 DB12            00B12  1588          B     SPDECL14                                                    01325001
                                   1589 *                                                                          01326001
000AFC 95F0 501F      0001F        1590 SPDECL11 CLI   PRID+3,X'F0'           ENTIER ?                           01327001
000B00 4770 DB10            00B10  1591          BNE   SPDECL12               NO, BRANCH                         01328001
                                   1592 *                                                                          01329001
                                   1593 *        ENTIER FUNCTION                                                   01330001
                                   1594 *                                                                          01331001
000B04 458D 0140            00140  1595          BAL   R8,ENTIER(R13)                                              01332001
000B08 50ED 0090            00090  1596          ST    R14,FCTVALST(R13)                                           01333001
000B0C 47F0 DB16            00B16  1597          B     SPDECL13                                                    01334001
                                   1598 *                                                                          01335001
                                   1599 *        ALL OTHER FUNCTIONS                                               01336001
                                   1600 *                                                                          01337001
000B10 05EF                        1601 SPDECL12 BALR  R14,R15                CALL SUBROUTINE                    01338001
000B12 4400 D2E6            002E6  1602 SPDECL14 EX    0,STINSTR                                                   01339001
000B16 588D 0098            00098  1603 SPDECL13 L     R8,ASTLOC(R13)         ADDR OF FUNCTION VALUE             01340001
                                   1604 *                                                                          01341001
                                   1605 *        COMMON EXIT                                                       01342001
                                   1606 *                                                                          01343001
000B1A 1815                        1607 SPDECL18 LR    R1,R5                                                       01344001
000B1C D203 DB44 1000 00B44 00000  1608          MVC   SPDAP(4),0(R1)         RESTORE PREV DA POINTER            01345001
000B22 5820 5004            00004  1609          L     R2,SPSAVE              LOAD RETURN ADDR (PREV R15)        01346001
                                   1610 *                                                                          01347001
                                   1611          FREEMAIN R,A=(1),LV=SPDALG                                      01348001
                                   1612+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                           01-FREEM
000B26 0700                        1613+         CNOP  0,4                                                       01-FREEM
000B28 47F0 DB30            00B30  1614+         B     *+8                                BRANCH AROUND LENGTH   01-FREEM
000B2C 00000048                    1615+         DC    A(SPDALG)                    LENGTH                       01-FREEM
000B30 5800 DB2C            00B2C  1616+         L     0,*-4                        LOAD SP AND LV               01-FREEM
000B34 4110 1000            00000  1617+         LA    1,0(0,1)                     CLEAR HI ORDER BYTE          01-FREEM
000B38 0A0A                        1618+         SVC   10                           ISSUE FREEMAIN SVC           01-FREEM
                                   1619 *                                                                          01349001
000B3A 98BC A010            00010  1620          LM    PBT,LAT,16(CDSA)                                            01350001
000B3E 07F2                        1621          BR    R2                     RETURN TO CALLING PROGRAM          01351001
                                   1622 *                                                                          01352001
                                   1623          DROP  R5                                                        01353001
                                   1624 *                                                                          01354001
                                   1625 *        CONSTANTS AND WORK AREAS                                          01355001
                                   1626 *                                                                          01356001
000B40 00000000                    1627 SPTHAD   DC    F'0'                   TEMP STORAGE FOR THUNK ADDR        01357001
000B44 00000000                    1628 SPDAP    DC    F'0'                   POINTER TO CURRENT DYNAMIC AREA    01358001
000B48 00                          1629 FPTYP    DC    X'00'                  TYPE OF FORMAL PARAMETER           01359001
000B49 00                          1630 FPTYPA   DC    X'00'                  SAVE AREA FOR FPTYP                01360001
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Active USINGs: IHIFSARA,R13

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                   1631 *                                                                          01361001
                                   1632 *        DYNAMIC STORAGE AREA                                              01362001
                                   1633 *                                                                          01363001
000000                 00000 00048 1634 SPDA     DSECT                                                           01364001
000000                             1635          DS    F                     LINK TO LOWER DA                    01365001
000004                             1636 SPSAVE   DS    6F                    REGS R15, R0, R1, R2, R3, R4        01366001
00001C                             1637 PRID     DS    F                     PROCEDURE IDENTIFICATION            01367001
000020                             1638 PARLIST  DS    3F                    PARAMETER LIST                      01368001
000030                             1639 PARAMS   DS    3D                    PARAMETER VALUES                    01369001
                       00048       1640 SPDALG   EQU   *-SPDA                                                    01370001
                                   1641 *                                                                          01371001
000B4A                 00000 00E6E 1642 IHIFSARA CSECT                                                           01372001
                                   1643 *                                                                          01373001
                                   1644 ******************************************************************       01374001
                                   1645 *                                                                          01375001
                                   1646 *        CALL SWITCH ELEMENT SUBROUTINE                                   01376001
                                   1647 *                                                                          01377001
                                   1648 ******************************************************************       01378001
                                   1649 *                                                                          01379001
                                   1650 *        THIS ROUTINE IS AN INTERMEDIATE LINK BETWEEN A SWITCH            01380001
                                   1651 *        DESIGNATOR AND A SWITCH LIST                                     01381001
                                   1652 *                                                                          01382001
                                   1653 *        IT SEARCHES THE DSA CHAIN FOR THE DSA OF THE SWITCH LIST         01383001
                                   1654 *        AND BRANCHES TO THE CALLED SWITCH LIST ENTRY                     01384001
                                   1655 *        CALLING SEQUENCE - (ENTRY VIA BRLIST)                            01385001
                                   1656 *        ADDR OF SWITCH LIST IN R8, ADDR OF DSA FOR                       01386001
                                   1657 *        BLOCK IN WHICH SWITCH IS DECLARED IN REG GDSA AND THE            01387001
                                   1658 *        SWITCH ELEMENT NUMBER IN R15                                     01388001
                                   1659 *                                                                          01389001
                                   1660 *                                                                          01390001
                                   1661 *        BAL   R14,CSWE1(R13)                                             01391001
                                   1662 *        ---                           RETURN VIA CSWE2 WITH BRANCH       01392001
                                   1663 *                                      ADDR IN R8 AND ADDR OF             01393001
                                   1664 *                                      DSA IN GDSA                        01394001
                                   1665 *                                                                          01395001
000B4A 12FF                        1666 CSWE1A   LTR   R15,R15                 ELEMENT NUMBER POSITIVE ?          01396001
000B4C 47DD 0254           00254   1667          BNH   SWDMERR(R13)            NO, DIMENSION ERROR                01397001
000B50 49F0 8002           00002   1668          CH    R15,2(,R8)              COMPARE NO WITH SWITCH LIST NO     01398001
000B54 472D 0254           00254   1669          BH    SWDMERR(R13)            DIMENSION ERROR                    01399001
000B58 89F0 0002           00002   1670          SLL   R15,2                                                     01400001
000B5C 583D 00C8           000C8   1671          L     R3,RASPT(R13)           RAS POINTER FROM TOP               01401001
000B60 4133 0008           00008   1672 CSWEI1   LA    R3,8(R3)                RESERVE ONE ENTRY IN RAS           01402001
000B64 593D 00D0           000D0   1673          C     R3,RASPB(R13)           STACK OVERFLOW ?                   01403001
000B68 47BD 025C           0025C   1674          BNL   RASOVERF(R13)                                            01404001
000B6C 50A0 3000           00000   1675          ST    CDSA,0(,R3)             STORE CDSA IN RAS                  01405001
000B70 50E0 3004           00004   1676          ST    R14,4(,R3)              SAVE RETURN ADDR IN STACK          01406001
000B74 1BEE                        1677          SR    R14,R14                 NOT CALLING BLOCK INDICATION       01407001
000B76 19A9                        1678          CR    CDSA,GDSA               SWITCH BLOCK REACHED ?             01408001
000B78 4770 DB86           00B86   1679          BNE   CSWEI2                  NO                                 01409001
000B7C 503D 00C8           000C8   1680          ST    R3,RASPT(R13)           SAVE RAS TOP POINTER               01410001
000B80 58FF 8000           00000   1681          L     R15,0(R15,R8)           ADDR OF SWITCH ELEMENT             01411001
000B84 07FF                        1682          BR    R15                                                      01412001
                                   1683 *                                                                          01413001
000B86 4810 A008           00008   1684 CSWEI2   LH    R1,8(,CDSA)             PROGRAM BLOCK DISPL TO REG         01414001
000B8A 5820 A000           00000   1685          L     R2,0(,CDSA)             LAST GENERATION DSA POINTER IS     01415001
000B8E 5021 B000           00000   1686          ST    R2,0(R1,PBT)            STORED IN PROGRAM BLOCK TABLE      01416001
000B92 58A0 A004           00004   1687          L     CDSA,4(,CDSA)           LOAD DYNAMICALLY ENCLOSING DSA     01417001
000B96 98BC A010           00010   1688          LM    PBT,LAT,16(CDSA)        PBT AND LAT CAN BE DIFFERENT       01418001
000B9A 47F0 DB60           00B60   1689          B     CSWEI1                  CONTINUE                           01419001
                                   1690 *                                                                          01420001
                                   1691 *        THIS ROUTINE HANDLES THE TRANSFER FROM THE SWITCH LIST           01421001
                                   1692 *        BACK TO THE SWITCH DESIGNATOR                                    01422001
                                   1693 *                                                                          01423001
                                   1694 *        IT RELOADS CDSA WITH THE ADDR OF THE DSA THAT WAS                01424001
                                   1695 *        ACTIVE WHEN CSWEU WAS ENTERED                                    01425001
                                   1696 *                                                                          01426001
                                   1697 *        CALLING SEQUENCE - (ENTRY VIA BRLIST)                            01427001
                                   1698 *        B     CSWE2(R13)                                                 01428001
                                   1699 *                                                                          01429001
000B9E 583D 00C8           000C8   1700 CSWE2A   L     R3,RASPT(R13)           RAS POINTER FROM TOP               01430001
000BA2 58E0 3004           00004   1701 CSWEI3   L     R14,4(,R3)              RETURN ADDR FROM STACK             01431001
000BA6 4B3D 00AA           000AA   1702          SH    R3,EIGHT(R13)           RELEASE ONE ENTRY IN RAS           01432001
000BAA 503D 00C8           000C8   1703          ST    R3,RASPT(R13)           SAVE RAS TOP POINTER               01433001
000BAE 12EE                        1704          LTR   R14,R14                 RETURN ADDR FOUND ?                01434001
000BB0 077E                        1705          BNZR  R14                     YES, RETURN                        01435001
000BB2 58A3 0000           00000   1706          L     CDSA,0(R3)              NEW DSA POINTER FROM RAS           01436001
000BB6 4810 A008           00008   1707          LH    R1,8(,CDSA)             PROGRAM BLOCK DISPL TO REG         01437001
000BBA 50A1 B000           00000   1708          ST    CDSA,0(R1,PBT)          CURRENT DSA POINTER TO PBT         01438001
000BBE 98BC A010           00010   1709          LM    PBT,LAT,16(CDSA)        PBT AND LAT CAN BE DIFFERENT       01439001
000BC2 47F0 DBA2           00BA2   1710          B     CSWEI3                  CONTINUE                           01440001
                                   1711 *                                                                          01441001
                                   1712 ******************************************************************       01442001
                                   1713 *                                                                          01443001
                                   1714 *        LOAD PRECOMPILED PROCEDURE                                       01444001
                                   1715 *                                                                          01445001
                                   1716 ******************************************************************       01446001
                                   1717 *                                                                          01447001
                                   1718 *        ENTERED FROM THE DECLARATION OF A 'CODE' PROCEDURE               01448001
                                   1719 *                                                                          01449001
                                   1720 *        SEARCH THE BOTTOM PART OF RAS FOR THE NAME OF THE                01450001
                                   1721 *        PROCEDURE. IF IT IS NOT FOUND, THE PRECOMPILED PROCEDURE         01451001
                                   1722 *        WITH THE SAME NAME IS LOADED AND ENTRIES ARE MADE IN             01452001
                                   1723 *        RAS FOR THE NAME AND FOR THE ENTRY POINT                         01453001
                                   1724 *                                                                          01454001
                                   1725 *        THE ENTRY POINT ADDR IS STORED IN THE PROGRAM BLOCK TABLE         01455001
                                   1726 *                                                                          01456001
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Active USINGs: IHIFSARA,R13

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 Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                  1727 *        CALLING SEQUENCE - (ENTRY VIA BRLIST)                                 01457001
                                  1728 *                                                                              01458001
                                  1729 *        BAL   R8,LOADPP(R13)                                                  01459001
                                  1730 *        DC    CL8(PPNAME)             NAME OF PRECOMPILED PROCEDURE         01460001
                                  1731 *        DC    H'PBN'                  PROG BLOCK NUMBER                     01461001
                                  1732 *                                                                              01462001
000BC6 9834 D0CC            000CC 1733 LOADPPA  LM    R3,R4,RASEND(R13)       RASEND AND RASPB TO REG               01463001
000BCA 4120 0008            00008 1734          LA    R2,8                    SET TO 8                              01464001
000BCE 1934                       1735 LOADPP2  CR    R3,R4                                                         01465001
000BD0 47D0 DC04            00C04 1736          BNH   LOADPP1                 BRANCH IF STACK EMPTY                 01466001
000BD4 D507 4000 8000 00000 00000 1737          CLC   0(8,R4),0(R8)           PROCEDURE ALREADY LOADED ?            01467001
000BDA 4140 4008            00008 1738          LA    R4,8(,R4)               STEP TO NEXT PP NAME                  01468001
000BDE 4770 DBCE            00BCE 1739          BNE   LOADPP2                 NO, NAME NOT FOUND                    01469001
000BE2 583D 00C8            000C8 1740          L     R3,RASPT(R13)           RAS POINTER FROM TOP                  01470001
000BE6 5B4D 00D0            000D0 1741          S     R4,RASPB(R13)                                                 01471001
000BEA 8840 0003            00003 1742          SRL   R4,3                    NAME FOUND IN ENTRY NR R4             01472001
000BEE 1B32                       1743 LOADPP3  SR    R3,R2                                                         01473001
000BF0 95FE 3008      00008       1744          CLI   8(R3),RASLOADM          LOAD PROCEDURE ENTRY ?                01474001
000BF4 4770 DBEE            00BEE 1745          BNE   LOADPP3                 NO, CONTINUE SEARCH                   01475001
000BF8 4640 DBEE            00BEE 1746          BCT   R4,LOADPP3              LOOP TO FIND RIGHT ENTRY              01476001
000BFC 5800 300C            0000C 1747          L     R0,12(,R3)              FETCH ADDR OF CONSTANTS               01477001
000C00 47F0 DC38            00C38 1748          B     LOADPP4                                                       01478001
                                  1749 *                                                                              01479001
                                  1750 *        PROCEDURE MUST BE LOADED                                              01480001
                                  1751 *                                                                              01481001
000C04 583D 00C8            000C8 1752 LOADPP1  L     R3,RASPT(R13)                                                 01482001
000C08 584D 00D0            000D0 1753          L     R4,RASPB(R13)                                                 01483001
000C0C 1A32                       1754          AR    R3,R2                   RESERVE ONE ENTRY FROM TOP            01484001
000C0E 1B42                       1755          SR    R4,R2                   RESERVE ONE ENTRY FROM BOTTOM         01485001
000C10 1934                       1756          CR    R3,R4                   STACK OVERFLOW ?                      01486001
000C12 47BD 025C            0025C 1757          BNL   RASOVERF(R13)                                                 01487001
000C16 504D 00D0            000D0 1758          ST    R4,RASPB(R13)           STORE UPDATED STACK POINTER           01488001
000C1A 503D 00C8            000C8 1759          ST    R3,RASPT(R13)                                                 01489001
000C1E D207 4000 8000 00000 00000 1760          MVC   0(8,R4),0(R8)           ENTER NAME IN STACK                   01490001
000C24 1804                       1761          LR    R0,R4                   R0 -> NAME                            01491001
                                  1762 *                                                                              01492001
                                  1763          LOAD  EPLOC=(0)                                                     01493001
000C26 0700                       1764+         CNOP  0,4                                                           01-LOAD
000C28 1B11                       1765+         SR    1,1               SHOW NO DCB PRESENT                         01-LOAD
000C2A 0A08                       1766+         SVC   8                                                             01-LOAD
                                  1767 *                                                                              01494001
000C2C 50A0 3000            00000 1768          ST    CDSA,0(,R3)             SAVE CDSA IN RAS ENTRY                01495001
000C30 92FE 3000      00000       1769          MVI   0(R3),RASLOADM          INSERT LOAD PROCEDURE FLAG            01496001
000C34 5000 3004            00004 1770          ST    R0,4(,R3)               STORE ADDR TO ENTRY CONSTANT          01497001
000C38 4830 8008            00008 1771 LOADPP4  LH    R3,8(,R8)               FETCH PBN CODE PROCEDURE              01498001
000C3C 5003 B000            00000 1772          ST    R0,0(R3,PBT)            ADDR OF PRECOMPILED PROCEDURE         01499001
                                  1773 *                                      CONSTANT TO CODE PROC.PBT ENTRY       01500001
                                  1774 *                                      CONSTANT A(PBT),A(LAT),A(ENTRY)       01501001
000C40 47F0 800A            0000A 1775          B     10(,R8)                 RETURN TO DECLARATION END             01502001
                                  1776 *                                                                              01503001
                                  1777 ********************************************************************************01504001
                                  1778 *                                                                              01505001
                                  1779 *        TRACE ROUTINE                                                         01506001
                                  1780 *                                                                              01507001
                                  1781 ********************************************************************************01508001
                                  1782 *                                                                              01509001
                                  1783 *        EXECUTED WHENEVER THE END OF AN ALGOL STATEMENT IS REACHED             01510001
                                  1784 *                                                                              01511001
                                  1785 *        IF ANY OF THE PARAMETERS TRACE, TRBEG OR TREND WAS                    01512001
                                  1786 *        SPECIFIED. IT CHECKS IF THE SEMICOLON NUMBER IS WITHIN A              01513001
                                  1787 *        TRACE AREA AND, IF THIS IS THE CASE, STORES IT IN A                   01514001
                                  1788 *        BUFFER FOR OUTPUT ON SYSUT1 WHEN THE BUFFER OVERFLOWS.                01515001
                                  1789 *        WHEN A DISCONTINUITY IS ENCOUNTERED (TRANSFER INTO A                  01516001
                                  1790 *        TRACE AREA OR BETWEEN THE MAIN PROGRAM AND A PRECOMPILED              01517001
                                  1791 *        PROCEDURE), THE NAME OF THE ACTIVE MODULE IS ALSO                     01518001
                                  1792 *        STORED IN THE BUFFER                                                  01519001
                                  1793 *                                                                              01520001
                                  1794 *        THE FORMAT OF THE INFORMATION IN THE BUFFER IS -                      01521001
                                  1795 *                                                                              01522001
                                  1796 *        DC    H'LENGTH'               POINTER TO NEXT FREE PLACE            01523001
                                  1797 *        DS    H                       NOT USED                              01524001
                                  1798 *        DC    H'SC'                   SEMICOLON NUMBER                      01525001
                                  1799 *         .                                                                    01526001
                                  1800 *         .                                                                    01527001
                                  1801 *        DC    H'0'                    FLAG FOR MODULE NAME                  01528001
                                  1802 *        DC    CL4'NAME'               MODULE NAME (FIRST 4 CHAR)            01529001
                                  1803 *        DC    H'SC'                   SEMICOLON NUMBER                      01530001
                                  1804 *         .                                                                    01531001
                                  1805 *         .                                                                    01532001
                                  1806 *                                                                              01533001
                                  1807 *        THE ROUTINE IS ENTERED VIA INSTRUCTIONS IN THE BRANCH                 01534001
                                  1808 *        LIST AT BRLIST. THESE INSTRUCTIONS STORE THE SEMICOLON                01535001
                                  1809 *        NUMBER AND THEN EXECUTE A BRANCH EITHER TO THIS ROUTINE               01536001
                                  1810 *        OR, IF TRACE WAS NOT REQUESTED, DIRECTLY BACK TO THE                  01537001
                                  1811 *        ALGOL PROGRAM.                                                        01538001
                                  1812 *                                                                              01539001
                                  1813 *        CALLING SEQUENCE -                                                    01540001
                                  1814 *                                                                              01541001
                                  1815 *        BAL   R15,TRACE(R13)                                                  01542001
                                  1816 *        DC    H'SC'                   SEMICOLON NUMBER                      01543001
                                  1817 *        ---                           (RETURN POINT)                        01544001
                                  1818 *                                                                              01545001
000C44 90EC D054            00054 1819 TRACEA   STM   14,12,ASAVE+12(R13)      SAVE REGS IN SECOND SAVEAREA          01546001
000C48 5830 DE44            00E44 1820          L     R3,=A(IHIFSARB)                                               01547001
                 R:3  00E70       1821          USING IHIFSARB,R3                                                   01548001
000C4C 181B                       1822          LR    R1,PBT                                                        01549001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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000C4E 9867 DD64            00D64  1823          LM    R6,R7,TRBEG             LOAD TRACE LIMITS                  01550001
000C52 988B 3604            01474  1824          LM    R8,R11,TRBUF            LOAD BUFFER PARAMETERS             01551001
000C56 4840 8000            00000  1825          LH    R4,0(,R8)               LOAD BYTE POINTER                  01552001
000C5A 4820 DD56            00D56  1826          LH    R2,TRL1                 LENGTH OF NORMAL TRACE ITEM        01553001
                                   1827 *                                                                        01554001
000C5E D503 1004 DD6E 00004 00D6E  1828          CLC   4(4,R1),TRMPNAME        MAINP OR PRECOMP PROC ?            01555001
000C64 4780 DC7C            00C7C  1829          BE    TRACE10                 MAINP                              01556001
000C68 9101 D0C2      000C2        1830          TM    OPTSW(R13),PPTRSW       TRACE IN PRECOMP PROC ?            01557001
000C6C 4780 DD4C            00D4C  1831          BZ    TRACE6                  NO, PP TRACE                       01558001
000C70 9103 DD6C      00D6C        1832          TM    TRFLAG,X'03'            PP CALLED FROM TRACE AREA ?        01559001
000C74 4740 DCCA            00CCA  1833          BM    TRACE0                  YES, TRACE REQUIRED                01560001
000C78 47F0 DD4C            00D4C  1834          B     TRACE6                  CONDITIONAL - NO PP TRACE          01561001
                                   1835 *                                                                        01562001
000C7C 485D 00C0            000C0  1836 TRACE10  LH    R5,SCRCS(R13)           LOAD CURRENT SEMICOLON NUMBER      01563001
000C80 1976                        1837          CR    R7,R6                   TEST INTERVAL LIMITS               01564001
000C82 47D0 DC96            00C96  1838          BNH   TRACE13                 SINGLE INTERVAL                    01565001
000C86 1956                        1839          CR    R5,R6                   CHECK SC AGAINST LIMITS            01566001
000C88 4740 DCC2            00CC2  1840          BL    TRACE15                 OUTSIDE INTERVAL                   01567001
000C8C 1957                        1841          CR    R5,R7                                                      01568001
000C8E 4720 DCC2            00CC2  1842          BH    TRACE15                 OUTSIDE INTERVAL                   01569001
000C92 47F0 DC9C            00C9C  1843          B     TRACE16                 INSIDE INTERVAL                    01570001
                                   1844 *                                                                        01571001
000C96 1957                        1845 TRACE13  CR    R5,R7                   DOUBLE INTERVAL                    01572001
000C98 4720 DCA4            00CA4  1846          BH    TRACE14                                                    01573001
000C9C 9201 DD6D      00D6D        1847 TRACE16  MVI   TRFLAG1,1               INSIDE LOWER INTERVAL              01574001
000CA0 47F0 DCAE            00CAE  1848          B     TRACE18                                                    01575001
                                   1849 *                                                                        01576001
000CA4 1956                        1850 TRACE14  CR    R5,R6                                                      01577001
000CA6 4740 DCC2            00CC2  1851          BL    TRACE15                 OUTSIDE BOTH INTERVALS             01578001
000CAA 9202 DD6D      00D6D        1852          MVI   TRFLAG1,2               INSIDE HIGHER INTERVAL             01579001
000CAE D500 DD6D DD6C 00D6D 00D6C  1853 TRACE18  CLC   TRFLAG1,TRFLAG          BORDER BEEN CROSSED ?              01580001
000CB4 4780 DCCA            00CCA  1854          BE    TRACE0                  NO, SAME INTERVAL AS BEFORE        01581001
000CB8 D200 DD6C DD6D 00D6C 00D6D  1855          MVC   TRFLAG,TRFLAG1                                           01582001
000CBE 47F0 DCD4            00CD4  1856          B     TRACE5                                                     01583001
                                   1857 *                                                                        01584001
000CC2 9200 DD6C      00D6C        1858 TRACE15  MVI   TRFLAG,0                NO TRACE THIS TIME                 01585001
000CC6 47F0 DD4C            00D4C  1859          B     TRACE6                                                     01586001
                                   1860 *                                                                        01587001
000CCA D503 1004 DD5C 00004 00D5C  1861 TRACE0   CLC   4(4,R1),TRPGID+2        PROGID CHANGED ?                   01588001
000CD0 4780 DCDE            00CDE  1862          BE    TRACE1                  NO, BRANCH                         01589001
000CD4 D203 DD5C 1004 00D5C 00004  1863 TRACE5   MVC   TRPGID+2(4),4(R1)       STORE NEW PROGID                   01590001
000CDA 4820 DD58            00D58  1864          LH    R2,TRL2                 LENGTH OF ITEM WITH PROGID         01591001
000CDE 1802                        1865 TRACE1   LR    R0,R2                   BUFFER FILLED ?                    01592001
000CE0 1A04                        1866          AR    R0,R4                                                      01593001
000CE2 190A                        1867          CR    R0,R10                                                     01594001
000CE4 4740 DD20            00D20  1868          BL    TRACE2                  STILL ROOM, BRANCH                 01595001
000CE8 12BB                        1869          LTR   R11,R11                 IF NO RECORDS WRITTEN              01596001
000CEA 4780 DCFC            00CFC  1870          BZ    TRACE4                  BYPASS CHECK                       01597001
                                   1871 *                                                                        01598001
                                   1872          CHECK TRCHECK                                                    01599001
000CEE 4110 35F0            01460  1873+         LA    1,TRCHECK                       LOAD PARAMETER REG 1       02-IHBIN
000CF2 58E0 1008            00008  1874+         L     14,8(0,1)                PICK UP DCB ADDR                  01-CHECK
000CF6 58F0 E034            00034  1875+         L     15,52(0,14)              LOAD CHECK ROUTINE ADDR           01-CHECK
000CFA 05EF                        1876+         BALR  14,15                    LINK TO CHECK ROUTINE             01-CHECK
                                   1877 *                                                                        01600001
                                   1878 TRACE4   WRITE TRCHECK,SF,,(R8),MF=E                                     01601001
000CFC 4110 35F0            01460  1879+TRACE4   LA    1,TRCHECK                       LOAD DECB ADDRESS          02-IHBRD
000D00 9220 1005      00005        1880+         MVI   5(1),X'20'               SET TYPE FIELD                    02-IHBRD
000D04 5081 000C            0000C  1881+         ST    R8,12(1,0)                      STORE AREA ADDRESS         02-IHBRD
000D08 58F1 0008            00008  1882+         L     15,8(1,0)          LOAD DCB ADDRESS                       02-IHBRD
000D0C 58F0 F030            00030  1883+         L     15,48(0,15)                     LOAD RDWR ROUTINE ADDR     02-IHBRD
000D10 05EF                        1884+         BALR  14,15                           LINK TO RDWR ROUTINE       02-IHBRD
                                   1885 *                                                                        01602001
000D12 1808                        1886          LR    R0,R8                                                      01603001
000D14 1889                        1887          LR    R8,R9                   SWITCH BUFFERS                     01604001
000D16 1890                        1888          LR    R9,R0                                                      01605001
000D18 4140 0004            00004  1889          LA    R4,4                    RESET POINTER                      01606001
000D1C 41B0 B001            00001  1890          LA    R11,1(,R11)             INCR RECORD COUNTER                01607001
                                   1891 *                                                                        01608001
000D20 4920 DD56            00D56  1892 TRACE2   CH    R2,TRL1                 TEST FOR NEW PROGID                01609001
000D24 4780 DD36            00D36  1893          BE    TRACE3                                                     01610001
                                   1894 *                                                                        01611001
000D28 1818                        1895          LR    R1,R8                                                      01612001
000D2A 1A14                        1896          AR    R1,R4                                                      01613001
000D2C D205 1000 DD5A 00000 00D5A  1897          MVC   0(6,R1),TRPGID          PROGID TO BUFFER                   01614001
000D32 4140 4006            00006  1898          LA    R4,6(,R4)                                                  01615001
                                   1899 *                                                                        01616001
000D36 1818                        1900 TRACE3   LR    R1,R8                                                      01617001
000D38 1A14                        1901          AR    R1,R4                                                      01618001
000D3A D201 1000 D0C0 00000 000C0  1902          MVC   0(2,R1),SCRCS(R13)      SEMICOLON COUNTER TO BUFFER        01619001
000D40 4140 4002            00002  1903          LA    R4,2(,R4)                                                  01620001
000D44 4040 8000            00000  1904          STH   R4,0(,R8)                                                  01621001
000D48 908B 3604            01474  1905          STM   R8,R11,TRBUF                                               01622001
000D4C 98EC D054            00054  1906 TRACE6   LM    R14,R12,ASAVE+12(R13)                                      01623001
000D50 47F0 F002            00002  1907          B     2(,R15)                 RETURN TO ALGOL PROGRAM            01624001
                                   1908 *                                                                        01625001
000D54 0700                        1909          CNOP  2,4                                                        01626001
000D56 0002                        1910 TRL1     DC    H'2'                    LENGTH OF SEMICOLON FIELD          01627001
000D58 0008                        1911 TRL2     DC    H'8'                    LENGTH OF NEW NAME + SEMICOLON     01628001
000D5A 0000                        1912 TRPGID   DC    H'0'                    FLAG FOR PROGID                    01629001
000D5C 00000000                    1913          DC    2H'0'                   FIRST FOUR BYTES OF PROG NAME      01630001
000D60 FFFF                        1914          DC    X'FFFF'                 INITIAL VALUE FOR TREND            01631001
000D62 0000
000D64 00000000                    1915 TRBEG    DC    F'0'                    BEGINNING OF TRACE AREA            01632001
000D68 00000000                    1916 TREND    DC    F'0'                    END OF TRACE AREA                  01633001
000D6C 00                          1917 TRFLAG   DC    X'00'                   STATUS INDICATOR                   01634001
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Active USINGs: IHIFSARB,R3 IHIFSARA,R13

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                   1918 *                                    00 - OUTSIDE BOTH TRACE AREAS  01635001
                                   1919 *                                    01 - INSIDE LOWER AREA         01636001
                                   1920 *                                    02 - INSIDE HIGHER AREA        01637001
000D6D 00                          1921 TRFLAG1  DC    X'00'                 PREVIOUS VALUE OF TRFLAG       01638001
000D6E 40404040                    1922 TRMPNAME DC    CL4' '                NAME OF MAIN PROGRAM           01639001
                                   1923 *                                                                   01640001
                                   1924         DROP  R3                                                    01641001
                                   1925 *                                                                   01642001
                                   1926 ********************************************************************** 01643001
                                   1927 *                                                                   01644001
                                   1928 *        PROGRAM INTERRUPT ROUTINE                                  01645001
                                   1929 *                                                                   01646001
                                   1930 ********************************************************************** 01647001
                                   1931 *                                                                   01648001
                                   1932 *        USE INTERRUPT CODE TO LOAD ENTRY FROM PIETAB TO PASS       01649001
                                   1933 *        CONTROL TO FSA ERROR ROUTINE BY UPDATING THE OLD PSW       01650001
                                   1934 *        AND RETURNING FROM SPIE                                    01651001
                                   1935 *                                                                   01652001
               R:F  00D72          1936         USING PIEROUT,R15                                           01653001
** TXA533W USING range overlaps prior USING at statement 504.
** TXA301I Record 1653 in SYSD.ALGOLFRT.ASM(IHIFSA)
000D72 58D0 F0DE           00E50   1937 PIEROUT  L     R13,=A(IHIFSARA)                                    01654001
000D76 D207 D0B4 1004 000B4 00004  1938         MVC   PGOPSW(8,R13),4(R1)   MOVE BC MODE PSW TO PGOPSW     01655001
000D7C 4320 D0B7           000B7   1939         IC    R2,PGOPSW+3(,R13)     LOAD INTERRUPTION CODE         01656001
000D80 5420 F022           00D94   1940         N     R2,PGCMASK            REMOVE IMPRECISE CODES (M/91)  01657001
000D84 8B20 0002           00002   1941         SLA   R2,2                  CONVERT INTERRUPT CODE         01658001
000D88 4122 F026           00D98   1942         LA    R2,PIETAB(R2)         FOR TABLE LOOKUP               01659001
000D8C D202 1009 2001 00009 00001  1943 PIEROUT2 MVC   9(3,R1),1(R2)         CHANGE RETURN ADDR IN OLD PSW  01660001
000D92 07FE                        1944         BR    R14                   RETURN FROM SPIE RTN           01661001
                                   1945 *                                                                   01662001
                                   1946         DROP  R15                                                   01663001
                                   1947 *                                                                   01664001
000D94                             1948         DC    0F'0'                                               01665001
000D94 0000000F                    1949 PGCMASK  DC    X'0000000F'           MASK FOR INTERRUPT CODE        01666001
                                   1950 *                                                                   01667001
000D98 00000250                    1951 PIETAB   DC    A(ERROR33)            MOD/91 ONLY                    01668001
000D9C 00000250                    1952         DC    A(ERROR33)            OPERATION        - 0C1         01669001
000DA0 00000250                    1953         DC    A(ERROR33)            PRIVILAGE        - 0C2         01670001
000DA4 00000250                    1954         DC    A(ERROR33)            EXECUTE          - 0C3         01671001
000DA8 00000250                    1955         DC    A(ERROR33)            PROTECTION       - 0C4         01672001
000DAC 00000250                    1956         DC    A(ERROR33)            ADDRESSING       - 0C5         01673001
000DB0 00000250                    1957         DC    A(ERROR33)            SPECIFICATION    - 0C6         01674001
000DB4 00000250                    1958         DC    A(ERROR33)            DATA             - 0C7         01675001
000DB8 0000023C                    1959         DC    A(ERROR28)            FIXED PT OVFL    - 0C8         01676001
000DBC 00000244                    1960         DC    A(ERROR30)            FIXED PT DIVIDE  - 0C9         01677001
000DC0 00000250                    1961         DC    A(ERROR33)            DECIMAL OVFL     - 0CA         01678001
000DC4 00000250                    1962         DC    A(ERROR33)            DECIMAL DIVIDE   - 0CB         01679001
000DC8 00000240                    1963         DC    A(ERROR29)            EXPONENT OVFL    - 0CC         01680001
000DCC 00000250                    1964         DC    A(ERROR33)            EXPONENT UNDERFL - 0CD         01681001
000DD0 00000250                    1965         DC    A(ERROR33)            FP SIGNIFICANCE  - 0CE         01682001
000DD4 00000248                    1966         DC    A(ERROR31)            FP DIVIDE        - 0CF         01683001
                                   1967 *                                                                   01684001
                                   1968 ********************************************************************** 01685001
                                   1969 *                                                                   01686001
                                   1970 *        ENTRY POINTS IN IHIIOR USED BY I/O ROUTINES                01687001
                                   1971 *                                                                   01688001
                                   1972 ********************************************************************** 01689001
                                   1973 *                                                                   01690001
000DD8 00000000                    1974 ADRLST   DC    A(IHIIORCI)                                         01691001
000DDC 00000000                    1975         DC    A(IHIIORCL)                                         01692001
000DE0 00000000                    1976         DC    A(IHIIOREV)                                         01693001
000DE4 00000000                    1977         DC    A(IHIIORNX)                                         01694001
000DE8 00000000                    1978         DC    A(IHIIOROP)                                         01695001
000DEC 00000000                    1979         DC    A(IHIIOROQ)                                         01696001
000DF0 00000000                    1980         DC    A(IHIIOREN)                                         01697001
000DF4 00000000                    1981         DC    A(IHIIORGP)                                         01698001
000DF8 00000000                    1982         DC    A(IHIIORER)                                         01699001
                                   1983 *                                                                   01700001
                                   1984 ********************************************************************** 01701001
                                   1985 *                                                                   01702001
                                   1986 *        INITIAL ENTRY POINT                                        01703001
                                   1987 *                                                                   01704001
                                   1988 ********************************************************************** 01705001
                                   1989 *                                                                   01706001
                                   1990         DROP  R13                                                   01707001
               R:F  00DFC          1991         USING IHIFSAIN,R15                                          01708001
                                   1992 *                                                                   01709001
                                   1993 IHIFSAIN SAVE  (14,12),,'IHIFSAIN LEVEL 2.1 &SYSDATE &SYSTIME'     01710001
000DFC 47F0 F026           00026   1994+IHIFSAIN B     38(0,15)                      BRANCH AROUND ID     01-SAVE
000E00 21                          1995+        DC    AL1(33)                       LENGTH OF IDENTIFIER 01-SAVE
000E01 C9C8C9C6E2C1C9D5            1996+        DC    CL32'IHIFSAIN LEVEL 2.1 08/17/12 13.2' IDENTIFIER  01-SAVE
000E21 F1                          1997+        DC    CL1'1'                        IDENTIFIER           01-SAVE
000E22 90EC D00C           0000C   1998+        STM   14,12,12(13)                  SAVE REGISTERS       01-SAVE
                                   1999 *                                                                   01711001
000E26 58C0 F054           00E50   2000         L     FSAA,=A(IHIFSARA)                                   01712001
000E2A 50D0 C004           00004   2001         ST    R13,4(,FSAA)          LINK SAVE AREAS TOGETHER      01713001
000E2E 50C0 D008           00008   2002         ST    FSAA,8(,R13)                                        01714001
000E32 18DC                        2003         LR    R13,FSAA                                            01715001
000E34 5870 F048           00E44   2004         L     R7,=A(IHIFSARB)                                     01716001
               R:7  00E70          2005         USING IHIFSARB,R7                                         01717001
000E38 47F0 7000           00E70   2006         B     ALGIN                 TO INITIALIZATION ROUTINE     01718001
                                   2007 *                                                                   01719001
                                   2008         DROP  R15                                                   01720001
                                   2009         DROP  R7                                                    01721001
                                   2010 *                                                                   01722001
000E70               00E70 0068C   2011 IHIFSARB CSECT                                                     01723001
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Active USINGs: None

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 Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                  2012 *                                                                        01724001
                                  2013 ************************************************************************ 01725001
                                  2014 *                                                                        01726001
                                  2015 *        INITIALIZATION ROUTINE                                          01727001
                                  2016 *                                                                        01728001
                                  2017 ************************************************************************ 01729001
                                  2018 *                                                                        01730001
                                  2019 *        THIS IS THE FIRST ROUTINE EXECUTED WHEN AN ALGOL                01731001
                                  2020 *        PROGRAM IS EXECUTED OR CALLED VIA A PROGRAM                     01732001
                                  2021 *                                                                        01733001
                                  2022 *        PERFORM INITIALIZING FUNCTIONS AND TRANSFER CONTROL TO          01734001
                                  2023 *        THE ALGOL OBJECT PROGRAM                                        01735001
                                  2024 *                                                                        01736001
               R:D  00000         2025          USING IHIFSARA,R13                                              01737001
               R:7  00E70         2026          USING IHIFSARB,R7                                               01738001
                                  2027 *                                                                        01739001
                                  2028 ALGIN    SPIE  PIEROUT,((1,9),12,15)   EXIT FOR RELEVANT PROG CHECKS    01740001
000E70                            2029+         CNOP  0,4               ALIGN PICA TO FULLWORD BOUNDARY   S   01-SPIE
000E70 4510 700A           00E7A  2030+ALGIN    BAL   1,*+10             ADDRESS AND BYPASS THE PICA       S   01-SPIE
000E74 08                         2031+         DC    BL1'00001000'                        PROGRAM MASKS    01-SPIE
000E75 000D72                     2032+         DC    AL3(PIEROUT)      EXIT ROUTINE ADDRESS              S   01-SPIE
000E78 7FC9                       2033+         DC    BL2'0111111111001001'                                 +01-SPIE
                                    +                                 THE INTERRUPT MASK BYTES 1 AND 2      01-SPIE
000E7A 0A0E                       2034+         SVC   14                ISSUE THE SPIE SVC                  01-SPIE
                                  2035 *                                                                        01741001
000E7C 5010 D0BC           000BC  2036          ST    R1,FSAPICA(,R13)                                          01742001
                                  2037 *                                                                        01743001
                                  2038 *        GET STORAGE FOR RETURN ADDR STACK                               01744001
                                  2039 *        INITIALIZE RAS POINTERS                                         01745001
                                  2040 *                                                                        01746001
                                  2041          GETMAIN R,LV=2048                                               01747001
                                  2042+*        OS/VS2 RELEASE 4 VERSION -- 10/21/75                            01-GETMA
000E80 4100 0800           00800  2043+         LA    0,2048(0,0)                  LOAD LENGTH                01-GETMA
000E84 4510 7018           00E88  2044+         BAL   1,*+4                        INDICATE GETMAIN           01-GETMA
000E88 0A0A                       2045+         SVC   10                           ISSUE GETMAIN SVC          01-GETMA
                                  2046 *                                                                        01748001
000E8A 4B10 D0AA           000AA  2047          SH    R1,EIGHT(,R13)                                            01749001
000E8E 5010 D0C8           000C8  2048          ST    R1,RASPT(,R13)                                            01750001
000E92 5010 D0C4           000C4  2049          ST    R1,RASSTART(,R13)                                         01751001
000E96 4110 1808           00808  2050          LA    R1,2056(,R1)                                              01752001
000E9A 5010 D0D0           000D0  2051          ST    R1,RASPB(,R13)                                            01753001
000E9E 5010 D0CC           000CC  2052          ST    R1,RASEND(,R13)                                           01754001
000EA2 1BAA                       2053          SR    CDSA,CDSA                                                 01755001
000EA4 585D 00AC           000AC  2054          L     R5,ADSTAB(R13)          INITIALIZE DS ENTRIES FOR         01756001
000EA8 5820 5000           00000  2055          L     R2,0(,R5)               S P K Q                           01757001
000EAC 4150 5004           00004  2056          LA    R5,4(,R5)                                                 01758001
000EB0 1222                       2057          LTR   R2,R2                   THERE A PUT/GET CONTROL FILE ?    01759001
000EB2 4740 7052           00EC2  2058          BM    ALGIN01A                                                  01760001
000EB6 4110 0800           00800  2059          LA    R1,2048                 YES                               01761001
000EBA 5010 2010           00010  2060          ST    R1,16(,R2)              INSERT BE LENGTH                  01762001
000EBE 50A0 2018           00018  2061          ST    CDSA,24(,R2)            INITIALIZE S, TYP IN PGCF         01763001
000EC2 4120 2000           00000  2062 ALGIN01A LA    R2,0(,R2)               CLEAR HIGH ORDER BYTE             01764001
000EC6 1925                       2063 ALGIN01  CR    R2,R5                                                     01765001
000EC8 4780 706A           00EDA  2064          BE    ALGIN02                                                   01766001
000ECC D205 5014 7262 00014 010D2 2065          MVC   20(6,R5),DSINIT                                           01767001
000ED2 4150 5024           00024  2066          LA    R5,36(,R5)                                                01768001
000ED6 47F0 7056           00EC6  2067          B     ALGIN01                                                   01769001
                                  2068 *                                                                        01770001
000EDA 40A0 DD5A           00D5A  2069 ALGIN02  STH   CDSA,TRPGID              INITIALIZE TRACE COUNTERS         01771001
000EDE 50A0 DD5C           00D5C  2070          ST    CDSA,TRPGID+2                                             01772001
000EE2 42A0 DD6C           00D6C  2071          STC   CDSA,TRFLAG                                               01773001
000EE6 92FF DD60      00D60        2072          MVI   TRPGID+6,X'FF'                                            01774001
000EEA 92FF DD61      00D61        2073          MVI   TRPGID+7,X'FF'                                            01775001
000EEE 40AD 00C0           000C0  2074          STH   CDSA,SCRCS(R13)         INITIALIZE SEMICOLON COUNT        01776001
000EF2 50AD 00B0           000B0  2075          ST    CDSA,ANOTTAB(R13)       RESET NOTE TABLE ADDR             01777001
000EF6 50A0 DB44           00B44  2076          ST    CDSA,SPDAP              RESET SPECIAL DECL POINTER        01778001
                                  2077 *                                                                        01779001
                                  2078 *        EXECUTION TIME OPTIONS AND SET SWITCHES                         01780001
                                  2079 *                                                                        01781001
                                  2080 *        TEST FOR SHORT/LONG PRECISION                                   01782001
                                  2081 *                                                                        01783001
000EFA 5820 DE54           00E54  2082          L     R2,=A(IHIENTIF)         GET S/L SWITCH                    01784001
000EFE D200 D0C2 2008 000C2 00008 2083          MVC   OPTSW(1,R13),8(R2)      FROM THE OBJECT MODULE            01785001
000F04 D223 D130 D2FC 00130 002FC 2084          MVC   CNVINST(CNVINSTL),CNVINSTE  ASSUME SHORT                  01786001
000F0A 4120 7268           010D8  2085          LA    R2,SETSHORT                                               01787001
000F0E 9120 D0C2      000C2        2086          TM    OPTSW(R13),SHSW                                           01788001
000F12 4710 70B0           00F20  2087          BO    ALGIN4                  IF SHORT                          01789001
000F16 D223 D130 D320 00130 00320 2088          MVC   CNVINST(CNVINSTL),CNVINSTD    MODIFY CONVERT ROUTINE    01790001
000F1C 4120 2004           00004  2089          LA    R2,4(,R2)                                                 01791001
000F20 9835 D2F0           002F0  2090 ALGIN4   LM    R3,R5,FPINSTAD          MODIFY FLOATING POINT             01792001
000F24 4402 0000           00000  2091 ALGIN4A  EX    0,0(R2)                 INSTRUCTIONS                      01793001
000F28 8734 70B4           00F24  2092          BXLE  R3,R4,ALGIN4A                                             01794001
                                  2093 *                                                                        01795001
                                  2094 *        CHECK EXECUTION PARAMETERS DUMP AND TRACE                       01796001
                                  2095 *                                                                        01797001
000F2C 96F0 D107      00107       2096 ALGIN0   OI    TRACE+7(R13),X'F0'      DEACTIVATE BRANCH TO TRACE RT     01798001
000F30 D203 DD5C DD5B 00D5C 00D5B 2097          MVC   TRPGID+2(4),TRPGID+1    RESET PROGID FOR TRACE            01799001
000F36 D207 DD64 DD5A 00D64 00D5A 2098          MVC   TRBEG(8),TRPGID         INITIALIZE TRACE LIMITS           01800001
000F3C 5820 D004           00004  2099          L     R2,4(,R13)                                                01801001
000F40 BF2F 2018           00018  2100          ICM   R2,B'1111',24(R2)       R2 -> PARAMETER LIST              01802001
000F44 4780 7206           01076  2101          BZ    ALGIN1                  BRANCH IF NO PARAMETERS           01803001
000F48 5820 2000           00000  2102          L     R2,0(,R2)               ADDR OF PARAMETER FIELD           01804001
000F4C 4120 2000           00000  2103          LA    R2,0(,R2)               RESET HIGH ORDER BYTE             01805001
000F50 4830 2000           00000  2104          LH    R3,0(,R2)                                                 01806001
000F54 1233                       2105          LTR   R3,R3                   LENGTH OF PARAMETER FIELD         01807001
000F56 4780 7206           01076  2106          BZ    ALGIN1                  NO PARAMETERS                     01808001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000F5A 1A32                       2107          AR    R3,R2                 END OF PARAMETER FIELD          01809001
000F5C 4150 729A            0110A 2108          LA    R5,LASTPARM           END OF PARAMETER LIST           01810001
000F60 1B66                       2109          SR    R6,R6                                                 01811001
000F62 956B 2002      00002       2110 FNDCOMMA CLI   2(R2),C','                                          01812001
000F66 4770 7108            00F78 2111          BNE   FNDPAR                                              01813001
000F6A 4120 2001            00001 2112 STEP1    LA    R2,1(,R2)                                           01814001
000F6E 1923                       2113 COMP1    CR    R2,R3                                               01815001
000F70 4740 70F2            00F62 2114          BL    FNDCOMMA                                            01816001
000F74 47F0 71AA            0101A 2115          B     ALGIN2                WHOLE PARM FIELD SCANNED      01817001
                                  2116 *                                                                  01818001
000F78 4140 7270            010E0 2117 FNDPAR   LA    R4,PARMLIST                                         01819001
               R:4  010E0         2118          USING PARMLIST,R4                                         01820001
** TXA533W USING range overlaps prior USING at statement 2026.
** TXA301I Record 1820 in SYSD.ALGOLFRT.ASM(IHIFSA)
000F7C 4360 4000            010E0 2119 NXTPAR   IC    R6,PARMLG             LENGTH OF PARAMETER             01821001
000F80 4460 7146            00FB6 2120          EX    R6,COMPINST           COMPARE WITH ENTRY IN LIST      01822001
000F84 4770 7138            00FA8 2121          BNE   NOTFOUND                                            01823001
000F88 4112 6001            00001 2122          LA    R1,1(R2,R6)                                         01824001
000F8C 4400 4006            010E6 2123          EX    0,PABRANCH                                          01825001
000F90 956B 1002      00002       2124 CHKCOMMA CLI   2(R1),C','              CHECK FOR COMMA AFTER PARAM     01826001
000F94 4780 712E            00F9E 2125          BE    SETBIT                                              01827001
000F98 1913                       2126          CR    R1,R3                 IF NO COMMA CHECK FOR END OF    01828001
000F9A 4740 70FA            00F6A 2127          BL    STEP1                 PARAMETER FIELD                 01829001
000F9E 1821                       2128 SETBIT   LR    R2,R1                                               01830001
000FA0 4400 400A            010EA 2129          EX    0,PARMSET                                           01831001
000FA4 47F0 70FE            00F6E 2130          B     COMP1                                               01832001
                                  2131 *                                                                  01833001
000FA8 1945                       2132 NOTFOUND CR    R4,R5                 CHECK FOR END OF LIST           01834001
000FAA 4140 400E            0000E 2133          LA    R4,PARLG(,R4)                                       01835001
000FAE 4740 710C            00F7C 2134          BL    NXTPAR                NEXT ENTRY IN LIST              01836001
000FB2 47FD 0274            00274 2135          B     INVOPT(R13)           OPTION NOT FOUND IN LIST        01837001
                                  2136 *                                                                  01838001
000FB6 D500 2002 4001 00002 010E1 2137 COMPINST CLC   2(0,R2),PARM                                         01839001
                                  2138          DROP  R4                                                  01840001
                                  2139 *                                                                  01841001
                                  2140 *        EVALUATE TRBEG OR TREND PARAMETER                         01842001
                                  2141 *                                                                  01843001
000FBC 4180 DD64            00D64 2142 TRLIM1   LA    R8,TRBEG                                            01844001
000FC0 47F0 7158            00FC8 2143          B     TRLIM2A                                             01845001
                                  2144 *                                                                  01846001
000FC4 4180 DD68            00D68 2145 TRLIM2   LA    R8,TREND                                            01847001
000FC8 957E 1002      00002       2146 TRLIM2A  CLI   2(R1),C'='                                          01848001
000FCC 477D 0274            00274 2147          BNE   INVOPT(R13)                                         01849001
000FD0 4190 1005            00005 2148          LA    R9,5(,R1)             END OF NUMBER FIELD             01850001
000FD4 1BAA                       2149          SR    R10,R10               RESET NUMBER ACCUMULATOR        01851001
000FD6 4110 1001            00001 2150 TRLIM4   LA    R1,1(,R1)             STEP TO NEXT DIGIT              01852001
000FDA 1913                       2151          CR    R1,R3                                               01853001
000FDC 47B0 71A0            01010 2152          BNL   TRLIM3                BR IF END OF WHOLE PARAM FIELD  01854001
000FE0 956B 1002      00002       2153          CLI   2(R1),C','                                          01855001
000FE4 4780 71A0            01010 2154          BE    TRLIM3                BR IF END OF THIS PARAMETER     01856001
000FE8 1919                       2155          CR    R1,R9                                               01857001
000FEA 472D 0274            00274 2156          BH    INVOPT(R13)           BR IF TOO MANY DIGITS           01858001
000FEE 95F0 1002      00002       2157          CLI   2(R1),C'0'            CHECK FOR VALID DIGIT           01859001
000FF2 474D 0274            00274 2158          BL    INVOPT(R13)                                         01860001
000FF6 95F9 1002      00002       2159          CLI   2(R1),C'9'                                          01861001
000FFA 472D 0274            00274 2160          BH    INVOPT(R13)                                         01862001
000FFE D100 71A9 1002 01019 00002 2161          MVN   TRLDIG+1(1),2(R1)     EXTRACT NEW DIGIT               01863001
001004 4CA0 DE6A            00E6A 2162          MH    R10,=H'10'                                          01864001
001008 4AA0 71A8            01018 2163          AH    R10,TRLDIG            ACCUMULATE SUM                  01865001
00100C 47F0 7166            00FD6 2164          B     TRLIM4                                              01866001
                                  2165 *                                                                  01867001
001010 50A0 8000            00000 2166 TRLIM3   ST    R10,0(,R8)            STORE AS TRBEG OR TREND         01868001
001014 47F0 712E            00F9E 2167          B     SETBIT                                              01869001
                                  2168 *                                                                  01870001
001018 0000                       2169 TRLDIG   DC    H'0'                  TEMP STORAGE FOR DIGIT          01871001
                                  2170 *                                                                  01872001
                                  2171 *        PREPARE FOR PROGRAM TRACING                               01873001
                                  2172 *                                                                  01874001
                      0101A       2173 ALGIN2   EQU   *                                                   01875001
00101A 9140 D0C2      000C2       2174          TM    DTSW(R13),TRSW        TRACE REQUESTED ?               01876001
00101E 4780 7206            01076 2175          BZ    ALGIN1                                              01877001
                                  2176 *                                                                  01878001
                                  2177          OPEN  (SYSUT1,(OUTIN))      OPEN SYSUT1 FOR USE BY TRACE    01879001
001022 0700                       2178+         CNOP  0,4                         ALIGN LIST TO FULLWORD 01-OPEN
001024 4510 71BC            0102C 2179+         BAL   1,*+8                       LOAD REG1 W/LIST ADDR. 01-OPEN
001028 87                         2180+         DC    AL1(135)                    OPTION BYTE            01-OPEN
001029 0014A0                     2181+         DC    AL3(SYSUT1)                 DCB ADDRESS            01-OPEN
00102C 0A13                       2182+         SVC   19                          ISSUE OPEN SVC         01-OPEN
                                  2183 *                                                                  01880001
00102E 4130 7630            014A0 2184          LA    R3,SYSUT1                                           01881001
               R:3  00000         2185          USING IHADCB,R3                                           01882001
001032 9110 3030      00030       2186          TM    DCBOFLGS,DCBOFOPN     SYSUT1 OPENED ?                 01883001
001036 4710 71D6            01046 2187          BO    ALGIN3                                              01884001
00103A 94BF D0C2      000C2       2188          NI    DTSW(R13),255-TRSW    TRACE SWITCH OFF                01885001
00103E 4160 0011            00011 2189          LA    R6,17                 SET DATASET NUMBER TO 17        01886001
001042 47FD 0270            00270 2190          B     DDERROR(R13)                                        01887001
                                  2191 *                                                                  01888001
001046 940F D107      00107       2192 ALGIN3   NI    TRACE+7(R13),X'0F'    ACTIVATE BRANCH TO TRACE ROUT   01889001
00104A 4800 303E            0003E 2193          LH    R0,DCBBLKSI           GET BLOCK SIZE FROM DCB         01890001
                                  2194          DROP  R3                                                  01891001
00104E 5000 760C            0147C 2195          ST    R0,TRBUFL             STORE AS BUFFER LENGTH          01892001
001052 8B00 0001            00001 2196          SLA   R0,1                                                01893001
                                  2197 *                                                                  01894001
                                  2198          GETMAIN R,LV=(0)            GET TWO BUFFERS FOR SYSUT1      01895001
                                  2199+*        OS/VS2 RELEASE 4 VERSION -- 10/21/75                      01-GETMA
001056 4510 71EA            0105A 2200+         BAL   1,*+4                       INDICATE GETMAIN       01-GETMA
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

00105A 0A0A                       2201+         SVC   10                            ISSUE GETMAIN SVC      01-GETMA
                                  2202 *                                                                     01896001
00105C 5010 7604            01474 2203          ST    R1,TRBUF                ADDR OF FIRST BUFFER         01897001
001060 1B00                       2204          SR    R0,R0                                                01898001
001062 5000 7610            01480 2205          ST    R0,TRCNT                RESET RECORD COUNTER         01899001
001066 4100 0004            00004 2206          LA    R0,4                    SET BYTE POINTER             01900001
00106A 4000 1000            00000 2207          STH   R0,0(,R1)                                            01901001
00106E 5A10 760C            0147C 2208          A     R1,TRBUFL                                            01902001
001072 5010 7608            01478 2209          ST    R1,TRBUFA               ALTERNATE BUFFER             01903001
                                  2210 *                                                                     01904001
                                  2211 *        INITIALIZE REGISTERS AND ENTER OBJECT MODULE                 01905001
                                  2212 *                                                                     01906001
001076 1BAA                       2213 ALGIN1   SR    CDSA,CDSA                                            01907001
001078 58F0 DE54            00E54 2214          L     R15,=A(IHIENTIF)                                     01908001
00107C 98BC F000            00000 2215          LM    PBT,LAT,0(R15)                                       01909001
001080 5820 0010            00010 2216          L     R2,16                   R2 -> CVT ADDR               01910001
001084 5820 2000            00000 2217          L     R2,0(,R2)                                            01911001
001088 5820 2004            00004 2218          L     R2,4(,R2)               R2 -> TCB                    01912001
00108C 5820 2000            00000 2219          L     R2,0(,R2)               R2 -> RB ADDR                01913001
001090 5820 200C            0000C 2220          L     R2,12(,R2)              INSERT RB NAME INTO PBTAB    01914001
001094 D203 B004 2008 00004 00008 2221          MVC   4(4,PBT),8(R2)                                       01915001
00109A D203 DD6E 2008 00D6E 00008 2222          MVC   TRMPNAME,8(R2)                                       01916001
0010A0 58F0 F008            00008 2223          L     R15,8(,R15)                                          01917001
0010A4 07FF                       2224          BR    R15                     ENTER ALGOL PROGRAM          01918001
                                  2225 *                                                                     01919001
                                  2226 *        DCB EXIT ROUTINE FOR SYSUT1                                  01920001
                                  2227 *                                                                     01921001
               R:1  00000         2228          USING IHADCB,R1                                            01922001
0010A6 4820 103E            0003E 2229 SYSUT1X  LH    R2,DCBBLKSI                                          01923001
0010AA 1222                       2230          LTR   R2,R2                   BLKSIZE SPECIFIED ?          01924001
0010AC 4770 724A            010BA 2231          BNZ   DCBEXIT1                YES, BRANCH                  01925001
0010B0 4120 0800            00800 2232 DCBEXIT2 LA    R2,TRBUFST              ELSE USE STANDARD SIZE       01926001
0010B4 4020 103E            0003E 2233          STH   R2,DCBBLKSI                                          01927001
                                  2234 *                                                                     01928001
                                  2235 DCBEXIT3 RETURN                                                       01929001
0010B8                            2236+DCBEXIT3 DS    0H                                                   01-RETUR
0010B8 07FE                       2237+         BR    14                            RETURN                 01-RETUR
                                  2238 *                                                                     01930001
0010BA 4920 725E            010CE 2239 DCBEXIT1 CH    R2,TRBUFMIN             CHECK BLKSIZE                01931001
0010BE 4740 7240            010B0 2240          BL    DCBEXIT2                IF TOO LOW OR TOO HIGH,      01932001
0010C2 4920 7260            010D0 2241          CH    R2,TRBUFMAX             USE STANDARD SIZE            01933001
0010C6 4720 7240            010B0 2242          BH    DCBEXIT2                                             01934001
0010CA 47F0 7248            010B8 2243          B     DCBEXIT3                                             01935001
                                  2244 *                                                                     01936001
                                  2245          DROP  R1                                                   01937001
                                  2246 *                                                                     01938001
0010CE 000E                       2247 TRBUFMIN DC    H'14'                   MINIMUM TRACE BUFFER SIZE    01939001
0010D0 7FF8                       2248 TRBUFMAX DC    H'32760'                MAXIMUM TRACE BUFFER SIZE    01940001
                                  2249 *                                                                     01941001
                     00800        2250 TRBUFST  EQU   2048                    STANDARD TRACE BUFFER SIZE   01942001
                                  2251 *                                                                     01943001
0010D2 000100500200               2252 DSINIT   DC    X'000100500200'         INITIALIZE DSTAB             01944001
                                  2253 *                                                                     01945001
0010D8 9610 3000      00000       2254 SETSHORT OI    0(R3),SHORTBIT          MODIFY FP INSTR FOR SHORT    01946001
0010DC 94EF 3000      00000       2255          NI    0(R3),255-SHORTBIT      OR LONG PR                   01947001
                                  2256 *                                                                     01948001
                                  2257 *        TABLE FOR DECODING OPTION PARAMETERS                         01949001
                                  2258 *                                                                     01950001
0010E0                            2259 PARMLIST DC    0H'0'                                                01951001
0010E0 03                         2260 PARMLG   DC    AL1(3)                  (LENGTH - 1) OF KEYWORD      01952001
0010E1 C4E4D4D740                 2261 PARM     DC    CL5'DUMP'               OPTION KEYWORD               01953001
                                  2262 *                                                                     01954001
0010E6 47F0 7120            00F90 2263 PABRANCH B     CHKCOMMA                EXIT TO EVALUATION ROUTINE   01955001
                                  2264 *                                                                     01956001
0010EA 9680 D0C2      000C2       2265 PARMSET  OI    DTSW(R13),DPSW          SET FLAG BIT                 01957001
                      0000E       2266 PARLG    EQU   *-PARMLG                                             01958001
0010EE 04                         2267          DC    AL1(4)                                               01959001
0010EF E3D9C1C3C5                 2268          DC    CL5'TRACE'                                           01960001
0010F4 47F0 7120            00F90 2269          B     CHKCOMMA                                             01961001
                                  2270 *                                                                     01962001
0010F8 9641 D0C2      000C2       2271          OI    DTSW(R13),UCTRSW                                     01963001
0010FC 04                         2272          DC    AL1(4)                                               01964001
0010FD E3D9C2C5C7                 2273          DC    CL5'TRBEG'                                           01965001
001102 47F0 714C            00FBC 2274          B     TRLIM1                                               01966001
                                  2275 *                                                                     01967001
001106 9640 D0C2      000C2       2276          OI    DTSW(R13),TRSW                                       01968001
00110A 04                         2277 LASTPARM DC    AL1(4)                                               01969001
00110B E3D9C5D5C4                 2278          DC    CL5'TREND'                                           01970001
001110 47F0 7154            00FC4 2279          B     TRLIM2                                               01971001
                                  2280 *                                                                     01972001
001114 9640 D0C2      000C2       2281          OI    DTSW(R13),TRSW                                       01973001
                                  2282 *                                                                     01974001
                                  2283 ********************************************************************** 01975001
                                  2284 *                                                                     01976001
                                  2285 *        TERMINATION ROUTINE                                          01977001
                                  2286 *                                                                     01978001
                                  2287 ********************************************************************** 01979001
                                  2288 *                                                                     01980001
                                  2289 *        THIS ROUTINE IS ENTERED EITHER FROM THE ALGOL PROGRAM        01981001
                                  2290 *        UPON PASSING THE FINAL 'END' STATEMENT (NORMAL               01982001
                                  2291 *        TERMINATION) OR FROM THE ERROR ROUTINE (ABNORMAL             01983001
                                  2292 *        TERMINATION).                                                01984001
                                  2293 *                                                                     01985001
                                  2294 *        IN EITHER CASE IT EDITS AND PRINTS THE TRACE INFORMATION     01986001
                                  2295 *        IF ANY, CLOSES ALL DATASETS AND RESTORES THE REGISTERS       01987001
                                  2296 *        AS THEY WERE AT THE TIME OF ENTRY TO THE ALGOL PROGRAM       01988001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                   2297 *                                                                          01989001
                                   2298 *        RETURN IS TO OS OR THE CALLING PROGRAM                            01990001
                                   2299 *        THE COMPLETION CODE IS SET TO ZERO (NORMAL) OR 16                 01991001
                                   2300 *        (ABNORMAL TERMINATION)                                            01992001
                                   2301 *                                                                          01993001
001118 9210 7617      01487        2302 ALGTRMA  MVI   COMPCODE+3,16          ENTRY IN CASE OF ERROR              01994001
00111C 47F0 72B4            01124  2303          B     ALGTRM0                                                     01995001
                                   2304 *                                                                          01996001
                                   2305 *        NORMAL ENTRY                                                      01997001
                                   2306 *                                                                          01998001
001120 9200 7617      01487        2307 ALGTRMN  MVI   COMPCODE+3,0                                                01999001
001124 18CD                        2308 ALGTRM0  LR    FSAA,R13                PREPARE FOR                         02000001
001126 5850 D0AC            000AC  2309          L     R5,ADSTAB(,R13)         OUTPUT TO SYSPRINT                  02001001
00112A 4150 5028            00028  2310          LA    R5,DSTABLEL+4(,R5)      BY MEANS OF I/O ROUTINES            02002001
00112E 4160 0001            00001  2311          LA    R6,1                    SET DSNR TO 1 FOR SYSPRINT          02003001
                 R:5  00000        2312          USING DSTABLE,R5                                                  02004001
001132 9104 7617      01487        2313          TM    COMPCODE+3,X'04'                                            02005001
001136 4710 72D4            01144  2314          BO    ALGTRM00                                                    02006001
00113A 9601 501B      0001B        2315          OI    DSF+1,DS15              FLAG CLOSE FROM IHIFSA              02007001
00113E 58F0 DE58            00E58  2316          L     R15,=V(IHIIORCP)        CLOSE ALL DATASETS USED             02008001
001142 05EF                        2317          BALR  R14,R15                                                     02009001
001144 9610 D0C2      000C2        2318 ALGTRM00 OI    OPTSW(R13),TERMSW       FLAG TERM ROUTINE ENTERED           02010001
001148 9102 D0C2      000C2        2319          TM    OPTSW(R13),PRNTERR                                          02011001
00114C 4780 72EA            0115A  2320          BZ    ALGTRM16                IF SYSPRINT OK                      02012001
                                   2321 *                                                                          02013001
                                   2322          WTO   MF=(E,WTOTRM)           WRITE END EXEC MESSAGE              02014001
001150 4110 75BC            0142C  2323+         LA    1,WTOTRM                        LOAD PARAMETER REG 1  02-IHBIN
001154 0A23                        2324+         SVC   35                              ISSUE SVC             01-WTO
                                   2325 *                                                                          02015001
001156 47F0 74D8            01348  2326          B     ALGTRM10                                                    02016001
                                   2327 *                                                                          02017001
00115A 9610 501B      0001B        2328 ALGTRM16 OI    DSF+1,DS11              RE-OPEN SYSPRINT FOR                02018001
00115E 9632 501A      0001A        2329          OI    DSF,DS2+DS3+DS6         TRACE AND TERM OUTPUT               02019001
001162 9104 7617      01487        2330          TM    COMPCODE+3,X'04'                                            02020001
001166 4710 7304            01174  2331          BO    ALGTRM1A                                                    02021001
00116A 58F0 DE5C            00E5C  2332          L     R15,=V(IHIIOROP)                                            02022001
00116E 05EF                        2333          BALR  R14,R15                                                     02023001
001170 47F0 7308            01178  2334          B     ALGTRM1B                                                    02024001
                                   2335 *                                                                          02025001
001174 9232 5015      00015        2336 ALGTRM1A MVI   S+1,50                                                      02026001
001178 45E0 7504            01374  2337 ALGTRM1B BAL   R14,BLANK                                                  02027001
00117C 9610 501A      0001A        2338          OI    DSF,DS3                                                     02028001
001180 58F0 DE60            00E60  2339          L     R15,=V(IHIIORNX)                                            02029001
001184 05EF                        2340          BALR  R14,R15                                                     02030001
001186 9140 D0C2      000C2        2341 ALGTRM1  TM    DTSW(R13),TRSW                                              02031001
00118A 4780 74A6            01316  2342          BZ    ALGTRM11                NO TRACE OPTION, BRANCH             02032001
00118E 9104 D0C2      000C2        2343          TM    OPTSW(R13),UT1ERR                                           02033001
001192 4710 7480            012F0  2344          BO    ALGTRM18                IF SYSUT1 ERROR                     02034001
001196 988B 7604            01474  2345          LM    R8,R11,TRBUF            LOAD BUFFER PARAMETERS              02035001
00119A 12BB                        2346          LTR   R11,R11                                                     02036001
00119C 4780 7394            01204  2347          BZ    ALGTRM2                 NO RECORDS WRITTEN, BRANCH          02037001
                                   2348 *                                                                          02038001
                                   2349          CHECK TRCHECK                 CHECK LAST RECORD WRITTEN           02039001
0011A0 4110 75F0            01460  2350+         LA    1,TRCHECK                       LOAD PARAMETER REG 1  02-IHBIN
0011A4 58E0 1008            00008  2351+         L     14,8(0,1)                PICK UP DCB ADDR                   01-CHECK
0011A8 58F0 E034            00034  2352+         L     15,52(0,14)              LOAD CHECK ROUTINE ADDR            01-CHECK
0011AC 05EF                        2353+         BALR  14,15                    LINK TO CHECK ROUTINE              01-CHECK
                                   2354 *                                                                          02040001
0011AE 4840 8000            00000  2355          LH    R4,0(,R8)                                                   02041001
0011B2 4940 DE6C            00E6C  2356          CH    R4,=H'4'                                                    02042001
0011B6 47D0 7374            011E4  2357          BNH   ALGTRM3                 CURRENT BUFFER EMPTY, BRANCH        02043001
                                   2358 *                                                                          02044001
                                   2359          WRITE TRCHECK,SF,,(R8),MF=E   WRITE LAST RECORD                   02045001
0011BA 4110 75F0            01460  2360+         LA    1,TRCHECK                       LOAD DECB ADDRESS     02-IHBRD
0011BE 9220 1005      00005        2361+         MVI   5(1),X'20'               SET TYPE FIELD                     02-IHBRD
0011C2 5081 000C            0000C  2362+         ST    R8,12(1,0)                      STORE AREA ADDRESS    02-IHBRD
0011C6 58F1 0008            00008  2363+         L     15,8(1,0)          LOAD DCB ADDRESS                       02-IHBRD
0011CA 58F0 F030            00030  2364+         L     15,48(0,15)                     LOAD RDWR ROUTINE ADDR 02-IHBRD
0011CE 05EF                        2365+         BALR  14,15                           LINK TO RDWR ROUTINE  02-IHBRD
                                   2366 *                                                                          02046001
                                   2367          CHECK TRCHECK                                                     02047001
0011D0 4110 75F0            01460  2368+         LA    1,TRCHECK                       LOAD PARAMETER REG 1  02-IHBIN
0011D4 58E0 1008            00008  2369+         L     14,8(0,1)                PICK UP DCB ADDR                   01-CHECK
0011D8 58F0 E034            00034  2370+         L     15,52(0,14)              LOAD CHECK ROUTINE ADDR            01-CHECK
0011DC 05EF                        2371+         BALR  14,15                    LINK TO CHECK ROUTINE              01-CHECK
                                   2372 *                                                                          02048001
0011DE 41B0 B001            00001  2373          LA    R11,1(,R11)                                                 02049001
                                   2374 *                                                                          02050001
                                   2375 ALGTRM3  CLOSE (SYSUT1,REREAD),TYPE=T  CLOSE TEMPORARY                   02051001
0011E2 0700                        2376+         CNOP  0,4                       ALIGN LIST TO FULLWORD 01-CLOSE
0011E4 4510 737C            011EC  2377+ALGTRM3  BAL   1,*+8                     LOAD REG1 W/LIST ADDR  01-CLOSE
0011E8 90                          2378+         DC    AL1(144)                  OPTION BYTE            01-CLOSE
0011E9 0014A0                      2379+         DC    AL3(SYSUT1)               DCB ADDRESS            01-CLOSE
0011EC 0A17                        2380+         SVC   23                        ISSUE TCLOSE SVC       01-CLOSE
                                   2381 *                                                                          02052001
                                   2382          READ  TRCHECK,SF,,(R8),MF=E   READ FIRST RECORD                   02053001
0011EE 4110 75F0            01460  2383+         LA    1,TRCHECK                       LOAD DECB ADDRESS     02-IHBRD
0011F2 9280 1005      00005        2384+         MVI   5(1),X'80'               SET TYPE FIELD                     02-IHBRD
0011F6 5081 000C            0000C  2385+         ST    R8,12(1,0)                      STORE AREA ADDRESS    02-IHBRD
0011FA 58F1 0008            00008  2386+         L     15,8(1,0)          LOAD DCB ADDRESS                       02-IHBRD
0011FE 58F0 F030            00030  2387+         L     15,48(0,15)                     LOAD RDWR ROUTINE ADDR 02-IHBRD
001202 05EF                        2388+         BALR  14,15                           LINK TO RDWR ROUTINE  02-IHBRD
                                   2389 *                                                                          02054001
                                   2390 *        PRINT TRACE HEADLINES                                             02055001
                                   2391 *                                                                          02056001
001204 45E0 7534            013A4  2392 ALGTRM2  BAL   R14,TRHEAD                                                 02057001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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001208 12BB                      2393 ALGTRM4  LTR   R11,R11                                          02058001
00120A 4770 73A4          01214  2394          BNZ   ALGTRM9                IF RECORDS ON SYSUT1      02059001
00120E 1898                      2395          LR    R9,R8                                            02060001
001210 47F0 73DE          0124E  2396          B     ALGTRM5                                          02061001
                                 2397 *                                                               02062001
                                 2398 ALGTRM9  CHECK TRCHECK                CHECK PREVIOUS READ       02063001
001214 4110 75F0          01460  2399+ALGTRM9  LA    1,TRCHECK                        LOAD PARAMETER REG 1 02-IHBIN
001218 58E0 1008          00008  2400+         L     14,8(0,1)                 PICK UP DCB ADDR           01-CHECK
00121C 58F0 E034          00034  2401+         L     15,52(0,14)               LOAD CHECK ROUTINE ADDR    01-CHECK
001220 05EF                      2402+         BALR  14,15                     LINK TO CHECK ROUTINE      01-CHECK
                                 2403 *                                                               02064001
001222 9889 7604          01474  2404          LM    R8,R9,TRBUF                                      02065001
001226 1818                      2405          LR    R1,R8                     SWITCH BUFFERS           02066001
001228 1889                      2406          LR    R8,R9                                            02067001
00122A 1891                      2407          LR    R9,R1                                            02068001
00122C 9089 7604          01474  2408          STM   R8,R9,TRBUF                                      02069001
001230 46B0 73C8          01238  2409          BCT   R11,ALGTRM6               DECR RECORD COUNTER      02070001
001234 47F0 73DE          0124E  2410          B     ALGTRM5                   NO MORE RECORDS, BRANCH  02071001
                                 2411 *                                                               02072001
                                 2412 ALGTRM6  READ  TRCHECK,SF,,(R8),MF=E                            02073001
001238 4110 75F0          01460  2413+ALGTRM6  LA    1,TRCHECK                        LOAD DECB ADDRESS  02-IHBRD
00123C 9280 1005    00005        2414+         MVI   5(1),X'80'                SET TYPE FIELD           02-IHBRD
001240 5081 000C          0000C  2415+         ST    R8,12(1,0)                 STORE AREA ADDRESS       02-IHBRD
001244 58F1 0008          00008  2416+         L     15,8(1,0)           LOAD DCB ADDRESS               02-IHBRD
001248 58F0 F030          00030  2417+         L     15,48(0,15)                LOAD RDWR ROUTINE ADDR   02-IHBRD
00124C 05EF                      2418+         BALR  14,15                      LINK TO RDWR ROUTINE     02-IHBRD
                                 2419 *                                                               02074001
00124E 4840 9000          00000  2420 ALGTRM5  LH    R4,0(0,R9)                LOAD BYTE COUNT          02075001
001252 1A49                      2421          AR    R4,R9                     ADDR OF LAST BYTE PLUS ONE 02076001
001254 4190 9004          00004  2422          LA    R9,4(0,R9)                R9 IS NOW BYTE POINTER    02077001
001258 5820 5004          00004  2423          L     R2,R                      SYSPRINT BYTE POINTER    02078001
00125C 47F0 7468          012D8  2424          B     ALGTRM7                                          02079001
                                 2425 *                                                               02080001
001260 D501 9000 DD5A 00000 00D5A 2426 ALGTRM8  CLC   0(2,R9),TRPGID           NEXT ITEM A PROGID ?     02081001
001266 4770 7408          01278  2427          BNE   ALGTRM12                  NO, BRANCH               02082001
00126A D203 761A 9002 0148A 00002 2428          MVC   PROGID(4),2(R9)           STORE PROGID             02083001
001270 4190 9006          00006  2429          LA    R9,6(0,R9)                                       02084001
001274 47F0 7414          01284  2430          B     ALGTRM15                                         02085001
                                 2431 *                                                               02086001
001278 4130 2006          00006  2432 ALGTRM12 LA    R3,6(,R2)                 ROOM FOR                 02087001
00127C 5930 5008          00008  2433          C     R3,RE                     ONE MORE OUTPUT ITEM ?   02088001
001280 4740 7448          012B8  2434          BL    ALGTRM13                  YES, BRANCH              02089001
001284 9610 501A    0001A        2435 ALGTRM15 OI    DSF,DS3                                          02090001
001288 58F0 DE60          00E60  2436          L     R15,=V(IHIIORNX)                                 02091001
00128C 05EF                      2437          BALR  R14,R15                                          02092001
00128E D501 5014 DE68 00014 00E68 2438          CLC   S(2),=H'1'                NEW PAGE ?               02093001
001294 4770 7430          012A0  2439          BNE   ALGTRM14                  NO, BRANCH               02094001
001298 45E0 7534          013A4  2440          BAL   R14,TRHEAD                PRINT PAGE HEADINGS      02095001
00129C 47F0 7414          01284  2441          B     ALGTRM15                                         02096001
                                 2442 *                                                               02097001
0012A0 5820 5004          00004  2443 ALGTRM14 L     R2,R                                             02098001
0012A4 45E0 7504          01374  2444          BAL   R14,BLANK                 INITIALIZE WITH BLANKS   02099001
0012A8 D209 2000 7618 00000 01488 2445          MVC   0(10,R2),PIDFIELD         PROGID AT START OF NEW LINE 02100001
0012AE D203 761A 7619 0148A 01489 2446          MVC   PROGID(4),PROGID-1        BLANKS TO RPOGID         02101001
0012B4 4120 200A          0000A  2447          LA    R2,PIDLGTH(,R2)                                  02102001
0012B8 4830 9000          00000  2448 ALGTRM13 LH    R3,0(,R9)                                        02103001
0012BC 4190 9002          00002  2449          LA    R9,2(,R9)                 CONVERT SEMICOLON COUNTER 02104001
0012C0 4E30 7628          01498  2450          CVD   R3,CONVBUF                PRINT AREA               02105001
0012C4 D205 2000 75B5 00000 01425 2451          MVC   0(L'SCPATTN,R2),SCPATTN    MOVE IN PATTERN         02106001
0012CA DE05 2000 762D 00000 0149D 2452          ED    0(L'SCPATTN,R2),CONVBUF+5  FORMAT SC COUNT          02107001
0012D0 4120 2006          00006  2453          LA    R2,6(,R2)                 STEP OUTPUT BUFFER POINTER 02108001
0012D4 5020 5004          00004  2454          ST    R2,R                                             02109001
0012D8 1994                      2455 ALGTRM7  CR    R9,R4                                            02110001
0012DA 4740 73F0          01260  2456          BL    ALGTRM8                   NOT END OF SYSUT1 REC, BRANCH 02111001
0012DE 12BB                      2457          LTR   R11,R11                                          02112001
0012E0 4770 73A4          01214  2458          BNZ   ALGTRM9                   MORE RECORDS TO READ, BRANCH 02113001
0012E4 9610 501A    0001A        2459          OI    DSF,DS3                   PRINT LAST LINE          02114001
0012E8 58F0 DE60          00E60  2460          L     R15,=V(IHIIORNX)                                 02115001
0012EC 05EF                      2461          BALR  R14,R15                                          02116001
                                 2462 *                                                               02117001
                                 2463 *        CLOSE SYSUT1 AND FREE BUFFER AREA                      02118001
                                 2464 *                                                               02119001
                                 2465 ALGTRM18 CLOSE (SYSUT1)                                         02120001
0012EE 0700                      2466+         CNOP  0,4                                 ALIGN LIST TO FULLWORD 01-CLOSE
0012F0 4510 7488          012F8  2467+ALGTRM18 BAL   1,*+8                               LOAD REG1 W/LIST ADDR  01-CLOSE
0012F4 80                        2468+         DC    AL1(128)                            OPTION BYTE            01-CLOSE
0012F5 0014A0                    2469+         DC    AL3(SYSUT1)                         DCB ADDRESS            01-CLOSE
0012F8 0A14                      2470+         SVC   20                                  ISSUE CLOSE SVC        01-CLOSE
                                 2471 *                                                               02121001
0012FA 9889 7604          01474  2472          LM    R8,R9,TRBUF               GET LOWER                02122001
0012FE 1818                      2473          LR    R1,R8                     BUFFER ADDR              02123001
001300 1989                      2474          CR    R8,R9                                            02124001
001302 4740 7498          01308  2475          BL    *+6                                              02125001
001306 1819                      2476          LR    R1,R9                                            02126001
001308 5800 760C          0147C  2477          L     R0,TRBUFL                                        02127001
00130C 8B00 0001          00001  2478          SLA   R0,1                                             02128001
                                 2479 *                                                               02129001
                                 2480          FREEMAIN R,LV=(0),A=(1)         FREE SYSUT1 BUFFER       02130001
                                 2481+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                  01-FREEM
001310 4110 1000          00000  2482+         LA    1,0(0,1)                            CLEAR HI ORDER BYTE    01-FREEM
001314 0A0A                      2483+         SVC   10                                  ISSUE FREEMAIN SVC     01-FREEM
                                 2484 *                                                               02131001
                                 2485 *        PRINT EXECUTION END MESSAGE                            02132001
                                 2486 *                                                               02133001
001316 5820 5004          00004  2487 ALGTRM11 L     R2,R                      BYTE POINTER             02134001
00131A D21D 2000 75C0 00000 01430 2488          MVC   0(TML,R2),TRMSG           MOVE TERMINATION MESSAGE 02135001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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001320 4120 201E            0001E  2489          LA    R2,TML(,R2)                                          02136001
001324 5020 5004            00004  2490          ST    R2,R                     UPDATE BYTE POINTER         02137001
001328 4120 0002            00002  2491          LA    R2,2                     LOOP COUNTER FOR BLANK LINES 02138001
00132C 45E0 7504            01374  2492 ALGTRM19 BAL   R14,BLANK                                           02139001
001330 9610 501A      0001A        2493          OI    DSF,DS3                                              02140001
001334 58F0 DE60            00E60  2494          L     R15,=V(IHIIORNX)                                     02141001
001338 05EF                        2495          BALR  R14,R15                                              02142001
00133A 4620 74BC            0132C  2496          BCT   R2,ALGTRM19              ONE EXTRA BLANK LINE        02143001
00133E 9601 501B      0001B        2497          OI    DSF+1,DS15               FLAG CLOSE FROM IHIFSA      02144001
001342 58F0 DE64            00E64  2498          L     R15,=V(IHIIORCL)         CLOSE SYSPRINT              02145001
001346 05EF                        2499          BALR  R14,R15                                              02146001
                                   2500 *                                                                   02147001
                                   2501 *        FINAL CLEAN-UP                                             02148001
                                   2502 *                                                                   02149001
001348 581D 00C4            000C4  2503 ALGTRM10 L     R1,RASSTART(R13)         FREE RETURN ADDR STACK      02150001
00134C 4110 1008            00008  2504          LA    R1,8(,R1)                                            02151001
                                   2505 *                                                                   02152001
                                   2506          FREEMAIN R,LV=2048,A=(1)                                   02153001
                                   2507+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                      01-FREEM
001350 4100 0800            00800  2508+         LA    0,2048(0,0)                LOAD LENGTH                 01-FREEM
001354 4110 1000            00000  2509+         LA    1,0(0,1)                   CLEAR HI ORDER BYTE         01-FREEM
001358 0A0A                        2510+         SVC   10                         ISSUE FREEMAIN SVC          01-FREEM
                                   2511 *                                                                   02154001
00135A 5820 D0BC            000BC  2512 ALGTRM17 L     R2,FSAPICA(,R13)                                     02155001
                                   2513 *                                                                   02156001
                                   2514          SPIE  MF=(E,(R2))              RESTORE PICA                02157001
00135E 1812                        2515+         LR    1,R2                       LOAD PARAMETER REG 1        02-IHBIN
001360 0A0E                        2516+         SVC   14                 ISSUE THE SPIE SVC                01-SPIE
                                   2517 *                                                                   02158001
001362 58D0 D004            00004  2518 ALGTRMAA L     R13,4(,R13)                                          02159001
001366 58F0 7614            01484  2519          L     R15,COMPCODE             RETURN CODE INTO R15        02160001
                                   2520 *                                                                   02161001
                                   2521          RETURN (14,12),RC=(15)         TO OS OR THE CALLING PROGRAM 02162001
00136A 58ED 000C            0000C  2522+         L     14,12(13,0)                RESTORE REGISTER 14         01-RETUR
00136E 980C D014            00014  2523+         LM    0,12,20(13)                RESTORE THE REGISTERS       01-RETUR
001372 07FE                        2524+         BR    14                         RETURN                      01-RETUR
                                   2525 *                                                                   02163001
                                   2526 *        ROUTINE FOR FILLING A SYSPRINT RECORD WITH BLANKS          02164001
                                   2527 *                                                                   02165001
001374 9023 752C            0139C  2528 BLANK    STM   R2,R3,BLANKS                                         02166001
001378 5820 5004            00004  2529          L     R2,R                     CURRENT BYTE POINTER        02167001
00137C 5830 5008            00008  2530          L     R3,RE                    RECORD END POINTER          02168001
001380 1923                        2531 BLANKA   CR    R2,R3                                                02169001
001382 47B0 7522            01392  2532          BNL   BLANKB                   RECORD END, BRANCH          02170001
001386 9240 2000      00000        2533          MVI   0(R2),C' '               INSERT ONE BLANK            02171001
00138A 4120 2001            00001  2534          LA    R2,1(,R2)                STEP TO NEXT BYTE           02172001
00138E 47F0 7510            01380  2535          B     BLANKA                   LOOP TO PROCESS NEXT CHAR   02173001
                                   2536 *                                                                   02174001
001392 5020 5004            00004  2537 BLANKB   ST    R2,R                     UPDATED BYTE POINTER        02175001
001396 9823 752C            0139C  2538          LM    R2,R3,BLANKS                                         02176001
00139A 07FE                        2539          BR    R14                                                  02177001
                                   2540 *                                                                   02178001
00139C 0000000000000000            2541 BLANKS   DC    2F'0'                                                02179001
                                   2542 *                                                                   02180001
                                   2543 *        ROUTINE FOR PRINTING TRACE OUTPUT HEADING                  02181001
                                   2544 *                                                                   02182001
0013A4 90EC D054            00054  2545 TRHEAD   STM   R14,R12,ASAVE+12(R13)     USE SECOND SAVE AREA        02183001
0013A8 9824 7560            013D0  2546          LM    R2,R4,TRHADR             COUNTER FOR HEADLINES       02184001
0013AC 5810 5004            00004  2547 TRHEAD1  L     R1,R                                                 02185001
0013B0 45E0 7504            01374  2548          BAL   R14,BLANK                INITIALIZE WITH BLANKS      02186001
0013B4 4404 0000            00000  2549          EX    0,0(R4)                  MOVE TEXT, OR NOP           02187001
0013B8 9610 501A      0001A        2550          OI    DSF,DS3                                              02188001
0013BC 58F0 DE60            00E60  2551          L     R15,=V(IHIIORNX)                                     02189001
0013C0 05EF                        2552          BALR  R14,R15                                              02190001
0013C2 8742 753C            013AC  2553          BXLE  R4,R2,TRHEAD1                                        02191001
0013C6 45E0 7504            01374  2554          BAL   R14,BLANK                BLANK LINE AFTER HEADING    02192001
0013CA 98EC D054            00054  2555          LM    R14,R12,ASAVE+12(R13)                                02193001
0013CE 07FE                        2556          BR    R14                                                  02194001
                                   2557 *                                                                   02195001
0013D0 00000006000013EE            2558 TRHADR   DC    A(6,TRHEND,TRHLIST)                                  02196001
                                   2559 *                                                                   02197001
0013DC 4700 0000            00000  2560 TRHLIST  NOP   0                        BLANK LINE                  02198001
0013E0 0700                        2561          NOPR  0                                                    02199001
0013E2 D214 1000 7584 00000 013F4  2562          MVC   0(L'TRHEADA,R1),TRHEADA                              02200001
0013E8 4700 0000            00000  2563          NOP   0                        BLANK LINE                  02201001
0013EC 0700                        2564          NOPR  0                                                    02202001
0013EE D21B 1000 7599 00000 01409  2565 TRHEND   MVC   0(L'TRHEADB,R1),TRHEADB                              02203001
                                   2566 *                                                                   02204001
0013F4 4040C1D3C7D6D340            2567 TRHEADA  DC    C'  ALGOL PROGRAM TRACE'          FIRST HEADLINE     02205001
                                   2568 *                                                                   02206001
001409 D4D6C4E4D3C54040            2569 TRHEADB  DC    C'MODULE     SEMICOLON NUMBERS'   SECOND HEADLINE    02207001
                                   2570 *                                                                   02208001
001425 402020202020                2571 SCPATTN  DC    X'402020202020'          FORMAT SEMICOLON COUNT VALUE 02209001
                                   2572 *                                                                   02210001
                                   2573 WTOTRM   WTO   'END OF ALGOL PROGRAM EXECUTION',ROUTCDE=11,DESC=7,MF=L 02211001
00142C                             2574+WTOTRM   DS    0F                                                   01-WTO
00142C 0022                        2575+         DC    AL2(34)                  TEXT LENGTH                 01-WTO
00142E 8000                        2576+         DC    B'1000000000000000' MCS FLAGS                        01-WTO
001430 C5D5C440D6C640C1            2577+         DC    C'END OF ALGOL PROGRAM EXECUTION'                    01-WTO
00144E 0200                        2578+         DC    B'0000001000000000' DESCRIPTOR CODES                 01-WTO
001450 0020                        2579+         DC    B'0000000000100000' ROUTING CODES                    01-WTO
                                   2580 *                                                                   02212001
                      01430        2581 TRMSG    EQU   WTOTRM+4                                             02213001
                      0001E        2582 TML      EQU   *-TRMSG-4                                            02214001
                                   2583 *                                                                   02215001
                                   2584 *        ERROR AND END OF DATA ROUTINE FOR SYSUT1                   02216001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                   2585 *                                                                        02217001
001452 9604 D0C2      000C2        2586 ENDUT1   OI    OPTSW(R13),UT1ERR       SYSUT1 ERROR SWITCH ON          02218001
001456 4160 0011            00011  2587          LA    R6,17                   DUMMY DS NUMBER FOR SYSUT1      02219001
00145A 47F0 D24C            0024C  2588          B     ERROR32                                                 02220001
                                   2589 *                                                                        02221001
                                   2590 *        PARAMETER LIST USED BY BOTH READ AND WRITE MACROS FOR           02222001
                                   2591 *        SYSUT1                                                          02223001
                                   2592 *                                                                        02224001
                                   2593          WRITE TRCHECK,SF,SYSUT1,MF=L                                    02225001
00145E 0000
001460 00000000                    2594+TRCHECK  DC    F'0'                              EVENT CONTROL BLOCK     02-IHBRD
001464 00                          2595+         DC    X'00'                             TYPE FIELD              02-IHBRD
001465 20                          2596+         DC    X'20'                             TYPE FIELD              02-IHBRD
001466 0000                        2597+         DC    AL2(0)                            LENGTH                  02-IHBRD
001468 000014A0                    2598+         DC    A(SYSUT1)                         DCB ADDRESS             02-IHBRD
00146C 00000000                    2599+         DC    A(0)                              AREA ADDRESS            02-IHBRD
001470 00000000                    2600+         DC    A(0)                              RECORD POINTER WORD     02-IHBRD
                                   2601 *                                                                        02226001
                                   2602 *        PARAMETERS FOR TRACE BUFFER                                     02227001
                                   2603 *                                                                        02228001
001474 00000000                    2604 TRBUF    DC    F'0'                    ADDR OF CURRENT BUFFER          02229001
001478 00000000                    2605 TRBUFA   DC    F'0'                    ADDR OF ALTERNATE BUFFER        02230001
00147C 00000000                    2606 TRBUFL   DC    F'0'                    LENGTH OF BUFFER                02231001
001480 00000000                    2607 TRCNT    DC    F'0'                    RECORD COUNTER                  02232001
                                   2608 *                                                                        02233001
                                   2609 *        THE BYTE POINTER IS CONTAINED IN THE FIRST TWO BYTES OF         02234001
                                   2610 *        THE RECORD AND SERVES AS RECORD LENGTH FIELD                    02235001
                                   2611 *                                                                        02236001
001484 00000000                    2612 COMPCODE DC    F'0'                    COMPLETION CODE (0 OR 16)       02237001
                                   2613 *                                                                        02238001
                                   2614 *        WORK STORAGE FOR EDITING THE TRACE LISTING                      02239001
                                   2615 *                                                                        02240001
001488 4040                        2616 PIDFIELD DC    CL2' '                                                    02241001
00148A 40404040                    2617 PROGID   DC    CL4' '                  MODULE NAME                     02242001
00148E 40404040                    2618          DC    CL4' '                                                  02243001
                      0000A        2619 PIDLGTH  EQU   *-PIDFIELD                                              02244001
001492 000000000000
001498 0000000000000000            2620 CONVBUF  DC    D'0'                    FOR CONVERTING SEMICOLON NUMBER 02245001
                                   2621 *                                                                        02246001
                                   2622 *        DCB FOR SYSUT1                                                  02247001
                                   2623 *                                                                        02248001
                                   2624 SYSUT1   DCB   DSORG=PS,MACRF=(R,W),DDNAME=SYSUT1,RECFM=F,             X02249001
                                                       EODAD=ENDUT1,EXLST=EXLUT1,SYNAD=ENDUT1                    02250001


                                   2626+*                    DATA CONTROL BLOCK                                01-DCB
                                   2627+*                                                                        01-DCB
0014A0                             2628+SYSUT1   DC    0F'0'                   ORIGIN ON WORD BOUNDARY         01-DCB

                                   2630+*                    DIRECT ACCESS DEVICE INTERFACE                    01-DCB

0014A0 0000000000000000            2632+         DC    BL16'0'                  FDAD,DVTBL                     01-DCB
0014B0 00000000                    2633+         DC    A(0)                     KEYLE,DEVT,TRBAL               01-DCB

                                   2635+*                    COMMON ACCESS METHOD INTERFACE                    01-DCB

0014B4 00                          2637+         DC    AL1(0)                  BUFNO                           01-DCB
0014B5 000001                      2638+         DC    AL3(1)                  BUFCB                           01-DCB
0014B8 0000                        2639+         DC    AL2(0)            BUFL                                  01-DCB
0014BA 4000                        2640+         DC    BL2'0100000000000000'          DSORG                    01-DCB
0014BC 00000001                    2641+         DC    A(1)                     IOBAD                          01-DCB

                                   2643+*                    FOUNDATION EXTENSION                              01-DCB

0014C0 00                          2645+         DC    BL1'00000000'                BFTEK,BFLN,HIARCHY         01-DCB
0014C1 001452                      2646+         DC    AL3(ENDUT1)             EODAD                           01-DCB
0014C4 80                          2647+         DC    BL1'10000000'           RECFM                           01-DCB
0014C5 0014F8                      2648+         DC    AL3(EXLUT1)             EXLST                           01-DCB

                                   2650+*                    FOUNDATION BLOCK                                  01-DCB

0014C8 E2E8E2E4E3F14040            2652+         DC    CL8'SYSUT1'             DDNAME                          01-DCB
0014D0 02                          2653+         DC    BL1'00000010'           OFLGS                           01-DCB
0014D1 00                          2654+         DC    BL1'00000000'                        IFLG               01-DCB
0014D2 2020                        2655+         DC    BL2'0010000000100000'   MACR                            01-DCB

                                   2657+*                    BSAM-BPAM-QSAM INTERFACE                          01-DCB

0014D4 00                          2659+         DC    BL1'00000000'                                    RER1   01-DCB
0014D5 000001                      2660+         DC    AL3(1)                  CHECK, GERR, PERR               01-DCB
0014D8 00001452                    2661+         DC    A(ENDUT1)               SYNAD                           01-DCB
0014DC 0000                        2662+         DC    H'0'                    CIND1, CIND2                    01-DCB
0014DE 0000                        2663+         DC    AL2(0)                  BLKSIZE                         01-DCB
0014E0 00000000                    2664+         DC    F'0'                    WCPO, WCPL, OFFSR, OFFSW        01-DCB
0014E4 00000001                    2665+         DC    A(1)                    IOBA                            01-DCB
0014E8 00                          2666+         DC    AL1(0)                  NCP                             01-DCB
0014E9 000001                      2667+         DC    AL3(1)                  EOBR, EOBAD                     01-DCB

                                   2669+*                     BSAM-BPAM INTERFACE                              01-DCB

0014EC 00000001                    2671+         DC    A(1)                    EOBW                            01-DCB
0014F0 0000                        2672+         DC    H'0'                    DIRCT                           01-DCB
0014F2 0000                        2673+         DC    AL2(0)         LRECL                                    01-DCB
0014F4 00000001                    2674+         DC    A(1)                    CNTRL, NOTE, POINT              01-DCB
                                   2675 *                                                                        02251001
0014F8 850010A6                    2676 EXLUT1   DC    X'85',AL3(SYSUT1X)                                      02252001
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Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                 2677 *                                                                      02253001
                                 2678 *        LTORG                                                         02254001
                                 2679 *                                                                      02255001
                                 2680 *                                                                      02256001
                                 2681 *        DATASET TABLE ENTRY                                           02257001
                                 2682 *                                                                      02258001
                                 2683          DSTABLE DSECT=YES                                             02259001
000000                 00000 00024  2684+DSTABLE  DSECT                                                       01-DSTAB
                                 2685+*                                                                      01-DSTAB
000000 00000000                  2686+ADCB     DC    F'0'                    -> DCB                          01-DSTAB
000004 00000000                  2687+R        DC    F'0'                    CHARACTER POINTER               01-DSTAB
000008 00000000                  2688+RE       DC    F'0'                                                    01-DSTAB
00000C 00000000                  2689+NBB      DC    F'0'                                                    01-DSTAB
000010 00000000                  2690+BB       DC    F'0'                                                    01-DSTAB
000014 0001                      2691+S        DC    H'1'                    RECORD POINTER                  01-DSTAB
000016 0050                      2692+P        DC    H'80'                   RECORD LENGTH                   01-DSTAB
000018 02                        2693+K        DC    X'02'                   NUMBER OF BLANK DELIM CHARS     01-DSTAB
000019 00                        2694+Q        DC    X'00'                   NO OF RECORDS PER SECTION       01-DSTAB
00001A 0000                      2695+DSF      DC    H'00'                   DATASET FLAGS                   01-DSTAB
                                 2696+*                                                                      01-DSTAB
                                 2697+*        DATASET FLAGS - DSF                                           01-DSTAB
                                 2698+*                                                                      01-DSTAB
                       00080     2699+DS0      EQU   X'80'                   DATASET OPEN                    01-DSTAB
                       00040     2700+DS1      EQU   X'40'                                                   01-DSTAB
                       00020     2701+DS2      EQU   X'20'                   LAST I/O OUTPUT                 01-DSTAB
                       00010     2702+DS3      EQU   X'10'                                                   01-DSTAB
                       00008     2703+DS4      EQU   X'08'                                                   01-DSTAB
                       00004     2704+DS5      EQU   X'04'                                                   01-DSTAB
                       00002     2705+DS6      EQU   X'02'                   OPEN FOR OUTPUT                 01-DSTAB
                       00001     2706+DS7      EQU   X'01'                   END OF FILE                     01-DSTAB
                                 2707+*                                                                      01-DSTAB
                                 2708+*        DATASET FLAGS - DSF+1                                         01-DSTAB
                                 2709+*                                                                      01-DSTAB
                       00080     2710+DS8      EQU   X'80'                   END OF DATA                     01-DSTAB
                       00040     2711+DS9      EQU   X'40'                                                   01-DSTAB
                       00020     2712+DS10     EQU   X'20'                   OPENED BY SYSACT 12             01-DSTAB
                       00010     2713+DS11     EQU   X'10'                   INDICATE IHIERR-ROUT            01-DSTAB
                       00008     2714+DSEOD    EQU   X'08'                                                   01-DSTAB
                       00004     2715+DSIOERR  EQU   X'04'                   I/O ERROR                       01-DSTAB
                       00002     2716+DS14     EQU   X'02'                   DATASET OPENED                  01-DSTAB
                       00001     2717+DS15     EQU   X'01'                   CLOSE FROM IHIERR               01-DSTAB
                                 2718+*                                                                      01-DSTAB
00001C 00000000                  2719+NOTEADR  DC    F'0'                                                    01-DSTAB
000020 0000                      2720+BL       DC    H'0'                    LRECL+ TWO ARB                  01-DSTAB
000022 0000                      2721+         DC    H'0'                                                    01-DSTAB
                                 2722+*                                                                      01-DSTAB
                       00024     2723+DSTABLEL EQU   *-DSTABLE               L'DSTABLE ENTRY                 01-DSTAB
                                 2724+*                                                                      01-DSTAB
                                 2725 *                                                                      02260001
                                 2726          PRINT NOGEN                                                   02261001
                                 2727 *                                                                      02262001
                                 2728          DCBD  DSORG=(BS),DEVD=(DA,TA)                                 02263001
                                 3261 *                                                                      02264001
                                 3262          PRINT GEN                                                     02265001
                                 3263 *                                                                      02266001
                                 3264 *        REGISTER EQUATES                                              02267001
                                 3265 *                                                                      02268001
                                 3266          IEZREGS                                                       02269001
                       00000     3267+R0       EQU   0                                                       01-IEZRE
                       00001     3268+R1       EQU   1                                                       01-IEZRE
                       00002     3269+R2       EQU   2                                                       01-IEZRE
                       00003     3270+R3       EQU   3                                                       01-IEZRE
                       00004     3271+R4       EQU   4                                                       01-IEZRE
                       00005     3272+R5       EQU   5                                                       01-IEZRE
                       00006     3273+R6       EQU   6                                                       01-IEZRE
                       00007     3274+R7       EQU   7                                                       01-IEZRE
                       00008     3275+R8       EQU   8                                                       01-IEZRE
                       00009     3276+R9       EQU   9                                                       01-IEZRE
                       0000A     3277+R10      EQU   10                                                      01-IEZRE
                       0000B     3278+R11      EQU   11                                                      01-IEZRE
                       0000C     3279+R12      EQU   12                                                      01-IEZRE
                       0000D     3280+R13      EQU   13                                                      01-IEZRE
                       0000E     3281+R14      EQU   14                                                      01-IEZRE
                       0000F     3282+R15      EQU   15                                                      01-IEZRE
                                 3283 *                                                                      02270001
                                 3284          END                                                           02271001
000E3C 00000000
000E40 000001D0                  3285                =A(IHIFSAER+4)
000E44 00000E70                  3286                =A(IHIFSARB)
000E48 00000003                  3287                =F'3'
000E4C 000000FC                  3288                =X'000000FC'
000E50 00000000                  3289                =A(IHIFSARA)
000E54 00000000                  3290                =A(IHIENTIF)
000E58 00000000                  3291                =V(IHIIORCP)
000E5C 00000000                  3292                =V(IHIIOROP)
000E60 00000000                  3293                =V(IHIIORNX)
000E64 00000000                  3294                =V(IHIIORCL)
000E68 0001                      3295                =H'1'
000E6A 000A                      3296                =H'10'
000E6C 0004                      3297                =H'4'
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Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
=A(IHIENTIF)
                4 00000E54 00000001  A A               3290  2082  2214
=A(IHIFSAER+4)
                4 00000E40 00000001  A A               3285   609
=A(IHIFSARA)
                4 00000E50 00000001  A A               3289  1937  2000
=A(IHIFSARB)
                4 00000E44 00000001  A A               3286   636   643   648  1820  2004
=F'3'           4 00000E48 00000001  F F               3287  1445
=H'1'           2 00000E68 00000001  H H               3295  1508  2438
=H'10'          2 00000E6A 00000001  H H               3296  2162
=H'4'           2 00000E6C 00000001  H H               3297  2356
=V(IHIIORCL)
                4 00000E64 00000001  V V               3294  2498
=V(IHIIORCP)
                4 00000E58 00000001  V V               3291  2316
=V(IHIIORNX)
                4 00000E60 00000001  V V               3293  2339  2436  2460  2494  2551
=V(IHIIOROP)
                4 00000E5C 00000001  V V               3292  2332
=X'000000FC'
                4 00000E4C 00000001  X X               3288  1527
ADRLST          4 00000DD8 00000001  A A               1974   530
ADRSAVE         4 00000814 00000001  F F               1242  1060M 1170
ADSTAB          1 000000AC           U                  319   494  2054  2309
ALGIN           4 00000E70 0000000F  I                 2030  2006B
ALGIN01         2 00000EC6 0000000F  I                 2063  2067B
ALGIN01A        4 00000EC2 0000000F  I                 2062  2058B
ALGIN02         4 00000EDA 0000000F  I                 2069  2064B
ALGIN1          2 00001076 0000000F  I                 2213  2101B 2106B 2175B
ALGIN2          1 0000101A 0000000F  U                 2173  2115B
ALGIN3          4 00001046 0000000F  I                 2192  2187B
ALGIN4          4 00000F20 0000000F  I                 2090  2087B
ALGIN4A         4 00000F24 0000000F  I                 2091  2092B
ALGTRMA         4 00001118 0000000F  I                 2302   639B
ALGTRMAA        4 00001362 0000000F  I                 2518   638B  644B
ALGTRMN         4 00001120 0000000F  I                 2307   649B
ALGTRM0         2 00001124 0000000F  I                 2308  2303B
ALGTRM00        4 00001144 0000000F  I                 2318  2314B
ALGTRM1A        4 00001174 0000000F  I                 2336  2331B
ALGTRM1B        4 00001178 0000000F  I                 2337  2334B
ALGTRM10        4 00001348 0000000F  I                 2503  2326B
ALGTRM11        4 00001316 0000000F  I                 2487  2342B
ALGTRM12        4 00001278 0000000F  I                 2432  2427B
ALGTRM13        4 000012B8 0000000F  I                 2448  2434B
ALGTRM14        4 000012A0 0000000F  I                 2443  2439B
ALGTRM15        4 00001284 0000000F  I                 2435  2430B 2441B
ALGTRM16        4 0000115A 0000000F  I                 2328  2320B
ALGTRM18        4 000012F0 0000000F  I                 2467  2344B
ALGTRM19        4 0000132C 0000000F  I                 2492  2496B
ALGTRM2         4 00001204 0000000F  I                 2392  2347B
ALGTRM3         4 000011E4 0000000F  I                 2377  2357B
ALGTRM5         4 0000124E 0000000F  I                 2420  2396B 2410B
ALGTRM6         4 00001238 0000000F  I                 2413  2409B
ALGTRM7         2 000012D8 0000000F  I                 2455  2424B
ALGTRM8         6 00001260 0000000F  I                 2426  2456B
ALGTRM9         4 00001214 0000000F  I                 2399  2394B 2458B
ANOTTAB         1 000000B0           U                  321  2075M
ARITST          4 00000548 00000001  I                  962   932B
ARRTST          4 00000530 00000001  I                  954   926B
ASAVE           1 00000048           U                  294  1819M 1906  2545M 2555
ASSFLAG         4 00000574 00000001  I                  982   934B
ASSFLAG2        4 0000057C 00000001  I                  984   970B
ASTLOC          1 00000098           U                  301   866  1495  1578  1603
ATEST           2 000008DA 00000001  I                 1361  1336B 1374B
BETABM          1 0000000C           U                  241   864   896
BLANK           4 00001374 0000000F  I                 2528  2337B 2444B 2492B 2548B 2554B
BLANKA          2 00001380 0000000F  I                 2531  2535B
BLANKB          4 00001392 0000000F  I                 2537  2532B
BLANKS          4 0000139C 0000000F  F F               2541  2528M 2538
BRLIST          4 000000D4 00000001  F F                352   503
BRRSAVE         4 00000810 00000001  F F               1241  1059M 1176  1221
BRRST           1 0000009C           U                  303   304  1316M 1391
CAPI1           4 0000037C 00000001  I                  773   789B
CAPI3           4 000003BA 00000001  I                  802   809B
CAP1A           1 0000036C 00000001  U                  768   506B
CAP2A           1 000003B6 00000001  U                  799   507B
CDSA            1 0000000A           U                  213   776   777   778   782M  783   802M  803   806   807   882
                                                             887M  888   893   907   913   914   988  1062  1175  1178
                                                            1179  1277M 1302  1335  1337  1338  1342  1362  1364  1365
                                                            1366  1367  1378  1379  1380  1383M 1384  1483  1484  1620
                                                            1675  1678  1684  1685  1687M 1688  1706M 1707  1708  1709
                                                            1768  2053M 2061  2069  2070  2071  2074  2075  2076  2213M
CHKCOMMA        4 00000F90 0000000F  I                 2124  2263B 2269B
CNVBUF1         8 00000190 00000001  X X                480   442M  443
CNVBUF2         8 00000198 00000001  D D                481   446M  447M  448   471M  472   685M  686M  687
CNVBUF3         8 000001A0 00000001  X X                482   455M  456   460M  461   690M  691   694M  695
CNVBUF4         8 000001A8 00000001  D D                483   464M  469   475
CNVCNST1        8 000001B0 00000001  X X                484   441   444   447   467   473   474   686
CNVCNST2        8 000001B8 00000001  X X                485   463   705
CNVCNST3        4 000001C8 00000001  X X                487   465
CNVCNST4        8 000001C0 00000001  X X                486   469
CNVINST         1 00000130 00000001  U                  445  2084M 2088M
CNVINSTD        2 00000320 00000001  I                  699   708  2088
CNVINSTE        4 000002FC 00000001  I                  685  2084
CNVINSTL        1 00000024           U                  708  2084  2088
CNVIRD          1 00000120           U                  440  1106B 1576B
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Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
CNVRDI          1 0000014C           U                 459  1113B
CODEPRM         1 00000010           U                 242   869
COMPCODE        4 00001484 0000000F  F F              2612  2302M 2307M 2313  2330  2519
COMPINST        6 00000FB6 0000000F  I                2137  2120X
COMP1           2 00000F6E 0000000F  I                2113  2130B
CONVBUF         8 00001498 0000000F  D D              2620  2450M 2452
CONVFL          1 00000826 00000001  X X              1249  1058M 1084M 1091M 1099  1128  1130  1214
CSIZCOPY        2 00000824 00000001  H H              1248  1092M 1133  1150M 1158  1218  1219
CSIZORIG        2 00000822 00000001  H H              1247  1066M 1069M 1074M 1092  1217
CSWEI1          4 00000B60 00000001  I                1672  1689B
CSWEI2          4 00000B86 00000001  I                1684  1679B
CSWEI3          4 00000BA2 00000001  I                1701  1710B
CSWE1A          2 00000B4A 00000001  I                1666   514B
CSWE2A          4 00000B9E 00000001  I                1700   515B
DCBBIT0         1 00000080           U                2750  2862  2870  2882  2905  2932  2934  2935  2937  2960  2963
                                                             2983  2987  3002  3039  3094  3118  3157  3161  3174
DCBBIT1         1 00000040           U                2751  2863  2871  2884  2906  2907  2916  2932  2934  2936  2937
                                                             2965  2983  2985  2987  3005  3006  3007  3042  3043  3094
                                                             3120  3163  3165  3177  3221
DCBBIT2         1 00000020           U                2752  2864  2872  2885  2886  2887  2906  2907  2911  2917  2932
                                                             2933  2938  2967  2988  2989  3010  3011  3012  3046  3047
                                                             3095  3125  3166  3182  3224  3227
DCBBIT3         1 00000010           U                2753  2865  2885  2887  2888  2906  2919  2939  2970  2988  2991
                                                             3014  3015  3016  3050  3051  3095  3127  3130  3132  3168
                                                             3183  3224  3228
DCBBIT4         1 00000008           U                2754  2873  2920  2940  2971  2993  2998  2999  3019  3020  3054
                                                             3055  3057  3058  3096  3135  3184  3224  3229
DCBBIT5         1 00000004           U                2755  2874  2921  2943  2944  2973  2993  2995  2996  2999  3023
                                                             3025  3026  3027  3061  3062  3063  3064  3096  3137  3140
                                                             3170  3186  3219
DCBBIT6         1 00000002           U                2756  2866  2922  2923  2926  2943  2945  2974  3030  3031  3032
                                                             3033  3067  3068  3069  3070  3097  3143  3188  3230
DCBBIT7         1 00000001           U                2757  2867  2922  2924  2926  2947  2978  3035  3036  3073  3074
                                                             3076  3077  3146  3172  3189  3232
DCBBLKSI        2 0000003E FFFFFFFD  H H              3191  2193  2229  2233M
DCBEXIT1        4 000010BA 0000000F  I                2239  2231B
DCBEXIT2        4 000010B0 0000000F  I                2232  2240B 2242B
DCBEXIT3        2 000010B8 0000000F  H H              2236  2243B
DCBFDAD         8 00000005 FFFFFFFD  C C              2777  2780
DCBOFLGS        1 00000030 FFFFFFFD  B B              2959  2186
DCBOFOPN        1 00000010           U                2970  2186
DDERROR         1 00000270           U                 600  2190B
DIFFLZ          4 00000818 00000001  F F              1243  1122M 1132  1149M 1184  1186
DPSW            1 00000080           U                 250  2265
DSAHDL          2 000008FE 00000001  I                1378  1363B
DSF             2 0000001A FFFFFFFE  H H              2695  2315M 2328M 2329M 2338M 2435M 2459M 2493M 2497M 2550M
DSINIT          6 000010D2 0000000F  X X              2252  2065
DSTABLE         1 00000000 FFFFFFFE  J                2684  2312U 2723
DSTABLEL        1 00000024           U                2723  2310
DS11            1 00000010           U                2713  2328
DS15            1 00000001           U                2717  2315  2497
DS2             1 00000020           U                2701  2329
DS3             1 00000010           U                2702  2329  2338  2435  2459  2493  2550
DS6             1 00000002           U                2705  2329
DTSW            1 000000C2           U                 331   332  2174  2188M 2265M 2271M 2276M 2281M 2341
EIGHT           1 000000AA           U                 315   805  1272  1318  1702  2047
ENDUT1          4 00001452 0000000F  I                2586  2646  2661
ENTIER          1 00000140           U                 454  1595B
ENTIER1         4 00000158 00000001  I                 464   457B  692B  702B  706B
EPILB           1 00000874 00000001  U                1313   512B
EPILOGB         1 000000EC           U                 366  1314
EPILP           6 0000085C 00000001  I                1302   511B
EPIL3           1 000008A0 00000001  U                1334   513B
ERROR           1 00000008           U                 254   611   613
ERROR21         4 00000220 00000001  I                 576  1449B
ERROR28         4 0000023C 00000001  I                 583  1959
ERROR29         4 00000240 00000001  I                 584  1963
ERROR30         4 00000244 00000001  I                 585  1960
ERROR31         4 00000248 00000001  I                 586  1966
ERROR32         4 0000024C 00000001  I                 587  2588B
ERROR33         4 00000250 00000001  I                 588  1951  1952  1953  1954  1955  1956  1957  1958  1961  1962
                                                             1964  1965
ERROR40         1 0000026C           U                 399   466B  470B
EXIT            4 000005D4 00000001  I                1013   938B  943B  952B 1006B 1008B 1010B
EXLUT1          1 000014F8 0000000F  X X              2676  2648
FCTVALST        1 00000090           U                 299   302   670M 1302M 1303  1549M 1567M 1596M
FNDCOMMA        4 00000F62 0000000F  I                2110  2114B
FNDPAR          4 00000F78 0000000F  I                2117  2111B
FPINST          1 000002DA 00000001  U                 664   676
FPINSTAD        4 000002F0 00000001  A A               676  2090
FPINSTE         1 000002EE 00000001  U                 673   676
FPR0            1 00000000           U                 237   443M  444M  446   448M  455   456M  460   461M  463M  464
                                                             465   467M  471   474M  475   685   687M  690   691M  694
                                                             695M  705M
FPTYP           1 00000B48 00000001  X X              1629  1458M 1459M 1460  1468
FPTYPA          1 00000B49 00000001  X X              1630  1457M 1466
FRDSA           1 00000874 00000001  U                1315   622  1330B
FREEDSA         1 000000EC           U                1314  1282B 1304B
FSAA            1 0000000C           U                 222  2000M 2001  2002  2003  2308M
FSAERCOD        1 000000C3           U                 334   610M
FSAERR          1 000001CC           U                 392   396   397   398   399   400   401   402   549
FSAERRL         4 0000027C 00000001  I                 608   551B  552B  553B  554B  555B  556B  557B  558B  559B  560B
                                                             561B  562B  563B  564B  565B  566B  567B  568B  570B  571B
                                                             575B  576B  577B  578B  579B  580B  581B  582B  583B  584B
                                                             585B  586B  587B  588B  591B  592B  595B  596B  597B  598B
                                                             599B  601B  603B  604B
FSAPICA         1 000000BC           U                 327  2036M 2512
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Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
FSAREA          1 00000000 00000001  U                 289   294   299   301   302   303   306   313   315   319   321
                                                             325   327   329   331   334   341   343   345   347   353
                                                             355   357   360   362   364   366   368   370   372   374
                                                             376   380   382   384   387   389   438U  440   454   459
                                                             494   549   569   573   574   590   594   600   602  1416
F4              4 000005E4 00000001  I                1017   899B
GDSA            1 00000009           U                 212  1278  1678
GETMAIN         2 00000344 00000001  I                 725   525B
GETMSTO         1 00000114           U                 384  1166B
HW              1 0000009C           U                 304  1545M 1546
IHADCB          1 00000000 FFFFFFFD  J                2733  2185U 2228U 2818  2844  2891  2956  3085  3100  3113  3209
                                                            3215  3242
IHB0001B        4 00000298 00000001  V V               618   629
IHB0002A        1 000002B4 00000001  U                 628   620B
IHIDSTAB        1 00000000 00000002  T                 264   495
IHIENTIF        1 00000000 00000003  T                 265  3290
IHIERROR        1 00000000 0000000E  T                 618   618
IHIFSAER        4 000001CC 00000001  I                 551  3285
IHIFSAIN        4 00000DFC 00000001  I                1994   262  1991U
IHIFSARA        1 00000000 00000001  J                 207   504U 1642  2025U 3289
IHIFSARB        1 00000E70 0000000F  J                2011   632U 1821U 2005U 2026U 3286
IHIIORCI        1 00000000 00000007  T                 266  1974
IHIIORCL        1 00000000 00000005  T                 266  1975  3294
IHIIORCP        1 00000000 0000000C  T                 267   625  3291
IHIIOREN        1 00000000 0000000A  T                 267  1980
IHIIORER        1 00000000 0000000D  T                 267  1982
IHIIOREV        1 00000000 00000008  T                 266  1976
IHIIORGP        1 00000000 0000000B  T                 267  1981
IHIIORNX        1 00000000 00000006  T                 266   627  1977  3293
IHIIOROP        1 00000000 00000004  T                 266   624  1978  3292
IHIIOROQ        1 00000000 00000009  T                 267  1979
INTTST          4 0000056C 00000001  I                 972   967B
INVOPT          1 00000274           U                 602  2135B 2147B 2156B 2158B 2160B
LABEL1          4 00000176 00000001  I                 471   468B
LASTPARM        1 0000110A 0000000F  R A              2277  2108
LAT             1 0000000C           U                 215   783M  803M  850M  888  1023M 1384M 1441  1484M 1620M 1688M
                                                            1709M 2215M
LBLTST          4 0000051C 00000001  I                 948   924B
LINSTR          4 000002E2 00000001  I                 669  1558X 1581X
LOADPPA         4 00000BC6 00000001  I                1733   516B
LOADPP1         4 00000C04 00000001  I                1752  1736B
LOADPP2         2 00000BCE 00000001  I                1735  1739B
LOADPP3         2 00000BEE 00000001  I                1743  1745B 1746B
LOADPP4         4 00000C38 00000001  I                1771  1748B
LOOP            4 000004B0 00000001  I                 917   911B 1016B
LPRINSTR        2 000002EE 00000001  I                 674  1587X
LTRINSTR        2 000002EA 00000001  I                 671  1559X
MASKFF          4 00000608 00000001  X X              1032   995
NOMAIN          1 00000214           U                 569   739B
NOTFOUND        2 00000FA8 0000000F  I                2132  2121B
NXTPAR          4 00000F7C 0000000F  I                2119  2134B
OERR20          1 0000021C           U                 573   930B  935B  939B  942B  949B  951B  955B  959B  963B  969B
                                                            973B 1012B
OERR21          1 00000220           U                 402   856B  868B  901B 1027B
OPTSW           1 000000C2           U                 332   611   613M  637  1072  1126  1830  2083M 2086  2318M 2319
                                                            2343  2586M
ORI             6 000005AE 00000001  I                 999   992M
PABRANCH        4 000010E6 0000000F  I                2263  2123X
PARAMPR         4 000005B4 00000001  I                1005   965B  983B  985B  987B
PARAMS          8 00000030 FFFFFFFF  D D              1639  1454
PARERR          1 0000021C           U                 574  1462B 1467B 1469B 1471B
PARLG           1 0000000E           U                2266  2133
PARLIST         4 00000020 FFFFFFFF  F F              1638  1453  1523
PARM            5 000010E1 0000000F  C C              2261  2137
PARMLG          1 000010E0 0000000F  R A              2260  2119  2266
PARMLIST        2 000010E0 0000000F  H H              2259  2117  2118U
PARMSET         4 000010EA 0000000F  I                2265  2129X
PBNENTRY        4 0000083E 00000001  I                1275  1271B
PBT             1 0000000B           U                 214   772   777M  779   780   783M  803M  807   850M  863   880
                                                            886   888  1023M 1024  1381  1382  1384M 1484M 1620M 1686
                                                           1688M 1708  1709M 1772  1822  2215M 2221
PGCMASK         4 00000D94 00000001  X X              1949  1940
PGOPSW          1 000000B4           U                 325  1938M 1939
PHIMOVE         6 000004A2 00000001  I                 914   915X
PIDFIELD        2 00001488 0000000F  C C              2616  2445  2619
PIDLGTH         1 0000000A           U                2619  2447
PIEROUT         4 00000D72 00000001  I                1937  1936U 2032
PIETAB          4 00000D98 00000001  A A              1951  1942
PIMASK          1 00000004           U                 243   908
PIMOVE          6 0000049C 00000001  I                 913   910X
PPTRSW          1 00000001           U                 258  1830
PRID            4 0000001C FFFFFFFF  F F              1637  1440M 1501  1506  1524  1526  1529  1537  1539  1582  1590
PRNTERR         1 00000002           U                 256  2319
PROGID          4 0000148A 0000000F  C C              2617  2428M 2446M
PROL            4 000003E8 00000001  I                 852   509B
PROLOG          1 000000E0           U                 360  1030B
PROLOGP         1 000000DC           U                 357   358
PROLOG1         4 00000414 00000001  I                 871   865B
PROLOG2         4 000005EA 00000001  I                1022   870B
PROLOG3         4 000004A8 00000001  I                 915   909B
PROLP           4 000003E0 00000001  I                 845   508B
PROLPBN         1 000000A9           U                 313   845M  852  1029M
PROLREG         1 000000A0           U                 306   850
PROTST          4 00000508 00000001  I                 941   920B
R               4 00000004 FFFFFFFE  F F              2687  2423  2443  2454M 2487  2490M 2529  2537M 2547
RASEND          1 000000CC           U                 345  1733  2052M
RASLOADM        1 000000FE           U                 244  1320  1744  1769
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RASOVERF        1 0000025C          U                594   775B  892B 1481B 1674B 1757B
RASPARMM        1 00000000          U                245  1270
RASPB           1 000000D0          U                347   774   891  1322  1325M 1480  1673  1741  1753  1758M 2051M
RASPT           1 000000C8          U                343   769   784M  801   810M  889   895M 1269  1280M 1305  1317
                                                           1319M 1478  1482M 1671  1680M 1700  1703M 1740  1752  1759M
                                                           2048M
RASSTART        1 000000C4          U                341  2049M 2503
RE              4 00000008 FFFFFFFE F F             2688  2433  2530
RETPROGA        2 00000828 00000001 I               1268   510B
RETPR1          4 0000082E 00000001 I               1270  1273B
R0              1 00000000          U                3267   725   871M  880M  881  1323M 1335M 1339M 1349M 1367M 1382M
                                                           1442M 1443  1445M 1447M 1448  1508  1518M 1546M 1547M 1548M
                                                           1549  1555M 1562M 1564M 1566M 1567  1747M 1761M 1770  1772
                                                           1865M 1866M 1867  1886M 1888  2193M 2195  2196M 2204M 2205
                                                           2206M 2207  2477M 2478M
R1              1 00000001          U                3268   551M  552M  553M  554M  555M  556M  557M  558M  559M  560M
                                                            561M  562M  563M  564M  565M  566M  567M  568M  570M  571M
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                                                            599M  601M  603M  604M  608M  609M  610   666   740M  771M
                                                            772M  780   806M  807   881   882   883   884   885   886
                                                            887   907M  916M  990   999  1015M 1022M 1023  1028  1061M
                                                           1062  1096M 1097  1105  1133M 1140M 1147M 1150  1171  1175
                                                           1179  1181  1183  1185  1188  1192  1204  1212  1213M 1217M
                                                           1230M 1237  1275M 1279  1322M 1323  1324M 1325  1338M 1339
                                                           1340  1345  1366M 1378M 1436  1437  1438  1453M 1455  1456
                                                           1472  1499  1500  1512  1514M 1523M 1544M 1545  1554  1556
                                                           1572  1573  1578  1607M 1608  1684M 1686  1707M 1708  1822M
                                                           1828  1861  1863  1895M 1896M 1897  1900M 1901M 1902  1938
                                                           1943  2036  2047M 2048  2049  2050M 2051  2052  2059M 2060
                                                           2122M 2124  2126  2128  2146  2148  2150M 2151  2153  2155
                                                           2157  2159  2161  2203  2207  2208M 2209  2228U 2245D 2405M
                                                           2407  2473M 2476M 2503M 2504M 2547M 2562  2565
R10             1 0000000A          U                3277  1867  2149M 2162M 2163M 2166
R11             1 0000000B          U                3278  1824M 1869M 1890M 1905  2345M 2346M 2373M 2393M 2409M 2457M
R12             1 0000000C          U                3279  1906M 2545  2555M
R13             1 0000000D          U                3280   438U  466   470   504U  520   610   611   613   637   670
                                                            739   769   774   775   784   801   805   810   845   850
                                                            852   855   856   866   868   889   891   892   895   901
                                                            930   935   939   942   949   951   955   959   963   969
                                                            973  1012  1027  1029  1030  1072  1106  1113  1126  1166
                                                           1269  1272  1280  1282  1302  1303  1304  1305  1316  1317
                                                           1318  1319  1322  1325  1391  1462  1467  1469  1471  1478
                                                           1480  1481  1482  1495  1545  1546  1549  1567  1576  1578
                                                           1595  1596  1603  1667  1669  1671  1673  1674  1680  1700
                                                           1702  1703  1733  1740  1741  1752  1753  1757  1758  1759
                                                           1819  1830  1836  1902  1906  1937M 1938  1939  1990D 2001
                                                           2002  2003M 2025U 2036  2047  2048  2049  2051  2052  2054
                                                           2074  2075  2083  2086  2096  2099  2135  2147  2156  2158
                                                           2160  2174  2188  2190  2192  2265  2271  2276  2281  2308
                                                           2309  2318  2319  2341  2343  2503  2512  2518M 2545  2555
                                                           2586
R14             1 0000000E          U                3281   441M  442   472M  473M  477M  769M  770   773M  774   776
                                                            784   788   801M  802   804   805M  810   889M  890M  891
                                                            893   894   895  1017  1062M 1067  1070  1076  1095  1096
                                                           1105M 1114  1132M 1139M 1146M 1149  1195M 1198M 1200M 1201
                                                           1269M 1270  1272M 1275  1276  1277  1278  1279  1280  1305M
                                                           1306  1317M 1318M 1319  1320  1534M 1575M 1596  1601M 1676
                                                           1677M 1701M 1704M 1705B 1906M 1944B 2317M 2333M 2337M 2340M
                                                           2392M 2437M 2440M 2444M 2461M 2492M 2495M 2499M 2539B 2545
                                                           2548M 2552M 2554M 2555M 2556B
R15             1 0000000F          U                3282   520   521   524B  738M  770   771   781   804M  808M  811
                                                            872   879M  897B  900   913   914   929   933   937   941
                                                            945   948   950   954   958   962   968   972   984   986
                                                           1005  1007  1011  1013M 1017  1059  1061  1081  1089  1093
                                                           1098  1120M 1121M 1122  1131M 1138M 1145M 1148  1154M 1155M
                                                           1156M 1157M 1162M 1163  1176M 1177  1181M 1182M 1183  1184M
                                                           1185  1186M 1187M 1188  1192M 1201  1202M 1204  1221M 1222
                                                           1268M 1304M 1306M 1307B 1316  1391M 1392B 1425  1435M 1448
                                                           1459  1470  1476  1477  1487M 1488B 1494M 1510  1516M 1522
                                                           1528M 1534B 1601B 1666M 1668  1670M 1681M 1682B 1907  1936U
                                                           1946D 1991U 2008D 2214M 2215  2223M 2224B 2316M 2317B 2332M
                                                           2333B 2339M 2340B 2436M 2437B 2460M 2461B 2494M 2495B 2498M
                                                           2499B 2519M 2551M 2552B
R2              1 00000002          U                3269   667   669   725M  735   778M  779   787M  788   854M  880
                                                            883   886   902M  903M  904   905M  906M  910   915   988M
                                                            989M  996  1097M 1114  1177M 1178  1179  1193M 1195  1203M
                                                           1212M 1218M 1231M 1237  1337M 1338  1340M 1342  1344M 1345M
                                                           1346M 1347M 1348M 1349  1361M 1362M 1364  1366  1367  1379M
                                                           1381  1382  1425M 1435  1443M 1444M 1457  1458  1485M 1486
                                                           1517M 1526M 1527M 1528  1554M 1562  1572M 1575  1609M 1621B
                                                           1685M 1686  1734M 1743  1754  1755  1826M 1864M 1865  1892
                                                           1939M 1940M 1941M 1942M 1943  2055M 2057M 2060  2061  2062M
                                                           2063  2082M 2083  2085M 2089M 2091  2099M 2100M 2102M 2103M
                                                           2104  2107  2110  2112M 2113  2122  2128M 2137  2216M 2217M
                                                           2218M 2219M 2220M 2221  2222  2229M 2230M 2232M 2233  2239
                                                           2241  2423M 2432  2443M 2445  2447M 2451  2452  2453M 2454
                                                           2487M 2488  2489M 2490  2491M 2496M 2512M 2515  2528  2529M
                                                           2531  2533  2534M 2537  2538M 2546M 2553
R3              1 00000003          U                3270   852M  853M  854   863M  864   869   871   896   898   900
                                                            903   908   990M  992   994M  995M  996M  997M  999  1022
                                                           1024  1211M 1219M 1225M 1226  1229M 1234  1364M 1365  1380M
                                                           1381  1454M 1478M 1479M 1480  1482  1483  1486  1497  1498
                                                           1515M 1671M 1672M 1673  1675  1676  1680  1700M 1701  1702M
                                                           1703  1706  1733M 1735  1740M 1743M 1744  1747  1752M 1754M
                                                           1756  1759  1768  1769  1770  1771M 1772  1820M 1821U 1924D
                                                           2090M 2092M 2104M 2105M 2107M 2113  2126  2151  2184M 2185U
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R4	1	00000004		U		3271	872M	879 904M 1016M 1224M 1226 1228 1229 1441M 1476 1494M 1528 1733M 1735 1737 1738M 1741M 1742M 1746M 1753M 1755M 1756 1758 1760 1761 1825M 1866 1889M 1896 1898M 1901 1903M 1904 2092 2117M 2118U 2132 2133M 2138D 2355M 2356 2420M 2421M 2455 2546M 2549 2553M
R5	1	00000005		U		3272	1098M	1100B 1108B 1115B 1216M 1438M 1439U 1493M 1607 1623D 1836M 1839 1841 1845 1850 2054M 2055 2056M 2063 2065 2066M 2090M 2108M 2132 2309M 2310M 2312U
R6	1	00000006		U		3273	1823M	1837 1839 1850 2109M 2119M 2120 2122 2189M 2311M 2587M
R7	1	00000007		U		3274	632U	636M 643M 648M 651D 1823M 1837 1841 1845 2004M 2005U 2009D 2026U
R8	1	00000008		U		3275	449B	476B 477B 688B 699B 741B 785B 866 917 919 921 923 925 927 931 964 966 982 1009 1014M 1018B 1028M 1060 1095 1106M 1113M 1119 1120 1121 1155 1160 1166M 1170M 1171 1193 1213 1281B 1303M 1420M 1421B 1440 1442 1495 1497 1498M 1499M 1500 1576M 1595M 1603M 1668 1681 1737 1760 1771 1775 1824M 1825 1881 1886 1887M 1895 1900 1904 1905 2142M 2145M 2166 2345M 2355 2362 2385 2395 2404M 2405 2406M 2408 2415 2472M 2473 2474
R9	1	00000009		U		3276	1887	1888M 2148M 2155 2395M 2404M 2406 2407M 2408 2420 2421 2422M 2426 2428 2429M 2448 2449M 2455 2472M 2474 2476
S	2	00000014	FFFFFFFE	H	H	2691	2336M	2438
SCPATTN	6	00001425	0000000F	X	X	2571	2451	2452
SCRCS	1	000000C0		U		329	520M	1836 1902 2074M
SETBIT	2	00000F9E	0000000F	I		2128	2125B	2167B
SETSHORT	4	000010D8	0000000F	I		2254	2085	
SHORTBIT	1	00000010		U		246	2254	2255
SHSW	1	00000020		U		252	2086	
SIZEARR	4	0000081C	00000001	F	F	1245	1119M	1131 1148M 1165 1187 1211
SIZESMF	2	00000820	00000001	H	H	1246	1163M	1164 1182
SMFFL	1	00000827	00000001	X	X	1250	1124M	1130M 1196
SPDA	1	00000000	FFFFFFFF	J		1634	1439U	1640
SPDALG	1	00000048		U		1640	1431	1615
SPDAP	4	00000B44	00000001	F	F	1628	623	1436 1437M 1493 1608M 2076M
SPDECL	1	00000924		U		1416	855B	
SPDECL01	4	00000A2A	00000001	I		1514	1502B	1507B 1509B 1511B
SPDECL02	4	0000097C	00000001	I		1457	1518B	
SPDECL03	4	00000A68	00000001	I		1537	1525B	
SPDECL04	4	00000AC6	00000001	I		1572	1530B	1538B
SPDECL05	4	00000A92	00000001	I		1554	1540B	
SPDECL06	4	00000AAC	00000001	I		1562	1557B	
SPDECL07	4	00000AB0	00000001	I		1563	1560B	
SPDECL08	4	00000ABE	00000001	I		1567	1563B	1565B
SPDECL09	4	00000AE8	00000001	I		1581	1574B	
SPDECL10	4	00000AEC	00000001	I		1582	1579B	
SPDECL11	4	00000AFC	00000001	I		1590	1583B	
SPDECL12	2	00000B10	00000001	I		1601	1591B	
SPDECL13	4	00000B16	00000001	I		1603	1550B	1568B 1597B
SPDECL14	4	00000B12	00000001	I		1602	1588B	
SPDECL15	4	000009B2	00000001	I		1476	1461B	
SPDECL17	4	000009E6	00000001	I		1493	1485	
SPDECL18	2	00000B1A	00000001	I		1607	1535B	
SPDECL19	4	000009FE	00000001	I		1499	1496B	
SPSAVE	4	00000004	FFFFFFFF	F	F	1636	1476M	1494 1522M 1609
SPTHAD	4	00000B40	00000001	F	F	1627	1477M	1487
STEP1	4	00000F6A	0000000F	I		2112	2127B	
STINSTR	4	000002E6	00000001	I		670	1577X	1602X
STORAGE	4	00000368	00000001	A	A	743	732	740
STRTST	4	000004FC	00000001	I		937	918B	946B
SWDMERR	1	00000254		U		590	1667B	1669B
SWTTST	4	00000514	00000001	I		945	922B	
SYSUT1	4	000014A0	0000000F	F	F	2628	2181	2184 2379 2469 2598
SYSUT1X	4	000010A6	0000000F	I		2229	2676	
TERMAA	4	000002CA	00000001	I		643	612B	
TERMN	4	000002D2	00000001	I		648	523B	
TERMSW	1	00000010		U		253	637	2318
TML	1	0000001E		U		2582	2488	2489
TPRTST	4	0000053C	00000001	I		958	928B	
TRACE	1	00000100		U		376	2096M	2192M
TRACEA	4	00000C44	00000001	I		1819	522B	
TRACE0	6	00000CCA	00000001	I		1861	1833B	1854B
TRACE1	2	00000CDE	00000001	I		1865	1862B	
TRACE10	4	00000C7C	00000001	I		1836	1829B	
TRACE13	2	00000C96	00000001	I		1845	1838B	
TRACE14	2	00000CA4	00000001	I		1850	1846B	
TRACE15	4	00000CC2	00000001	I		1858	1840B	1842B 1851B
TRACE16	4	00000C9C	00000001	I		1847	1843B	
TRACE18	6	00000CAE	00000001	I		1853	1848B	
TRACE2	4	00000D20	00000001	I		1892	1868B	
TRACE3	2	00000D36	00000001	I		1900	1893B	
TRACE4	4	00000CFC	00000001	I		1879	1870B	
TRACE5	6	00000CD4	00000001	I		1863	1856B	
TRACE6	4	00000D4C	00000001	I		1906	1831B	1834B 1859B
TRBEG	4	00000D64	00000001	F	F	1915	1823	2098M 2142
TRBUF	4	00001474	0000000F	F	F	2604	1824	1905M 2203M 2345 2404 2408M 2472
TRBUFA	4	00001478	0000000F	F	F	2605	2209M	
TRBUFL	4	0000147C	0000000F	F	F	2606	2195M	2208 2477
TRBUFMAX	2	000010D0	0000000F	H	H	2248	2241	
TRBUFMIN	2	000010CE	0000000F	H	H	2247	2239	
TRBUFST	1	00000800		U		2250	2232	
TRCHECK	4	00001460	0000000F	F	F	2594	1873	1879 2350 2360 2368 2383 2399 2413
TRCNT	4	00001480	0000000F	F	F	2607	2205M	

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

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TREND           4 00000D68 00000001  F F              1916  2145
TRFLAG          1 00000D6C 00000001  X X              1917  1832  1853  1855M 1858M 2071M
TRFLAG1         1 00000D6D 00000001  X X              1921  1847M 1852M 1853  1855
TRHADR          4 000013D0 0000000F  A A              2558  2546
TRHEAD          4 000013A4 0000000F  I                2545  2392B 2440B
TRHEADA        21 000013F4 0000000F  C C              2567  2562
TRHEADB        28 00001409 0000000F  C C              2569  2565
TRHEAD1         4 000013AC 0000000F  I                2547  2553B
TRHEND          6 000013EE 0000000F  I                2565  2558
TRHLIST         4 000013DC 0000000F  I                2560  2558
TRLDIG          2 00001018 0000000F  H H              2169  2161M 2163
TRLIM1          4 00000FBC 0000000F  I                2142  2274B
TRLIM2          4 00000FC4 0000000F  I                2145  2279B
TRLIM2A         4 00000FC8 0000000F  I                2146  2143B
TRLIM3          4 00001010 0000000F  I                2166  2152B 2154B
TRLIM4          4 00000FD6 0000000F  I                2150  2164B
TRL1            2 00000D56 00000001  H H              1910  1826  1892
TRL2            2 00000D58 00000001  H H              1911  1864
TRMPNAME        4 00000D6E 00000001  C C              1922  1828  2222M
TRMSG           4 00001430 0000000F  U                2581  2488  2582
TRPGID          2 00000D5A 00000001  H H              1912  1861  1863M 1897  2069M 2070M 2072M 2073M 2097M 2098  2426
TRSW            1 00000040           U                 251  2174  2188  2276  2281  2341
TYPTST          4 000004E8 00000001  I                 931   956B  960B
UCTRSW          1 00000041           U                 257  2271
UT1ERR          1 00000004           U                 255  2343  2586
VALLD           4 000002DA 00000001  I                 666  1112X
VALST           4 000002DE 00000001  I                 667  1107X
VALUCAL         4 0000060C 00000001  I                1058   526B
VALUC00         4 00000644 00000001  I                1076  1071B 1073B
VALUC11         4 0000065C 00000001  I                1089  1077B
VALUC12         6 00000668 00000001  I                1092  1068B 1082B 1085B 1090B
VALUC14         4 00000684 00000001  I                1099  1216B
VALUC15         4 0000069C 00000001  I                1112  1101B
VALUC21         6 000006AA 00000001  I                1119  1094B
VALUC25         4 000006F6 00000001  I                1145  1134B
VALUC26         4 00000702 00000001  I                1148  1141B
VALUC31         2 0000070E 00000001  I                1154  1127B 1129B
VALUC32         4 00000730 00000001  I                1163  1159B 1161B
VALUC35         4 00000786 00000001  I                1195  1205B
VALUC36         4 0000079E 00000001  I                1201  1197B 1199B
VALUC51         4 000007C6 00000001  I                1216  1220B
VALUC52         4 000007DA 00000001  I                1221  1235B
VALUC61         4 000007E2 00000001  I                1224  1215B
VALUC61A        2 000007E6 00000001  I                1225  1232B
VALUC62         4 00000800 00000001  I                1234  1227B
VALUC63         6 00000808 00000001  I                1237  1228X 1234X
VTEST           4 000008A0 00000001  I                1335  1321B 1357B
WTOTRM          4 0000142C 0000000F  F F              2574  2323  2581
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Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

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          1476  1494M 1508  1518M 1546M 1547M 1548M 1549  1555M 1562M 1564M 1566M 1567  1616M 1747M 1761M 1770  1772
          1819  1865M 1866M 1867  1886M 1888  1906M 1998  2043M 2193M 2195  2196M 2204M 2205  2206M 2207  2477M 2478M
          2508M 2523M 2545  2555M
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           595M  596M  597M  598M  599M  601M  603M  604M  608M  609M  610   620M  666N  730M  735   740M  771M  772M
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          1188  1192  1204  1212  1213M 1217M 1230M 1237  1275M 1279  1322M 1323  1324M 1325  1338M 1339  1340  1345
          1354M 1366M 1371M 1378M 1388M 1430M 1432  1436  1437  1438  1453M 1455  1456  1472  1476  1494M 1499  1500
          1512  1514M 1523M 1544M 1544N 1545  1554  1556  1572  1573  1578  1607M 1608  1617M 1684M 1686N 1707M 1708N
          1765M 1819  1822M 1828  1861  1863  1873M 1874  1879M 1880  1881N 1882N 1895M 1896M 1897  1900M 1901M 1902
          1906M 1938  1943  1998  2030M 2036  2044M 2047M 2048  2049  2050M 2051  2052  2059M 2060  2122M 2124  2126
          2128  2146  2148  2150M 2151  2153  2155  2157  2159  2161  2179M 2200M 2203  2207  2208M 2209  2228U 2245D
          2323M 2350M 2351  2360M 2361  2362N 2363N 2368M 2369  2377M 2383M 2384  2385N 2386N 2399M 2400  2405M 2407
          2413M 2414  2415N 2416N 2467M 2473M 2476M 2482M 2503M 2504M 2509M 2515M 2523M 2545  2547M 2555M 2562  2565
    2(2)   667N  669N  725M  735   778M  779   787M  788   854M  880N  883   886N  902M  903M  904   905M  906M  910
           915   988M  989M  996  1097M 1114  1177M 1178  1179N 1193M 1195N 1203M 1212M 1218M 1231M 1237  1337M 1338N
          1340M 1342  1344M 1345M 1346M 1347M 1348M 1349  1361M 1362M 1364N 1366N 1367N 1379M 1381N 1382N 1425M 1435
          1443M 1444M 1457  1458  1476  1485M 1486  1494M 1517M 1526M 1527M 1528N 1554M 1562  1572M 1575  1609M 1621B
          1685M 1686  1734M 1743  1754  1755  1819  1826M 1864M 1865  1892  1906M 1939M 1940M 1941M 1942M 1942N 1943
          1998  2055M 2057M 2060  2061  2062M 2063  2082M 2083  2085M 2089M 2091N 2099M 2100M 2102M 2103M 2104  2107
          2110  2112M 2113  2122N 2128M 2137  2216M 2217M 2218M 2219M 2220M 2221  2222  2229M 2230M 2232M 2233  2239
          2241  2423M 2432  2443M 2445  2447M 2451  2452  2453M 2454  2487M 2488  2489M 2490  2491M 2496M 2512M 2515
          2523M 2528  2529M 2531  2533  2534M 2537  2538M 2545  2546M 2553  2555M
    3(3)   852M  853M  854   863M  864   869   871   896   898   900   903   908   990M  992   994M  995M  996M  996N
           997M  999  1022  1024  1211M 1219M 1225M 1226  1229M 1234  1364M 1365  1380M 1381  1454M 1476  1478M 1479M
          1480  1482  1483  1486N 1494M 1497  1498  1515M 1671M 1672M 1672N 1673  1675  1676  1680  1700M 1701  1702M
          1703  1706N 1733M 1735  1740M 1743M 1744  1747  1752M 1754M 1756  1759  1768  1769  1770  1771M 1772N 1819
          1820M 1821U 1906M 1924D 1998  2090M 2092M 2104M 2105M 2107M 2113  2126  2151  2184M 2185U 2194D 2254  2255
          2432M 2433  2448M 2450  2523M 2528  2530M 2531  2538M 2545  2546M 2553  2555M
    4(4)   872M  879   904M 1016M 1224M 1226  1228  1229  1441M 1476  1494M 1528  1733M 1735  1737  1738M 1741M 1742M
          1746M 1753M 1755M 1756  1758  1760  1761  1819  1825M 1866  1889M 1896  1898M 1901  1903M 1904  1906M 1998
          2090M 2092  2117M 2118U 2132  2133M 2138D 2355M 2356  2420M 2421M 2455  2523M 2545  2546M 2549N 2553M 2555M
    5(5)  1098M 1100B 1108B 1115B 1216M 1438M 1439U 1493M 1607  1623D 1819  1836M 1839  1841  1845  1850  1906M 1998
          2054M 2055  2056M 2063  2065  2066M 2090M 2092  2108M 2132  2309M 2310M 2312U 2523M 2545  2555M
    6(6)  1819  1823M 1837  1839  1850  1906M 1998  2109M 2119M 2120  2122  2189M 2311M 2523M 2545  2555M 2587M
    7(7)   632U  636M  643M  648M  651D 1819  1823M 1837  1841  1845  1906M 1998  2004M 2005U 2009D 2026U 2523M 2545
          2555M
    8(8)   449B  476B  477B  688B  699B  741B  785B  866   917   919   921   923   925   927   931   964   966   982
          1009  1014M 1018B 1028M 1060  1095  1106M 1113M 1119  1120  1121  1155N 1160  1166M 1170M 1171  1193  1213
          1281B 1303M 1420M 1421B 1440  1442  1495  1497  1498M 1499M 1500  1576M 1595M 1603M 1668  1681  1737  1760
          1771  1775B 1819  1824M 1825  1881  1886  1887M 1895  1900  1904  1905  1906M 1998  2142M 2145M 2166  2345M
          2355  2362  2385  2395  2404M 2405  2406M 2408  2415  2472M 2473  2474  2523M 2545  2555M
    9(9)  1278  1678  1819  1824M 1887  1888M 1905  1906M 1998  2148M 2155  2345M 2395M 2404M 2406  2407M 2408  2420
          2421  2422M 2426  2428  2429M 2448  2449M 2455  2472M 2474  2476  2523M 2545  2555M
   10(A)   776   777   778   782M  783   802M  803   806N  807   882   887M  888   893   907N  913   914   988N 1062
          1175  1178  1179  1277M 1302  1335  1337  1338  1342  1362  1364  1365  1366  1367  1378  1379  1380  1383M
          1384  1483  1484  1620  1675  1678  1684  1685  1687M 1688  1706M 1707  1708  1709  1768  1819  1824M 1867
          1905  1906M 1998  2053M 2061  2069  2070  2071  2074  2075  2076  2149M 2162M 2163M 2166  2213M 2345M 2523M
          2545  2555M
   11(B)   772   777M  779   780   783M  803M  807   850M  863   880   886   888  1023M 1024  1381  1382  1384M 1484M
          1620M 1686  1688M 1708  1709M 1772  1819  1822  1824M 1869M 1890M 1905  1906M 1998  2215M 2221  2345M 2346M
          2373M 2393M 2409M 2457M 2523M 2545  2555M
   12(C)   783M  803M  850M  888  1023M 1384M 1441  1484M 1620M 1688M 1709M 1819  1906M 1998  2000M 2001  2002  2003
          2215M 2308M 2523M 2545  2555M
   13(D)   438U  466N  470N  504U  520   610N  611   613   637   670N  739N  769N  774N  775N  784N  801N  805N  810N
           845   850   852N  855B  856N  866   868B  889N  891N  892N  895N  901B  930B  935B  939B  942B  949B  951B
           955B  959B  963N  969N  973N 1012N 1027N 1029  1030N 1072  1106N 1113N 1126  1166N 1269N 1272  1280N 1282N
          1302  1303N 1304N 1305N 1316N 1317N 1318N 1319N 1322N 1325N 1391N 1462N 1467N 1469N 1471N 1478N 1480N 1481N
          1482N 1495N 1545  1546N 1549N 1567  1576N 1578  1595N 1596N 1603N 1667N 1669N 1671N 1673N 1674N 1680N 1700N
          1702N 1703N 1733  1740N 1741N 1752N 1753N 1757N 1758N 1759N 1819  1830  1836N 1902  1906  1937M 1938  1939
          1990D 1998  2001  2002  2003M 2025U 2036  2047  2048  2049  2051  2052  2054N 2074N 2075N 2083  2086  2096
          2099  2135N 2147N 2156N 2158N 2160N 2174  2188  2190N 2192  2265  2271  2276  2281  2308  2309  2318  2319
          2341  2343  2503N 2512  2518M 2522N 2523  2545  2555  2586
   14(E)   441M  442   472M  473M  477M  630M  769M  770   773M  774   776   784   788   801M  802   804N  805M  810
           889M  890M  890N  891   893   894   895  1017  1062M 1067  1070  1076  1095  1096  1105M 1114  1132M 1139M
          1146M 1149  1195M 1198M 1200M 1201  1269M 1270  1272M 1275N 1276  1277  1278  1279  1280  1305M 1306  1317M
          1318M 1319  1320  1534M 1575M 1596  1601M 1676  1677M 1701M 1704M 1705B 1819  1874M 1875  1876M 1884M 1906M
          1944B 1998  2237B 2317M 2333M 2337M 2340M 2351M 2352  2353M 2365M 2369M 2370  2371M 2388M 2392M 2400M 2401
          2402M 2418M 2437M 2440M 2444M 2461M 2492M 2495M 2499M 2522M 2524B 2539B 2545  2548M 2552M 2554M 2555M 2556B
   15(F)   520   521N  524B  629M  630B  738M  770   771   781B  804M  808M  811B  872   879M  897B  900   913   914
           929   933   937   941   945   948   950   954   958   962   968   972   984   986  1005  1007  1011  1013M
          1017  1059  1061  1081  1089  1093  1098  1120M 1121M 1122  1131M 1138M 1145M 1148  1154M 1155M 1156M 1156N
          1157M 1162M 1163  1176M 1177  1181M 1182M 1183  1184M 1185  1186M 1187M 1188  1192M 1201  1202M 1204  1221M
          1222B 1268M 1304M 1306M 1307B 1316  1391M 1392B 1425  1435M 1448  1459  1470  1476  1477  1487M 1488B 1494M
          1510  1516M 1522  1528M 1534B 1601B 1666M 1668  1670M 1681M 1681N 1682B 1819  1875M 1876B 1882M 1883M 1884B
          1906M 1907B 1936U 1946D 1991U 1994B 1998  2008D 2214M 2215  2223M 2224B 2316M 2317B 2332M 2333B 2339M 2340B
          2352M 2353B 2363M 2364M 2365B 2370M 2371B 2386M 2387M 2388B 2401M 2402B 2416M 2417M 2418B 2436M 2437B 2460M
          2461B 2494M 2495B 2498M 2499B 2519M 2545  2551M 2552B 2555M
```

Dsect	Length	Id	Defn	Con	Member
DSTABLE	00000024	FFFFFFFE	2684	4	DSTABLE
IHADCB	00000058	FFFFFFFD	2733	1	DCBD
SPDA	00000048	FFFFFFFF	1634		PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               CALL     CHECK    CLOSE    DCB      DCBD     DELETE   FREEMAIN GETMAIN  IEZREGS  IHBINNRA IHBOPLST
               IHBRDWRS IHB01    LOAD     OPEN     READ     RETURN   SAVE     SPIE     WRITE    WTO
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSACONV  FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04 2012/08/17 13.21
438		USING	Ordinary	00000001	00000000	00001000	13	001C8	475	FSAREA,R13	
504		USING	Ordinary	00000001	00000000	00001000	13	00E68	1897	IHIFSARA,R13	
632		USING	Ordinary	0000000F	00000E70	00001000	7	004F2	649	IHIFSARB,R7	
651		DROP					7			R7	
1439		USING	Ordinary	FFFFFFFF	00000000	00001000	5	00030	1609	SPDA,R5	
1623		DROP					5			R5	
1821		USING	Ordinary	0000000F	00000E70	00001000	3	00604	1905	IHIFSARB,R3	
1924		DROP					3			R3	
1936		USING	Ordinary	00000001	00000D72	00001000	15	000DE	1942	PIEROUT,R15	
1946		DROP					15			R15	
1990		DROP					13			R13	
1991		USING	Ordinary	00000001	00000DFC	00001000	15	00054	2004	IHIFSAIN,R15	
2005		USING	Ordinary	0000000F	00000E70	00001000	7	00000	2006	IHIFSARB,R7	
2008		DROP					15			R15	
2009		DROP					7			R7	
2025		USING	Ordinary	00000001	00000000	00001000	13	00E6C	2588	IHIFSARA,R13	
2026		USING	Ordinary	0000000F	00000E70	00001000	7	00630	2565	IHIFSARB,R7	
2118		USING	Ordinary	0000000F	000010E0	00001000	4	0000A	2137	PARMLIST,R4	
2138		DROP					4			R4	
2185		USING	Ordinary	FFFFFFFD	00000000	00001000	3	0003E	2193	IHADCB,R3	
2194		DROP					3			R3	
2228		USING	Ordinary	FFFFFFFD	00000000	00001000	1	0003E	2233	IHADCB,R1	
2245		DROP					1			R1	
2312		USING	Ordinary	FFFFFFFE	00000000	00001000	5	0001B	2550	DSTABLE,R5	

The following statements were flagged -

```
  SYSD.ALGOLFRT.ASM(IHIFSA)
    1936(1653), 2118(1820)
```

2 statements flagged in this assembly, 4 was the highest severity code.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIFSA PROCSTEP: X390

Primary input: lines 1 to 2271 of SYSD.ALGOLFRT.ASM(IHIFSA)

SYSLIB library records read: 6933

SYSUT1 work file size: 289928 bytes

SYSUT2 work file size: 623479 bytes

SYSUT3 work file size: 181680 bytes

SYSLIN file records written: 110

TXA000I Return code 4, elapsed time 2.83 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIFSARA	000000	152
IHIFSARA	0000C3	17
IHIFSARA	000E6E	2
IHIFSARB	0014FC	4

IHIGPR

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIGPR)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0134
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                      2 *                                                                          00002001
                                      3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                      4 *                                                                          00004001
                                      5 *        STATUS - LEVEL 2.1                                                00005001
                                      6 *                                                                          00006001
                                      7 *        FUNCTION/OPERATION -                                              00007001
                                      8 *                                                                          00008001
                                      9 *        ACTION OF PUT -                                                   00009001
                                     10 *        TRANSFER DATA INDICATED BY A LIST PROCEDURE, WHICH IS THE         00010001
                                     11 *        SECOND PARAMETER IN PUT, TO AN I/O BUFFER IN BINARY FORM          00011001
                                     12 *        WRITE A RECORD, V-FORM, TO A DASD DATASET WITH A                  00012001
                                     13 *        DDNAME OF SYSUT2. ENTER REPOSITIONING INFORMATION IN              00013001
                                     14 *        NOTTAB                                                            00014001
                                     15 *                                                                          00015001
                                     16 *        ACTION OF GET -                                                   00016001
                                     17 *        RETRIEVE INFORMATION AFTER REPOSITIONING OF DATASET               00017001
                                     18 *        STORED BY PUT AND ASSIGN DATA TO IDENTIFIER IN LIST               00018001
                                     19 *        PROCEDURE                                                         00019001
                                     20 *                                                                          00020001
                                     21 *        ENTRY POINTS -                                                    00021001
                                     22 *        IHIGPRPT - FROM GENERATED OBJECT MODULE                           00022001
                                     23 *                   DATA PASSED BY NAME                                    00023001
                                     24 *                   LA   R1,PARMLIST                                       00024001
                                     25 *                   BALR R14,R15                                           00025001
                                     26 *                                                                          00026001
                                     27 *        IHIGPROT - FROM IHIFSA                                            00027001
                                     28 *                   PROCEDURE IS ACTUAL PARAMETER OF LIST DATA             00028001
                                     29 *                   PASSED BY NAME R15 POINTS TO A THUNK FIELD             00029001
                                     30 *                                                                          00030001
                                     31 *        IHIGPRGT - FROM GENERATED OBJECT MODULE                           00031001
                                     32 *                   DATA PASSED BY NAME                                    00032001
                                     33 *                   LA   R1,PARMLIST                                       00033001
                                     34 *                   BALR R14,R15                                           00034001
                                     35 *                                                                          00035001
                                     36 *        IHIGPRIT - FROM IHIFSA                                            00036001
                                     37 *                   PROCEDURE IS ACTUAL PARAMETER OF LIST DATA             00037001
                                     38 *                   PASSED BY NAME R15 POINTS TO A THUNK FIELD             00038001
                                     39 *                                                                          00039001
                                     40 *        IHIGPRCL - FROM IHIIOR - CLOSE DATASET                            00040001
                                     41 *                   NO DATA PASSED                                         00041001
                                     42 *                   BALR R14,R15                                           00042001
                                     43 *                                                                          00043001
                                     44 *        INPUT -                                                           00044001
                                     45 *        GET READS A RECORD STORED PREVIOUSLY BY PUT, DATA IN              00045001
                                     46 *        BINARY FORM                                                       00046001
                                     47 *                                                                          00047001
                                     48 *        OUTPUT - STORES DATA IN BINARY FORM                               00048001
                                     49 *                                                                          00049001
                                     50 *        EXTERNAL ROUTINES -                                               00050001
                                     51 *        IHIIOR - CONVERT REAL TO INTEGER - ENTRY NOTTAB - SYNAD           00051001
                                     52 *                                                                          00052001
                                     53 *        EXITS - NORMAL -                                                  00053001
                                     54 *                FOR ROUTINE PUT AND GET RELOAD REGISTERS AND BR14         00054001
                                     55 *                FOR PROCEDURE OUTPUT AND INPUT SEE BELOW                  00055001
                                     56 *              - ERROR -                                                   00056001
                                     57 *                NO.10 DATASET CLOSED                                      00057001
                                     58 *                NO.14 BACK WARD REPOSITIONING NOT DEFINED                 00058001
                                     59 *                NO.20 ACTUAL AND FORMAL PARAMETER OF DIFFERENT TYPE       00059001
                                     60 *                NO.21 NUMBER OF PARAMETERS DOES NOT CORRESPOND            00060001
                                     61 *                NO.36 TOO MANY NESTED BLOCKS PROCEDURES AND PARAMETERS    00061001
                                     62 *                NO.38 GET/PUT BUFFER OVERFLOW                             00062001
                                     63 *                NO.39 GET/PUT IDENTIFICATION OUT OF RANGE                 00063001
                                     64 *                NO.41 DDCARD INCORRECT OR MISSING                         00064001
                                     65 *                NO.43 RECURSIVELY TRY OF PUT/GET OR OUTPUT/INPUT          00065001
                                     66 *        ACTION - BRANCH TO IHIFSA                                         00066001
                                     67 *                  LA  R13,IHIFSA                                          00067001
                                     68 *                  B   FSAERR+XX*4(R13)  XX ERROR NO                       00068001
                                     69 *                                                                          00069001
                                     70 *        TABLES/WORKAREAS - N/A                                            00070001
                                     71 *                                                                          00071001
                                     72 *        ATTRIBUTES - SERIALLY REUSABLE                                    00072001
                                     73 *                                                                          00073001
                                     74 *        NOTES -                                                           00074001
                                     75 *        THE LIST PROCEDURE HAS ONE FORMAL PARAMETER WHICH IS A            00075001
                                     76 *        PROCEDURE AND WHICH ONLY IS DECLARED AND HAS NO                   00076001
                                     77 *        PROCEDURE BODY IN THE ALGOL PROGRAM, AT ACTUAL POSITION           00077001
                                     78 *        THIS IS OUTPUT RESP. INPUT ADDR OF PUT/GET FIELD IN               00078001
                                     79 *        DSTAB LOADED TO R5 R6=16 IS KEPT THROUGH THE                      00079001
                                     80 *        MODULE IN ORDER TO ADDR THIS FIELD                                00080001
                                     81 *                                                                          00081001
000000                00000 00A5E    82 IHIGPRTN CSECT                                                             00082001
                                     83 *                                                                          00083001
                                     84          ENTRY IHIGPRPT                                                    00084001
                                     85          ENTRY IHIGPROT                                                    00085001
                                     86          ENTRY IHIGPRGT                                                    00086001
                                     87          ENTRY IHIGPRIT                                                    00087001
                                     88          ENTRY IHIGPROP                                                    00088001
                                     89          ENTRY IHIGPRCL                                                    00089001
                                     90 *                                                                          00090001
                                     91 *        FLOATING POINT REGISTER                                           00091001
                                     92 *                                                                          00092001
                      00000          93 FPR0     EQU   0                                                           00093001
                                     94 *                                                                          00094001
                                     95 *        DISPLACEMENTS IN ADRLST IN IHIFSA                                 00095001
                                     96 *                                                                          00096001
                                     97 *                                      DISPLACEMENT FOR                    00097001
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                      00000          98 CI       EQU   0                      IHIIORCI                        00098001
                      00004          99 CL       EQU   4                      IHIIORCL                        00099001
                      00008         100 EV       EQU   8                      IHIIOREV                        00100001
                      0000C         101 NX       EQU   12                     IHIIORNX                        00101001
                      00010         102 OP       EQU   16                     IHIIOROP                        00102001
                      00014         103 OQ       EQU   20                     IHIIOROQ                        00103001
                      00018         104 EN       EQU   24                     IHIIOREN                        00104001
                      0001C         105 GP       EQU   28                     IHIIORGP                        00105001
                      00020         106 ER       EQU   32                     IHIIORER                        00106001
                                    107 *                                                                     00107001
                                    108 *        PUT/GET FLAGS                                                00108001
                                    109 *                                                                     00109001
                      00080         110 PG0      EQU   X'80'                                                  00110001
                      00040         111 PG1      EQU   X'40'                                                  00111001
                                    112 *                                                                     00112001
                R:F   00000         113          USING IHIGPRPT,R15                                           00113001
                                    114 *                                                                     00114001
                                    115 IHIGPRPT IHIENTRY 'IHIGPRPT LEVEL 2.1 &SYSDATE &SYSTIME'              00115001
                                    116+*                                                                     01-IHIEN
000000 47F0 F026            00026   117+IHIGPRPT B     38(,R15)           BRANCH AROUND ID                    01-IHIEN
000004 21                           118+         DC    AL1(33)            LENGTH OF IDENTIFIER                01-IHIEN
000005 C9C8C9C7D7D9D7E3             119+         DC    CL33'IHIGPRPT LEVEL 2.1 08/17/12 13.21'               +01-IHIEN
                                      +                                              IDENTIFIER              01-IHIEN
                                    120 *                                                                     00116001
000026 50D0 F8C0            008C0   121          ST    R13,SAVEPG+4       SAVE REGISTER INTERNALLY            00117001
00002A 41D0 F8BC            008BC   122          LA    R13,SAVEPG                                             00118001
                                    123 *                                                                     00119001
                                    124          SAVE  (14,12)                                                00120001
00002E                              125+         DS    0H                                                     01-SAVE
00002E 90EC D00C            0000C   126+         STM   14,12,12(13)                SAVE REGISTERS             01-SAVE
                                    127 *                                                                     00121001
                                    128          DROP  R15                                                    00122001
000032 187F                         129          LR    R7,R15                                                 00123001
                R:7   00000         130          USING IHIGPRPT,R7                                            00124001
000034 50D0 71C8            001C8   131          ST    R13,SAVEPUT+4                                          00125001
000038 58C0 78C0            008C0   132          L     R12,SAVEPG+4       ADDR OF FSA                         00126001
00003C 41D0 71C4            001C4   133          LA    R13,SAVEPUT                                            00127001
000040 585C 00AC            000AC   134          L     R5,ADSTAB(R12)     FIRST ENTRY IN DSTAB IS APGCF       00128001
000044 5850 5000            00000   135          L     R5,0(,R5)          ADDR OF PGCF IN R5                  00129001
000048 4160 0010            00010   136          LA    R6,16              SET DSN NUMBER TO 16 FOR SYSUT2     00130001
                R:5   00000         137          USING PGCF,R5                                                00131001
00004C 9101 78B8      008B8         138          TM    RECPG,X'01'        TEST IF RECURSIVELY                 00132001
000050 4710 7A58            00A58   139          BO    ERROR43            YES                                 00133001
000054 9601 78B8      008B8         140          OI    RECPG,X'01'        SET FLAG BIT                        00134001
000058 9180 501B      0001B         141          TM    PG,PG0             DATASET OPEN ?                      00135001
00005C 4780 70BA            000BA   142          BZ    PUT1               DATASET NOT OPEN                    00136001
                                    143 *                                DATASET WAS OPEN                    00137001
000060 5880 5000            00000   144          L     R8,ADCB            LOAD REGISTER FOR ADDRESSING        00138001
                R:8   00000         145          USING IHADCB,R8          DCB AND DECB                      00139001
000064 9140 501B      0001B         146          TM    PG,PG1             TEST LAST PROCEDURE                 00140001
000068 4710 7098            00098   147          BO    PUT2               LAST PROCEDURE WAS GET              00141001
                                    148 *                                                                     00142001
                                    149          CHECK DECB               CHECK THE PREVIOUS WRITE          00143001
00006C 4110 8058            00058   150+         LA    1,DECB                       LOAD PARAMETER REG 1       02-IHBIN
000070 58E0 1008            00008   151+         L     14,8(0,1)           PICK UP DCB ADDR                    01-CHECK
000074 58F0 E034            00034   152+         L     15,52(0,14)         LOAD CHECK ROUTINE ADDR             01-CHECK
000078 05EF                         153+         BALR  14,15               LINK TO CHECK ROUTINE               01-CHECK
                                    154 *                                                                     00144001
                                    155          NOTE  (R8)                                                   00145001
00007A 1818                         156+         LR    1,R8                         LOAD PARAMETER REG 1       02-IHBIN
00007C 58F0 1054            00054   157+         L     15,84(0,1)                   LOAD NOTE  RTN ADDRESS     01-NOTE
000080 05EF                         158+         BALR  14,15                        LINK TO NOTE  ROUTINE      01-NOTE
                                    159 *                                                                     00146001
000082 4150 5004            00004   160          LA    R5,4(,R5)                                              00147001
000086 58FC 011C            0011C   161          L     R15,IORLST(R12)                                        00148001
00008A 58F0 F018            00018   162          L     R15,EN(,R15)       R15 -> IHIIOREN                     00149001
00008E 05EF                         163          BALR  R14,R15            CLEAR NOTTAB                        00150001
000090 4B50 7A20            00A20   164          SH    R5,=H'4'                                               00151001
000094 47F0 70C4            000C4   165          B     PUT3                                                   00152001
                                    166 *                                                                     00153001
000098 5820 5014            00014   167 PUT2     L     R2,NOTEADR         LAST PROCEDURE WAS GET              00154001
00009C 4120 2001            00001   168          LA    R2,1(,R2)          INCREASE NOTEADR BY ONE             00155001
0000A0 5020 5014            00014   169          ST    R2,NOTEADR                                             00156001
0000A4 1818                         170          LR    R1,R8                                                  00157001
                                    171 *                                                                     00158001
                                    172          POINT (1),NOTEADR        REPOSITION DATASET FOR WRITE      00159001
0000A6 4100 5014            00014   173+         LA    0,NOTEADR                    LOAD PARAMETER REG 0       02-IHBIN
0000AA 58F0 1054            00054   174+         L     15,84(0,1)           LOAD POINT RTN ADDR                 01-POINT
0000AE 45EF 0004            00004   175+         BAL   14,4(15,0)           LINK TO POINT ROUTINE               01-POINT
                                    176 *                                                                     00160001
0000B2 94BF 501B      0001B         177          NI    PG,X'BF'           PG1=0 INDICATE PUT IS EXECUTED      00161001
0000B6 47F0 70C4            000C4   178          B     PUT3                                                   00162001
                                    179 *                                                                     00163001
0000BA 58F0 79F0            009F0   180 PUT1     L     R15,AOPENPG        CALL FOR ROUTINE OPEN DATASET       00164001
0000BE 05EF                         181          BALR  R14,R15                                                00165001
0000C0 5880 5000            00000   182          L     R8,ADCB                                                00166001
                                    183 *                                                                     00167001
                                    184 *        EVALUATE IDENTIFICATION NUMBER FIRST PARAMETER               00168001
                                    185 *                                                                     00169001
0000C4 5810 78D4            008D4   186 PUT3     L     R1,SAVEPG+24       GET CALLERS R1                      00170001
0000C8 BF2F 1000            00000   187          ICM   R2,B'1111',0(R1)   CONVERSION IS NECESSARY ?           00171001
0000CC 4720 70F2            000F2   188          BP    PUT4               NO CONVERSION                       00172001
0000D0 9120 C0C2      000C2         189          TM    OPTSW(R12),X'20'   CONVERSION TO INTEGER NECS          00173001
0000D4 4710 70E0            000E0   190          BO    PUT31              SHORT PRECISION                     00174001
0000D8 6800 2000            00000   191          LD    FPR0,0(,R2)        PARAMETER TO FPR0                   00175001
0000DC 47F0 70E4            000E4   192          B     PUT31A                                                 00176001
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  Active USINGs: IHADCB,R8  PGCF,R5  IHIGPRTN,R7

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                 X390 3.1.04  2012/08/17 13.21

                                    193 *                                                                    00177001
0000E0 7800 2000            00000   194 PUT31    LE    FPR0,0(,R2)                                           00178001
0000E4 58FC 011C            0011C   195 PUT31A   L     R15,IORLST(R12)                                       00179001
0000E8 58FF 0000            00000   196          L     R15,CI(R15)          R15 -> IHIIORCI                  00180001
0000EC 05EF                         197          BALR  R14,R15              CALL CONVERSION ROUTINE          00181001
0000EE 47F0 70F6            000F6   198          B     PUT4A                                                 00182001
                                    199 *                                                                    00183001
0000F2 5800 2000            00000   200 PUT4     L     R0,0(,R2)            PARAMETER TO R0                  00184001
0000F6 1200                         201 PUT4A    LTR   R0,R0                                                 00185001
0000F8 4740 7A52            00A52   202          BM    ERROR39                                               00186001
0000FC 5900 7A18            00A18   203          C     R0,TWOP16            TWOP16= 2**16                    00187001
000100 47B0 7A52            00A52   204          BNL   ERROR39                                               00188001
                                    205 *                                   GET/PUT IDENTIFICATION WITHIN    00189001
                                    206 *                                   RANGE                            00190001
000104 4000 5018            00018   207          STH   R0,S                 STORE IDENTIFICATION IN PGCF     00191001
                                    208 *                                                                    00192001
                                    209 *        TEST IF S ALREADY USED AS IDENTIFICATION NUMBER             00193001
                                    210 *                                                                    00194001
000108 589C 00B0            000B0   211          L     R9,ANOTTAB(R12)                                       00195001
00010C 18A9                         212          LR    R10,R9                                                00196001
00010E 41A0 A008            00008   213 PUTNOT   LA    R10,8(,R10)                                           00197001
000112 59A0 9000            00000   214          C     R10,0(,R9)                                            00198001
000116 4780 7132            00132   215          BE    PUT41                NO ENTRY WITH S FOUND            00199001
00011A 1826                         216          LR    R2,R6                                                 00200001
00011C 4920 A000            00000   217          CH    R2,0(,R10)                                            00201001
000120 4770 710E            0010E   218          BNE   PUTNOT                                                00202001
000124 D501 5018 A002 00018 00002   219          CLC   S(2),2(R10)                                           00203001
00012A 4770 710E            0010E   220          BNE   PUTNOT                                                00204001
00012E 9280 A000      00000         221          MVI   0(R10),X'80'         AN ENTRY FOR S IN NOTTAB         00205001
                                    222 *                                   INSERT INVALID FLAG              00206001
000132 5840 500C            0000C   223 PUT41    L     R4,BB                                                 00207001
000136 4140 400C            0000C   224          LA    R4,12(,R4)           INSERT CORRECT CHAR POINTER      00208001
00013A 5040 5004            00004   225          ST    R4,R                                                  00209001
00013E 9200 501A      0001A         226          MVI   TYP,0                CLEAR TYP                        00210001
                                    227 *                                                                    00211001
                                    228          SAVE  (14,12)              PUT'S REGISTER SAVED IN SAVEPUT  00212001
000142                              229+         DS    0H                                                    01-SAVE
000142 90EC D00C            0000C   230+         STM   14,12,12(13)                 SAVE REGISTERS           01-SAVE
                                    231 *                                                                    00213001
000146 58D0 71C8            001C8   232          L     R13,SAVEPUT+4        RESTORE PROGRAMS REGISTER        00214001
00014A 98EC D00C            0000C   233          LM    R14,R12,12(R13)                                       00215001
00014E 5880 1004            00004   234          L     R8,4(,R1)            ADDR TO LIST                     00216001
                                    235 *                                   PROCEDURE IN R8                  00217001
                 R:F  00000         236          USING IHIGPRPT,R15                                          00218001
** TXA531W Prior USING at statement 130 overridden by this USING.
** TXA301I Record 218 in SYSD.ALGOLFRT.ASM(IHIGPR)
000152 58D0 F8C0            008C0   237          L     R13,SAVEPG+4                                          00219001
                                    238          DROP  R15                                                   00220001
000156 0700                         239          CNOP  0,4                                                   00221001
000158 45FD 00E0            000E0   240          BAL   R15,PROLOG(R13)                                       00222001
                                    241 *                                                                    00223001
00015C 000003CA                     242          DC    A(THUNKOUT)                                           00224001
000160 8880                         243          DC    X'8880'              TYPE INFORMATION FOR STAND PROC  00225001
000162 0001                         244          DC    H'1'                                                  00226001
                                    245 *                                                                    00227001
                 R:F  00164         246          USING *,R15                                                 00228001
** TXA533W USING range overlaps prior USING at statement 130.
** TXA301I Record 228 in SYSD.ALGOLFRT.ASM(IHIGPR)
000164 41D0 F060            001C4   247          LA    R13,SAVEPUT                                           00229001
                                    248          DROP  R15                                                   00230001
000168 98EC D00C            0000C   249          LM    R14,R12,12(R13)      RELOAD PUT'S REGISTER            00231001
00016C 5840 5004            00004   250          L     R4,R                 RECORD POINTER TO R4             00232001
000170 5B40 500C            0000C   251          S     R4,BB                R-BB                             00233001
000174 5830 500C            0000C   252          L     R3,BB                BUFFER BEGIN                     00234001
000178 4040 3000            00000   253          STH   R4,0(,R3)            BLOCK LENGTH TO BUFFER           00235001
00017C 4B40 7A20            00A20   254          SH    R4,=H'4'             R-BB-4                           00236001
000180 4130 3004            00004   255          LA    R3,4(,R3)                                             00237001
000184 4040 3000            00000   256          STH   R4,0(,R3)            RECORD LENGTH OT RECORD IN BUFF  00238001
000188 D201 3004 5018 00004 00018   257          MVC   4(2,R3),S            STORE S IN RECORD                00239001
00018E D200 3006 501A 00006 0001A   258          MVC   6(1,R3),TYP                                           00240001
000194 5830 500C            0000C   259          L     R3,BB                BUFFER BEGIN                     00241001
000198 9200 78B8      008B8         260          MVI   RECPG,0              CLEAR FLAG BIT                   00242001
                                    261 *                                                                    00243001
                                    262          WRITE DECB,SF,(R8),(R3),MF=E     WRITE BUFFER               00244001
00019C 4110 8058            00058   263+         LA    1,DECB                       LOAD DECB ADDRESS        02-IHBRD
0001A0 9220 1005      00005         264+         MVI   5(1),X'20'            SET TYPE FIELD                  02-IHBRD
0001A4 5081 0008            00008   265+         ST    R8,8(1,0)                    STORE DCB ADDRESS        02-IHBRD
0001A8 5031 000C            0000C   266+         ST    R3,12(1,0)                   STORE AREA ADDRESS       02-IHBRD
0001AC 58F1 0008            00008   267+         L     15,8(1,0)        LOAD DCB ADDRESS                     02-IHBRD
0001B0 58F0 F030            00030   268+         L     15,48(0,15)                  LOAD RDWR ROUTINE ADDR   02-IHBRD
0001B4 05EF                         269+         BALR  14,15                        LINK TO RDWR ROUTINE     02-IHBRD
                                    270 *                                                                    00245001
0001B6 58D0 71C8            001C8   271          L     R13,SAVEPUT+4                                         00246001
0001BA 98EC D00C            0000C   272          LM    R14,R12,12(R13)                                       00247001
                 R:F  00000         273          USING IHIGPRPT,R15                                          00248001
** TXA531W Prior USING at statement 130 overridden by this USING.
** TXA301I Record 248 in SYSD.ALGOLFRT.ASM(IHIGPR)
0001BE 58D0 F8C0            008C0   274          L     R13,SAVEPG+4                                          00249001
0001C2 07FE                         275          BR    R14                                                   00250001
                                    276 *                                                                    00251001
0001C4 0000000000000000             277 SAVEPUT  DC    18F'0'                                                00252001
                                    278 *                                                                    00253001
                                    279          DROP  R15                                                   00254001
                                    280 *                                                                    00255001
                                    281 ********************************************************************** 00256001
                                    282 *                                                                    00257001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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                                    283 *        IHIGPROT - OUTPUT IS ACTUAL PROCEDURE TO LIST                  00258001
                                    284 *        EVALUATED BY THUNKOUT                                          00259001
                                    285 *                                                                       00260001
                                    286 ********************************************************************** 00261001
                                    287 *                                                                       00262001
                                    288 *        REGISTER CONTENTS ON ENTRY POINT IHIGPROT                      00263001
                                    289 *                                                                       00264001
                                    290 *        R13                          -> FSA                            00265001
                                    291 *        R15                          -> A THUNKFIELD                   00266001
                                    292 *        R8                           -> ENTRY POINT                    00267001
                                    293 *                                                                       00268001
                                    294 *        REGISTER CONTENTS ON ENTRY POINT OUTPUTTH OUTPUT BUFFER         00269001
                                    295 *                                                                       00270001
                                    296 *        R15                          -> OUTPUTTH                       00271001
                                    297 *        R8                           -> VALUE TO BE TRANSFERED TO      00272001
                                    298 *                                        OTHER GENERAL REG              00273001
00020C 4700 0700                    299          CNOP  0,8                                                      00274001
               R:8  00210           300          USING IHIGPROT,R8                                              00275001
** TXA533W USING range overlaps prior USING at statement 130.
** TXA301I Record 275 in SYSD.ALGOLFRT.ASM(IHIGPR)
                                    301 *                                                                       00276001
                                    302 IHIGPROT IHIENTRY 'IHIGPROT LEVEL 2.1 &SYSDATE &SYSTIME',REG=R8         00277001
                                    303+*                                                                       01-IHIEN
000210 47F0 8026            00026   304+IHIGPROT B     38(,R8)            BRANCH AROUND ID                      01-IHIEN
000214 21                           305+         DC    AL1(33)            LENGTH OF IDENTIFIER                  01-IHIEN
000215 C9C8C9C7D7D9D6E3             306+         DC    CL33'IHIGPROT LEVEL 2.1 08/17/12 13.21'                +01-IHIEN
                                       +                                             IDENTIFIER                 01-IHIEN
                                    307 *                                                                       00278001
000236 50D0 86F8            00908   308          ST    R13,SAVEOI+4                                             00279001
00023A 41D0 86F4            00904   309          LA    R13,SAVEOI                                               00280001
                                    310 *                                                                       00281001
                                    311          SAVE  (14,12)                                                  00282001
00023E                              312+         DS    0H                                                       01-SAVE
00023E 90EC D00C            0000C   313+         STM   14,12,12(13)                     SAVE REGISTERS          01-SAVE
                                    314 *                                                                       00283001
000242 50D0 80FC            0030C   315          ST    R13,SAVOUTP+4                                            00284001
                                    316          DROP  R8                                                       00285001
000246 1878                         317          LR    R7,R8                FIXED STORAGE AREA ON ENTRY       00286001
               R:7  00210           318          USING IHIGPROT,R7                                              00287001
000248 50D0 70FC            0030C   319          ST    R13,SAVOUTP+4                                            00288001
00024C 58C0 76F8            00908   320          L     R12,SAVEOI+4         R12 -> FSA                        00289001
000250 41D0 70F8            00308   321          LA    R13,SAVOUTP                                              00290001
000254 585C 00AC            000AC   322          L     R5,ADSTAB(R12)                                           00291001
000258 5850 5000            00000   323          L     R5,0(,R5)            R5 -> PGCF                        00292001
00025C 4160 0010            00010   324          LA    R6,16                SET DSNR TO 16 FOR SYSUT2         00293001
               R:5  00000           325          USING PGCF,R5              FOR DSECT ADDRESSING              00294001
000260 9101 76A9      008B9         326          TM    RECOI,X'01'          TEST IF RECURSIVELY               00295001
000264 4710 7848            00A58   327          BO    ERROR43              YES                               00296001
000268 9601 76A9      008B9         328          OI    RECOI,X'01'          SET FLAG BIT                      00297001
00026C 9501 F007      00007         329          CLI   7(R15),X'01'         TEST NUMBER OF PARAMETER          00298001
000270 4770 7830            00A40   330          BNE   ERROR21                                                  00299001
000274 9103 F005      00005         331          TM    5(R15),X'03'         TEST TYP INFORMATION ABOUT FIRST  00300001
000278 4780 782A            00A3A   332          BZ    ERROR20              PARAMETER                         00301001
00027C 9104 F005      00005         333          TM    5(R15),X'04'         TEST IF ARRAY                     00302001
000280 4710 782A            00A3A   334          BO    ERROR20              ARRAY                             00303001
000284 91C0 F005      00005         335          TM    5(R15),X'C0'                                           00304001
000288 4780 7094            002A4   336          BZ    OUTPUT01             NO                                00305001
00028C 9140 F005      00005         337          TM    5(R15),X'40'                                           00306001
000290 4780 782A            00A3A   338          BZ    ERROR20              STANDARD PROC IDENTIFIER          00307001
000294 91C0 F004      00004         339          TM    4(R15),X'C0'                                           00308001
000298 4740 7094            002A4   340          BM    OUTPUT01                                               00309001
00029C 4780 7094            002A4   341          BZ    OUTPUT01                                               00310001
0002A0 9201 76AB      008BB         342          MVI   PARTST,X'01'         SET BIT FOR LATER TEST            00311001
0002A4 91FF 501A      0001A         343 OUTPUT01 TM    TYP,X'FF'            TEST TYP FIELD IN PGCF            00312001
0002A8 4780 70B4            002C4   344          BZ    OUTPUT1              NO TYP INFORMATION IN PGCF        00313001
0002AC D200 76AA F005 008BA 00005   345          MVC   TYPC(1),5(R15)       PGCF CONTAIN TYP INFORMATION      00314001
0002B2 9403 76AA      008BA         346          NI    TYPC,X'03'                                             00315001
0002B6 D500 501A 76AA 0001A 008BA   347          CLC   TYP(1),TYPC                                            00316001
0002BC 4770 782A            00A3A   348          BNE   ERROR20                                                00317001
0002C0 47F0 70BE            002CE   349          B     OUTPUT2                                                00318001
                                    350 *                                                                       00319001
0002C4 D200 501A F005 0001A 00005   351 OUTPUT1  MVC   TYP(1),5(R15)                                           00320001
0002CA 9403 501A      0001A         352          NI    TYP,X'03'                                              00321001
                                    353 *                                                                       00322001
0002CE D203 780C F000 00A1C 00000   354 OUTPUT2  MVC   ADRTHUNK(4),0(R15)                                      00323001
                                    355 *                                                                       00324001
                                    356          SAVE  (14,12)              SAVE OUTPUT'S REGISTER IN         00325001
0002D4                              357+         DS    0H                                                       01-SAVE
0002D4 90EC D00C            0000C   358+         STM   14,12,12(13)                     SAVE REGISTERS          01-SAVE
                                    359 *                                    SAVEOUTP                          00326001
0002D8 58D0 70FC            0030C   360          L     R13,SAVOUTP+4        RESTORE CALLING ROUTINES REGS     00327001
0002DC 98EC D00C            0000C   361          LM    R14,R12,12(R13)                                        00328001
                                    362 *                                                                       00329001
                                    363 ********************************************************************** 00330001
                                    364 *                                                                       00331001
                                    365 *        LINKING TO ROUTINE CALLING ACTUAL PARAMETER                    00332001
                                    366 *                                                                       00333001
               R:8  00210           367          USING IHIGPROT,R8                                              00334001
** TXA531W Prior USING at statement 318 overridden by this USING.
** TXA301I Record 334 in SYSD.ALGOLFRT.ASM(IHIGPR)
0002E0 58D0 86F8            00908   368          L     R13,SAVEOI+4                                             00335001
0002E4 0700                         369          CNOP  2,4                                                      00336001
0002E6 D201 80E2 A008 002F2 00008   370          MVC   *+12(2),8(R10)       MOVE PROGRAM BLOCK NUMBER         00337001
0002EC 45F0 87E4            009F4   371          BAL   R15,CAP1GP                                             00338001
                                    372          DROP  R8                                                       00339001
               R:F  002F0           373          USING *,R15                                                    00340001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

** TXA533W USING range overlaps prior USING at statement 318.
** TXA301I Record 340 in SYSD.ALGOLFRT.ASM(IHIGPR)
                                    374 *                                                                  00341001
0002F0 0000                         375          DC    H'0'                                                00342001
0002F2 0000                         376          DC    H'0'                                                00343001
0002F4 4700 0000            00000   377          NOP   0                                                   00344001
                                    378 *                                                                  00345001
0002F8 41D0 F018            00308   379 OUTPUTTH LA    R13,SAVOUTP                                         00346001
                                    380          DROP  R15                                                 00347001
0002FC 98E7 D00C            0000C   381          LM    R14,R7,12(R13)          RESTORE OUTPUT'S REGISTER   00348001
000300 989C D038            00038   382          LM    R9,R12,56(R13)          EXCEPT R8                   00349001
000304 47F0 7140            00350   383          B     OUTPUTAA                BRANCH OVER SAVEAREA        00350001
                                    384 *                                                                  00351001
000308 0000000000000000             385 SAVOUTP  DC    18F'0'                                              00352001
                                    386 *                                                                  00353001
                                    387 ********************************************************************** 00354001
                                    388 *                                                                  00355001
000350 9101 76AB      008BB         389 OUTPUTAA TM    PARTST,X'01'                                        00356001
000354 4780 7156            00366   390          BZ    OUTPUT25                                            00357001
000358 412C 0090            00090   391          LA    R2,FCTVALST(R12)                                    00358001
00035C 1928                         392          CR    R2,R8                                               00359001
00035E 4770 782A            00A3A   393          BNE   ERROR20                                             00360001
000362 9200 76AB      008BB         394          MVI   PARTST,X'00'                                        00361001
000366 1B99                         395 OUTPUT25 SR    R9,R9                                               00362001
000368 9103 501A      0001A         396          TM    TYP,X'03'                                           00363001
00036C 4740 7168            00378   397          BM    OUTPUT3                                             00364001
000370 4190 9001            00001   398          LA    R9,1(,R9)               BOOLEAN VALUE               00365001
000374 47F0 7184            00394   399          B     OUTPUT5                                             00366001
                                    400 *                                                                  00367001
000378 9101 501A      0001A         401 OUTPUT3  TM    TYP,X'01'                                           00368001
00037C 4780 7178            00388   402          BZ    OUTPUT4                                             00369001
000380 4190 9004            00004   403 OUTPUT3A LA    R9,4(,R9)               INTEGER VALUE               00370001
000384 47F0 7184            00394   404          B     OUTPUT5                                             00371001
                                    405 *                                                                  00372001
000388 9120 C0C2      000C2         406 OUTPUT4  TM    OPTSW(R12),X'20'        REAL VALUE TEST IF LONG/SHORT 00373001
00038C 4710 7170            00380   407          BO    OUTPUT3A                SHORT                       00374001
000390 4190 9008            00008   408          LA    R9,8(,R9)               LONG                        00375001
                                    409 *                                                                  00376001
000394 5840 5004            00004   410 OUTPUT5  L     R4,R                    INSERT VALUE TO RECORD BUFFER 00377001
000398 1824                         411          LR    R2,R4                                               00378001
00039A 1A29                         412          AR    R2,R9                                               00379001
00039C 5920 5010            00010   413          C     R2,BE                                               00380001
0003A0 4720 783C            00A4C   414          BH    ERROR38                                             00381001
0003A4 0690                         415 OUTPUT51 BCTR  R9,0                                                00382001
0003A6 4490 7812            00A22   416          EX    R9,OUTINMOV                                         00383001
0003AA 4190 9001            00001   417          LA    R9,1(,R9)                                           00384001
0003AE 1A49                         418          AR    R4,R9                   INCREASE CHARACTER POINTER  00385001
0003B0 5040 5004            00004   419          ST    R4,R                                                00386001
0003B4 9200 76A9      008B9         420          MVI   RECOI,X'00'             CLEAR FLAG BIT              00387001
0003B8 58D0 70FC            0030C   421          L     R13,SAVOUTP+4           RESTORE CALLING ROUTINES REGS 00388001
0003BC 98EC D00C            0000C   422          LM    R14,R12,12(R13)                                     00389001
                R:8  00210          423          USING IHIGPROT,R8                                         00390001
** TXA531W Prior USING at statement 318 overridden by this USING.
** TXA301I Record 390 in SYSD.ALGOLFRT.ASM(IHIGPR)
0003C0 58D0 86F8            00908   424          L     R13,SAVEOI+4                                        00391001
                                    425          DROP  R8                                                  00392001
0003C4 47F0 F008            00008   426          B     8(,R15)                                             00393001
                                    427 *                                                                  00394001
                                    428 *        THUNK OUT                                                 00395001
                                    429 *                                                                  00396001
                                    430 *        LIST PROCEDURE INVOKE CALL ACTUAL PARAMETER IN IHIFSA     00397001
                                    431 *        AND THIS CALL THUNKOUT, WHICH ASSIGNS OUTPUT AS ACTUAL    00398001
                                    432 *        PROCEDURE TO LIST                                         00399001
                                    433 *                                                                  00400001
                      0000B         434 PBT      EQU   11                      REGISTER                    00401001
                      0000C         435 LAT      EQU   12                                                  00402001
                      0000D         436 FSB      EQU   13                      ADDRESS OF FIXED STORAGE AREA 00403001
                                    437 *                                                                  00404001
                                    438 *        DISPLACEMENT IN FSA                                       00405001
                                    439 *                                                                  00406001
0003C8 0700                         440          CNOP  2,4                                                 00407001
0003CA 05F0                         441 THUNKOUT BALR  R15,0                                              00408001
0003CC 5880 F008            00008   442          L     R8,8(,R15)                                          00409001
0003D0 47FF 000C            0000C   443          B     12(R15)                                             00410001
                                    444 *                                                                  00411001
0003D4 00000210                     445          DC    A(IHIGPROT)             INFORMATION CHARACTERISE OUTPUT 00412001
                                    446 *                                                                  00413001
0003D8 9200 D0A9      000A9         447          MVI   PROLPBN(FSB),X'00'                                  00414001
0003DC 90BC D0A0            000A0   448          STM   PBT,LAT,PROLREG(FSB)                                00415001
0003E0 47F0 D0D8            000D8   449          B     CAP2(0,FSB)                                         00416001
                                    450 *                                                                  00417001
                                    451 ********************************************************************** 00418001
                                    452 *                                                                  00419001
                                    453 *        IHIGPRGT - GET ROUTINE                                    00420001
                                    454 *                                                                  00421001
                                    455 ********************************************************************** 00422001
                                    456 *                                                                  00423001
                                    457 *        REGISTER CONTENTS ON ENTRY POINT IHIGPRGT                 00424001
                                    458 *                                                                  00425001
                                    459 *        R15                           -> ENTRY POINT              00426001
                                    460 *        R14                           -> RETURN                   00427001
                                    461 *        R13                           -> SAVE AREA IN FSA         00428001
                                    462 *        R1                            -> PARAMETER LIST           00429001
                                    463 *                                                                  00430001
                R:F  003E4          464          USING *,R15                                               00431001
** TXA533W USING range overlaps prior USING at statement 318.
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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** TXA301I Record 431 in SYSD.ALGOLFRT.ASM(IHIGPR)
                                    465 *                                                                  00432001
                                    466 IHIGPRGT IHIENTRY 'IHIGPRGT LEVEL 2.1 &SYSDATE &SYSTIME'           00433001
                                    467+*                                                                  01-IHIEN
0003E4 47F0 F026            00026   468+IHIGPRGT B     38(,R15)            BRANCH AROUND ID                01-IHIEN
0003E8 21                           469+         DC    AL1(33)             LENGTH OF IDENTIFIER            01-IHIEN
0003E9 C9C8C9C7D7D9C7E3             470+         DC    CL33'IHIGPRGT LEVEL 2.1 08/17/12 13.21'            +01-IHIEN
                                       +                                    IDENTIFIER                      01-IHIEN
                                    471 *                                                                  00434001
00040A 50D0 F4DC            008C0   472          ST    R13,SAVEPG+4                                        00435001
00040E 41D0 F4D8            008BC   473          LA    R13,SAVEPG                                          00436001
                                    474 *                                                                  00437001
                                    475          SAVE  (14,12)                                             00438001
000412                              476+         DS    0H                                                  01-SAVE
000412 90EC D00C            0000C   477+         STM   14,12,12(13)                SAVE REGISTERS          01-SAVE
                                    478 *                                                                  00439001
                                    479          DROP  R15                                                 00440001
000416 187F                         480          LR    R7,R15                                              00441001
                R:7  003E4          481          USING IHIGPRGT,R7                                         00442001
000418 58C0 74DC            008C0   482          L     R12,SAVEPG+4          ADDR OF FIXED ST AREA       00443001
00041C 50D0 719C            00580   483          ST    R13,SAVEGET+4                                       00444001
000420 41D0 7198            0057C   484          LA    R13,SAVEGET                                         00445001
000424 585C 00AC            000AC   485          L     R5,ADSTAB(R12)        FIRST ENTRY IN DSTAB IS APGCF 00446001
000428 5850 5000            00000   486          L     R5,0(,R5)             R5 -> PGCF TO               00447001
00042C 4160 0010            00010   487          LA    R6,16                 SET DSNR TO 16 FOR SYSUT2   00448001
                R:5  00000          488          USING PGCF,R5                                             00449001
000430 9101 74D4      008B8         489          TM    RECPG,X'01'           TEST IF RECURSIVELY         00450001
000434 4710 7674            00A58   490          BO    ERROR43               YES                         00451001
000438 9601 74D4      008B8         491          OI    RECPG,X'01'           SET FLAG BIT                00452001
00043C 9180 501B      0001B         492          TM    PG,PG0                DATASET OPEN ?              00453001
000440 4780 764A            00A2E   493          BZ    ERROR10               DATASET NOT OPEN            00454001
000444 5880 5000            00000   494          L     R8,ADCB               LOAD REGISTER FOR ADDRESSING 00455001
                R:8  00000          495          USING IHADCB,R8             DCB AND DECB              00456001
000448 9140 501B      0001B         496          TM    PG,PG1                TEST LAST PROCEDURE         00457001
00044C 4710 709C            00480   497          BO    GET1                  LAST PROCEDURE WAS GET      00458001
                                    498 *                                                                  00459001
                                    499          CHECK DECB                  CHECK THE PREVIOUS WRITE    00460001
000450 4110 8058            00058   500+         LA    1,DECB                      LOAD PARAMETER REG 1    02-IHBIN
000454 58E0 1008            00008   501+         L     14,8(0,1)             PICK UP DCB ADDR            01-CHECK
000458 58F0 E034            00034   502+         L     15,52(0,14)           LOAD CHECK ROUTINE ADDR     01-CHECK
00045C 05EF                         503+         BALR  14,15                 LINK TO CHECK ROUTINE       01-CHECK
                                    504 *                                                                  00461001
                                    505          NOTE  (R8)                                                00462001
00045E 1818                         506+         LR    1,R8                        LOAD PARAMETER REG 1    02-IHBIN
000460 58F0 1054            00054   507+         L     15,84(0,1)                  LOAD NOTE  RTN ADDRESS  01-NOTE
000464 05EF                         508+         BALR  14,15                       LINK TO NOTE  ROUTINE   01-NOTE
                                    509 *                                                                  00463001
000466 5010 5014            00014   510          ST    R1,NOTEADR            INFORMATION ABOUT THE LAST  00464001
                                    511 *                                    RECORD WRITTEN TO PGCF TO   00465001
                                    512 *                                    HAVE FOR A LATER PUT        00466001
                                    513 *                                    WHERE TO CONTINUE DATASET   00467001
00046A 9640 501B      0001B         514          OI    PG,PG1                PG1=1 INDICATING GET IS EXECUTED 00468001
00046E 4150 5004            00004   515          LA    R5,4(,R5)                                           00469001
000472 58FC 011C            0011C   516          L     R15,IORLST(R12)                                     00470001
000476 58FF 0018            00018   517          L     R15,EN(R15)           R15 -> IHIIOREN             00471001
00047A 05EF                         518          BALR  R14,R15               CLEAR NOTTAB                00472001
00047C 4B50 763C            00A20   519          SH    R5,=H'4'              RESTORE PGCF ADDR           00473001
                                    520 *                                                                  00474001
                                    521 *        EVALUATE IDENTIFICATION NUMBER FIRST PARAMETER            00475001
                                    522 *                                                                  00476001
000480 5810 74F0            008D4   523 GET1     L     R1,SAVEPG+24          GET CALLERS R1              00477001
000484 BF2F 1000            00000   524          ICM   R2,B'1111',0(R1)      CONVERSION REQUIRED ?       00478001
000488 4720 70CA            004AE   525          BP    GET2                  NO CONVERSION               00479001
00048C 9120 C0C2      000C2         526          TM    OPTSW(R12),X'20'      CONVERSION TO INTEGER NECESSARY? 00480001
000490 4710 70B8            0049C   527          BO    GET11                 SHORT PROCSISION            00481001
000494 6800 2000            00000   528          LD    FPR0,0(,R2)           LONG                        00482001
000498 47F0 70BC            004A0   529          B     GET11A                PARAMETER TO FPR0           00483001
                                    530 *                                                                  00484001
00049C 7800 2000            00000   531 GET11    LE    FPR0,0(,R2)                                         00485001
0004A0 58FC 011C            0011C   532 GET11A   L     R15,IORLST(R12)                                     00486001
0004A4 58FF 0000            00000   533          L     R15,CI(R15)                                         00487001
0004A8 05EF                         534          BALR  R14,R15               CALL CONVERSION ROUTINE     00488001
0004AA 47F0 70CE            004B2   535          B     GET2A                                               00489001
                                    536 *                                                                  00490001
0004AE 5800 2000            00000   537 GET2     L     R0,0(,R2)                                           00491001
0004B2 1200                         538 GET2A    LTR   R0,R0                 IDENTIFICATION NUMBERS IN R0 00492001
0004B4 4740 766E            00A52   539          BM    ERROR39                                             00493001
0004B8 5900 7634            00A18   540          C     R0,TWOP16                                           00494001
0004BC 47B0 766E            00A52   541          BNL   ERROR39                                             00495001
0004C0 4000 5018            00018   542          STH   R0,S                  GET/PUT IDENT WITHIN RANGE  00496001
0004C4 5840 500C            0000C   543          L     R4,BB                                               00497001
0004C8 4140 400C            0000C   544          LA    R4,12(,R4)            INSERT CORRECT CHARACTER POINTER 00498001
0004CC 5040 5004            00004   545          ST    R4,R                                                00499001
                                    546 *                                                                  00500001
                                    547 *        EXAMINE NOTTAB TO FIND AN ENTRY FOR S                     00501001
                                    548 *                                                                  00502001
0004D0 589C 00B0            000B0   549 GET12    L     R9,ANOTTAB(R12)       R9 -> NOTTAB                00503001
0004D4 18A9                         550          LR    R10,R9                COPY TO R10                 00504001
0004D6 41A0 A008            00008   551 GET3     LA    R10,8(,R10)           INCR ADDR BY RIGHT          00505001
0004DA 59A0 9000            00000   552          C     R10,0(,R9)            COMPARE WITH NXE            00506001
0004DE 4780 7650            00A34   553          BE    ERROR14               NO ENTRY FOR S FIND IN NOTTAB 00507001
0004E2 1826                         554          LR    R2,R6                 DATASET NUMBER TO R2        00508001
0004E4 4920 A000            00000   555          CH    R2,0(,R10)            DATASET NUMBER = 16 ?       00509001
0004E8 4770 70F2            004D6   556          BNE   GET3                  DATASET NUMBER ¬= 16 LOOP   00510001
0004EC D501 5018 A002 00018 00002   557          CLC   S(2),2(R10)           S IS EQUAL IN NOTTABENTRY ? 00511001
0004F2 4770 70F2            004D6   558          BNE   GET3                  NO, NEXT ENTRY IN NOTTAB    00512001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    559 *                            FOUND AN ENTRY IN NOTTAB FOR S  00513001
0004F6 4100 A004            00004   560          LA    R0,4(,R10)    ADDR OF NOTE INFORMATION        00514001
0004FA 1818                         561          LR    R1,R8         DCB ADDR TO R1                  00515001
                                    562 *                                                            00516001
                                    563          POINT (1),(0)                                       00517001
0004FC 58F0 1054            00054   564+         L     15,84(0,1)     LOAD POINT RTN ADDR            01-POINT
000500 45EF 0004            00004   565+         BAL   14,4(15,0)     LINK TO POINT ROUTINE          01-POINT
                                    566 *                                                            00518001
000504 5830 500C            0000C   567          L     R3,BB                                         00519001
                                    568 *                                                            00520001
                                    569          READ  DECB,SF,(R8),(R3),MF=E  READ A BLOCK TO BUFFER 00521001
000508 4110 8058            00058   570+         LA    1,DECB                   LOAD DECB ADDRESS    02-IHBRD
00050C 9280 1005      00005         571+         MVI   5(1),X'80'     SET TYPE FIELD                 02-IHBRD
000510 5081 0008            00008   572+         ST    R8,8(1,0)                STORE DCB ADDRESS    02-IHBRD
000514 5031 000C            0000C   573+         ST    R3,12(1,0)               STORE AREA ADDRESS   02-IHBRD
000518 58F1 0008            00008   574+         L     15,8(1,0)        LOAD DCB ADDRESS             02-IHBRD
00051C 58F0 F030            00030   575+         L     15,48(0,15)              LOAD RDWR ROUTINE ADDR 02-IHBRD
000520 05EF                         576+         BALR  14,15                    LINK TO RDWR ROUTINE 02-IHBRD
                                    577 *                                                            00522001
                                    578          CHECK DECB                  CHECK THIS READ         00523001
000522 4110 8058            00058   579+         LA    1,DECB                   LOAD PARAMETER REG 1 02-IHBIN
000526 58E0 1008            00008   580+         L     14,8(0,1)      PICK UP DCB ADDR               01-CHECK
00052A 58F0 E034            00034   581+         L     15,52(0,14)    LOAD CHECK ROUTINE ADDR        01-CHECK
00052E 05EF                         582+         BALR  14,15          LINK TO CHECK ROUTINE          01-CHECK
                                    583 *                                                            00524001
000530 D501 3008 5018 00008 00018   584          CLC   8(2,R3),S     TEST IDENTIFICATION NUMBER      00525001
000536 4770 7650            00A34   585          BNE   ERROR14                                       00526001
00053A D200 501A 300A 0001A 0000A   586          MVC   TYP(1),10(R3) TYP INFORMATION TO PGCF         00527001
000540 4A30 3000            00000   587          AH    R3,0(,R3)     BB+BL                           00528001
000544 5030 5008            00008   588          ST    R3,RE         EFFECTIVE END OF RECORD CURRENT 00529001
000548 5810 74F0            008D4   589          L     R1,SAVEPG+24                                  00530001
00054C 58D0 719C            00580   590          L     R13,SAVEGET+4 RESTORE PROGRAMS REGISTER       00531001
000550 98EC D00C            0000C   591          LM    R14,R12,12(R13)                               00532001
000554 5880 1004            00004   592          L     R8,4(,R1)     ADDR OF LIST PROCEDURE          00533001
                 R:F  003E4         593          USING IHIGPRGT,R15                                  00534001
** TXA531W Prior USING at statement 481 overridden by this USING.
** TXA301I Record 534 in SYSD.ALGOLFRT.ASM(IHIGPR)
000558 58D0 F4DC            008C0   594          L     R13,SAVEPG+4                                  00535001
                                    595          DROP  R15                                           00536001
00055C                              596          CNOP  0,4                                           00537001
00055C 45FD 00E0            000E0   597          BAL   R15,PROLOG(R13)                               00538001
                                    598 *                                                            00539001
000560 00000726                     599          DC    A(THUNKIN)                                    00540001
000564 8880                         600          DC    X'8880'       TYP INFORMATION FOR STANDARD    00541001
                                    601 *                            PROCEDURE                       00542001
000566 0001                         602          DC    H'1'                                          00543001
                                    603 *                                                            00544001
                 R:F  00568         604          USING *,R15                                         00545001
** TXA533W USING range overlaps prior USING at statement 481.
** TXA301I Record 545 in SYSD.ALGOLFRT.ASM(IHIGPR)
000568 41D0 F354            008BC   605          LA    R13,SAVEPG                                    00546001
00056C 98EC D00C            0000C   606          LM    R14,R12,12(R13)                               00547001
                 R:F  003E4         607          USING IHIGPRGT,R15                                  00548001
** TXA531W Prior USING at statement 481 overridden by this USING.
** TXA301I Record 548 in SYSD.ALGOLFRT.ASM(IHIGPR)
000570 58D0 F4DC            008C0   608          L     R13,SAVEPG+4                                  00549001
000574 9200 F4D4      008B8         609          MVI   RECPG,X'00'   CLEAR FLAG BIT                  00550001
000578 07FE                         610          BR    R14                                           00551001
                                    611 *                                                            00552001
00057A 0000
00057C 0000000000000000             612 SAVEGET  DC    18F'0'                                        00553001
                                    613          DROP  R15                                           00554001
                                    614 *                                                            00555001
                                    615 ********************************************************************** 00556001
                                    616 *                                                            00557001
                                    617 *        IHIGPRIT - INPUT IS ACTUAL PROCEDURE TO LIST        00558001
                                    618 *        EVALUATED BY THUNKIN                                00559001
                                    619 *                                                            00560001
                                    620 ********************************************************************** 00561001
                                    621 *                                                            00562001
                                    622 *        REGISTER CONTENTS ON ENTRY POINT IHIGPRIT           00563001
                                    623 *                                                            00564001
                                    624 *        R13                 R13 -> FSA                      00565001
                                    625 *        R8                  R8 -> ENTRY POINT IHIGPRIT      00566001
                                    626 *        R15                 R15 -> A THUNKFIELD             00567001
                                    627 *                                                            00568001
                                    628 *        REGISTER CONTENTS ON ENTRY POINT INPUTTH            00569001
                                    629 *                                                            00570001
                                    630 *        R15                 -> INPUTTH                      00571001
                                    631 *        R8                  -> PARAMETER WHERE TO           00572001
                                    632 *                               STORE VALUE FROM BUFFER      00573001
                 R:8  005C4         633          USING IHIGPRIT,R8                                   00574001
** TXA533W USING range overlaps prior USING at statement 481.
** TXA301I Record 574 in SYSD.ALGOLFRT.ASM(IHIGPR)
                                    634 *                                                            00575001
                                    635 IHIGPRIT IHIENTRY 'IHIGPRIT LEVEL 2.1 &SYSDATE &SYSTIME',REG=R8 00576001
                                    636+*                                                            01-IHIEN
0005C4 47F0 8026            00026   637+IHIGPRIT B     38(,R8)          BRANCH AROUND ID             01-IHIEN
0005C8 21                           638+         DC    AL1(33)          LENGTH OF IDENTIFIER         01-IHIEN
0005C9 C9C8C9C7D7D9C9E3             639+         DC    CL33'IHIGPRIT LEVEL 2.1 08/17/12 13.21'      +01-IHIEN
                                      +                                         IDENTIFIER           01-IHIEN
                                    640 *                                                            00577001
0005EA 50D0 8344            00908   641          ST    R13,SAVEOI+4                                  00578001
0005EE 41D0 8340            00904   642          LA    R13,SAVEOI                                    00579001
                                    643 *                                                            00580001
                                    644          SAVE  (14,12)                                       00581001
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Active USINGs: IHIGPRTN+X'5C4',R8 PGCF,R5 IHIGPRTN+X'3E4',R7

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

0005F2                              645+         DS    0H                                                        01-SAVE
0005F2 90EC D00C            0000C   646+         STM   14,12,12(13)                  SAVE REGISTERS             01-SAVE
                                    647 *                                                                        00582001
0005F6 50D0 80B8            0067C   648          ST    R13,SAVEIN+4                                              00583001
0005FA 1878                         649          LR    R7,R8                  FIXED STORAGE AREA ON ENTRY        00584001
                                    650          DROP  R8                                                        00585001
                R:7  005C4          651          USING IHIGPRIT,R7                                               00586001
0005FC 58C0 7344            00908   652          L     R12,SAVEOI+4                                              00587001
000600 41D0 70B4            00678   653          LA    R13,SAVEIN                                                00588001
000604 585C 00AC            000AC   654          L     R5,ADSTAB(R12)                                            00589001
000608 5850 5000            00000   655          L     R5,0(,R5)              R5 -> PGCF                         00590001
00060C 4160 0010            00010   656          LA    R6,16                  DSNR = 16 FOR SYSUT2               00591001
                R:5  00000          657          USING PGCF,R5                DSECT ADDRESSABILITY               00592001
000610 9101 72F5      008B9         658          TM    RECOI,X'01'            TEST IF RECURSIVELY                00593001
000614 4710 7494            00A58   659          BO    ERROR43                YES                                00594001
000618 9601 72F5      008B9         660          OI    RECOI,X'01'            SET FLAG BIT                       00595001
00061C 9501 F007      00007         661          CLI   7(R15),X'01'           TEST NUMBER OF PARAMETERS          00596001
000620 4770 747C            00A40   662          BNE   ERROR21                NUMBER DOES NOT CORRESPOND         00597001
                                    663 *                                      BETWEEN DECLARATION AND CALL       00598001
000624 9108 F004      00004         664          TM    4(R15),X'08'           ASSIGNMENT POSSIBLE ?              00599001
000628 4710 7476            00A3A   665          BO    ERROR20                                                   00600001
00062C D200 72F6 F005 008BA 00005   666          MVC   TYPC(1),5(R15)                                            00601001
000632 9403 72F6      008BA         667          NI    TYPC,X'03'                                                00602001
000636 D500 501A 72F6 0001A 008BA   668          CLC   TYP(1),TYPC                                               00603001
00063C 4770 7476            00A3A   669          BNE   ERROR20                PGCF                               00604001
                                    670 *                                                                        00605001
                                    671 ************************************************************************ 00606001
                                    672 *                                                                        00607001
                                    673 *        LINKING TO ROUTINE CALLING ACTUAL PARAMETER                     00608001
                                    674 *                                                                        00609001
                                    675          SAVE  (14,12)                SAVE REGISTER IN SAVEIN            00610001
000640                              676+         DS    0H                                                        01-SAVE
000640 90EC D00C            0000C   677+         STM   14,12,12(13)                  SAVE REGISTERS             01-SAVE
                                    678 *                                                                        00611001
000644 58D0 70B8            0067C   679          L     R13,SAVEIN+4                                              00612001
000648 D203 7458 F000 00A1C 00000   680          MVC   ADRTHUNK(4),0(R15)                                        00613001
00064E 98EC D00C            0000C   681          LM    R14,R12,12(R13)        RESTORE PROGRAMS REGISTER          00614001
                R:8  005C4          682          USING IHIGPRIT,R8                                               00615001
** TXA531W Prior USING at statement 651 overridden by this USING.
** TXA301I Record 615 in SYSD.ALGOLFRT.ASM(IHIGPR)
000652 58D0 8344            00908   683          L     R13,SAVEOI+4                                              00616001
000656                              684          CNOP  2,4                                                       00617001
000656 D201 809E A008 00662 00008   685          MVC   *+12(2),8(R10)         MOVE PROGRAM BLOCK NUMBER          00618001
00065C 45F0 8430            009F4   686          BAL   R15,CAP1GP                                                00619001
                                    687          DROP  R8                                                        00620001
                R:F  00660          688          USING *,R15                                                     00621001
** TXA533W USING range overlaps prior USING at statement 651.
** TXA301I Record 621 in SYSD.ALGOLFRT.ASM(IHIGPR)
                                    689 *                                                                        00622001
000660 0000                         690          DC    H'0'                                                      00623001
000662 0000                         691          DC    H'0'                                                      00624001
000664 4700 0000            00000   692          NOP   0                                                         00625001
                                    693 *                                                                        00626001
000668 41D0 F018            00678   694 INPUTTH  LA    R13,SAVEIN                                                00627001
                                    695          DROP  R15                                                       00628001
00066C 98E7 D00C            0000C   696          LM    R14,R7,12(R13)         RESTORE INPUT'S REGISTER EXCEPT    00629001
000670 989C D038            00038   697          LM    R9,R12,56(R13)         R8                                 00630001
000674 47F0 70FC            006C0   698          B     INPUTTAA               BRANCH OVER SAVEAREA               00631001
                                    699 *                                                                        00632001
000678 0000000000000000             700 SAVEIN   DC    18F'0'                                                    00633001
                                    701 *                                                                        00634001
                                    702 *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  * 00635001
                                    703 *                                                                        00636001
0006C0 5830 500C            0000C   704 INPUTTAA L     R3,BB                                                     00637001
0006C4 4A30 3000            00000   705          AH    R3,0(,R3)                                                 00638001
0006C8 5930 5004            00004   706          C     R3,R                                                      00639001
0006CC 47D0 7488            00A4C   707          BNH   ERROR38                BUFFER OVERFLOW                    00640001
0006D0 1B99                         708          SR    R9,R9                                                     00641001
0006D2 9103 501A      0001A         709          TM    TYP,X'03'                                                 00642001
0006D6 4740 711E            006E2   710          BM    INPUT1                                                    00643001
0006DA 4190 9001            00001   711          LA    R9,1(,R9)              BOOLEAN VALUE                      00644001
0006DE 47F0 713A            006FE   712          B     INPUT3                                                    00645001
                                    713 *                                                                        00646001
0006E2 9101 501A      0001A         714 INPUT1   TM    TYP,X'01'                                                 00647001
0006E6 4780 712E            006F2   715          BZ    INPUT2                                                    00648001
0006EA 4190 9004            00004   716 INPUT1AA LA    R9,4(,R9)              INTEGER VALUE                      00649001
0006EE 47F0 713A            006FE   717          B     INPUT3                                                    00650001
                                    718 *                                                                        00651001
0006F2 9120 C0C2      000C2         719 INPUT2   TM    OPTSW(R12),X'20'       REAL VALUE TEST IF LONG/SHORT      00652001
0006F6 4710 7126            006EA   720          BO    INPUT1AA               SHORT                              00653001
0006FA 4190 9008            00008   721          LA    R9,8(,R9)              LONG                               00654001
                                    722 *                                                                        00655001
0006FE 5840 5004            00004   723 INPUT3   L     R4,R                                                      00656001
000702 0690                         724 INPUT31  BCTR  R9,0                                                      00657001
000704 4490 7464            00A28   725          EX    R9,INOUTMOV                                               00658001
000708 4190 9001            00001   726          LA    R9,1(,R9)                                                 00659001
00070C 1A49                         727          AR    R4,R9                  INCREASE CHARACTER POINTER         00660001
00070E 5040 5004            00004   728          ST    R4,R                                                      00661001
000712 9200 72F5      008B9         729          MVI   RECOI,0                CLEAR FLAG BIT                     00662001
000716 58D0 70B8            0067C   730          L     R13,SAVEIN+4                                              00663001
00071A 98EC D00C            0000C   731          LM    R14,R12,12(R13)                                           00664001
                R:8  005C4          732          USING IHIGPRIT,R8                                               00665001
** TXA531W Prior USING at statement 651 overridden by this USING.
** TXA301I Record 665 in SYSD.ALGOLFRT.ASM(IHIGPR)
00071E 58D0 8344            00908   733          L     R13,SAVEOI+4                                              00666001
                                    734          DROP  R8                                                        00667001
```

Active USINGs: PGCF,R5 IHIGPRTN+X'5C4',R7

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000722 47F0 F008            00008   735          B     8(,R15)                                                  00668001
                                    736 *                                                                       00669001
                                    737 *        THUNK IN                                                       00670001
                                    738 *                                                                       00671001
                                    739 *        LIST PROCEDURE INVOKE CALL ACTUAL PARAMETER IN IHGFSA          00672001
                                    740 *        AND THIS CALL THUNKIN, WHICH ASSIGN INPUT AS ACTUAL            00673001
                                    741 *        PROCEDURE TO LIST                                              00674001
                                    742 *                                                                       00675001
000726                              743          CNOP  2,4                                                      00676001
000726 05F0                         744 THUNKIN  BALR  R15,0                                                    00677001
000728 5880 F008            00008   745          L     R8,8(,R15)                                               00678001
00072C 47F0 F00C            0000C   746          B     12(,R15)                                                 00679001
                                    747 *                                                                       00680001
000730 000005C4                     748          DC    A(IHIGPRIT)             INFORMATION CHARACTERISE OUTPUT  00681001
                                    749 *                                                                       00682001
000734 9200 D0A9      000A9         750          MVI   PROLPBN(FSB),X'00'                                       00683001
000738 90BC D0A0            000A0   751          STM   PBT,LAT,PROLREG(FSB)                                     00684001
00073C 47F0 D0D8            000D8   752          B     CAP2(,FSB)                                               00685001
                                    753 *                                                                       00686001
                                    754 *        OPEN DATASET SYSUT2                                            00687001
                                    755 *                                                                       00688001
                                    756 *        RESERVE MAIN FOR ONE DCB AND ONE DECB, ONE I/O BUFFER          00689001
                                    757 *        AND FOR NOTTAB IF NOT CREATED BEFORE                           00690001
                                    758 *                                                                       00691001
                                    759 IHIGPROP SAVE  (14,12),,'IHIGPROP LEVEL 2.1 &SYSDATE &SYSTIME'          00692001
000740 47F0 F026            00026   760+IHIGPROP B     38(0,15)                        BRANCH AROUND ID       01-SAVE
000744 21                           761+         DC    AL1(33)                         LENGTH OF IDENTIFIER   01-SAVE
000745 C9C8C9C7D7D9D6D7             762+         DC    CL32'IHIGPROP LEVEL 2.1 08/17/12 13.2' IDENTIFIER      01-SAVE
000765 F1                           763+         DC    CL1'1'                          IDENTIFIER             01-SAVE
000766 90EC D00C            0000C   764+         STM   14,12,12(13)                    SAVE REGISTERS         01-SAVE
                                    765 *                                                                       00693001
00076A 187F                         766          LR    R7,R15                                                   00694001
               R:7  00740           767          USING IHIGPROP,R7                                              00695001
               R:8  00000           768          USING IHADCB,R8                                                00696001
00076C 50D0 7210            00950   769          ST    R13,SAVEOP+4                                             00697001
000770 41D0 720C            0094C   770          LA    R13,SAVEOP                                               00698001
000774 4120 70F0            00830   771          LA    R2,IHIGPRCL                                              00699001
000778 589C 011C            0011C   772          L     R9,IORLST(R12)                                           00700001
00077C 5890 901C            0001C   773          L     R9,GP(,R9)                                               00701001
000780 5020 9000            00000   774          ST    R2,0(,R9)                                                00702001
000784 BF2F C0B0            000B0   775          ICM   R2,B'1111',ANOTTAB(R12)  NOTTAB ALREADY GETMAINED ?      00703001
000788 4720 706E            007AE   776          BP    OPGP1                    YES, BRANCH                     00704001
00078C 4100 0400            00400   777          LA    R0,1024                                                  00705001
                                    778 *                                                                       00706001
                                    779          GETMAIN R,LV=(0)               GET AREA FOR NOTTAB             00707001
                                    780+*        OS/VS2 RELEASE 4 VERSION -- 10/21/75                           01-GETMA
000790 4510 7054            00794   781+         BAL   1,*+4                           INDICATE GETMAIN       01-GETMA
000794 0A0A                         782+         SVC   10                              ISSUE GETMAIN SVC      01-GETMA
                                    783 *                                                                       00708001
000796 501C 00B0            000B0   784          ST    R1,ANOTTAB(R12)          SAVE GETMAINED AREA ADDR        00709001
00079A 1821                         785          LR    R2,R1                    ANOTTAB TO R2                   00710001
00079C 1891                         786          LR    R9,R1                    ANOTTAB TO R9                   00711001
00079E 4190 9008            00008   787          LA    R9,8(,R9)                                                00712001
0007A2 5090 2000            00000   788          ST    R9,0(,R2)                STORE POINTER NXE IN NOTTAB     00713001
0007A6 4190 93F8            003F8   789          LA    R9,1016(,R9)                                             00714001
0007AA 5090 2004            00004   790          ST    R9,4(,R2)                STORE POINTER NXEF IN NOTTAB    00715001
                                    791 *                                                                       00716001
0007AE 4100 006C            0006C   792 OPGP1    LA    R0,DCBAREAL              GET AREA FOR DCB AND DECB       00717001
                                    793 *                                                                       00718001
                                    794          GETMAIN R,LV=(0)                                               00719001
                                    795+*        OS/VS2 RELEASE 4 VERSION -- 10/21/75                           01-GETMA
0007B2 4510 7076            007B6   796+         BAL   1,*+4                           INDICATE GETMAIN       01-GETMA
0007B6 0A0A                         797+         SVC   10                              ISSUE GETMAIN SVC      01-GETMA
                                    798 *                                                                       00720001
0007B8 5010 5000            00000   799          ST    R1,ADCB                                                  00721001
0007BC 1881                         800          LR    R8,R1                                                    00722001
                                    801 *                                                                       00723001
                                    802 *        TRANSFER DCBMODEL                                              00724001
                                    803 *                                                                       00725001
0007BE D257 8000 7254 00000 00994   804          MVC   0(DCBMODLN,R8),DCBMODEL                                  00726001
0007C4 5810 C11C            0011C   805          L     R1,IORLST(,R12)            INSERT SYNAD                00727001
0007C8 5810 1020            00020   806          L     R1,ER(,R1)                 ADDR TO                     00728001
0007CC 5010 8038            00038   807          ST    R1,DCBSYNAD                IHIIORER                    00729001
                                    808 *                                                                       00730001
                                    809          OPEN  ((R8),(OUTIN))             OPEN DATASET                00731001
0007D0                              810+         CNOP  0,4                             ALIGN LIST TO FULLWORD 01-OPEN
0007D0 4510 7098            007D8   811+         BAL   1,*+8                           LOAD REG1 W/LIST ADDR. 01-OPEN
0007D4 00000000                     812+         DC    A(0)                            OPT BYTE AND DCB ADDR. 01-OPEN
0007D8 5081 0000            00000   813+         ST    R8,0(1,0)                       STORE INTO LIST        01-OPEN
0007DC 9287 1000      00000         814+         MVI   0(1),135                        MOVE IN OPTION BYTE    01-OPEN
0007E0 0A13                         815+         SVC   19                              ISSUE OPEN SVC         01-OPEN
                                    816 *                                                                       00732001
0007E2 9110 8030      00030         817          TM    DCBOFLGS,DCBOFOPN          OPEN SUCCESSFUL ?           00733001
0007E6 4710 70B0            007F0   818          BO    OPGP2                      YES, BRANCH                 00734001
0007EA 18DC                         819          LR    R13,R12                    OPEN FAILED                 00735001
0007EC 47FC 0270            00270   820          B     FSAERR+41*4(R12)                                       00736001
                                    821 *                                                                       00737001
0007F0 5800 5010            00010   822 OPGP2    L     R0,BE                      BE=BUFFER LENGTH            00738001
                                    823 *                                                                       00739001
                                    824          GETMAIN R,LV=(0)               GET AREA FOR RECORD BUFFER      00740001
                                    825+*        OS/VS2 RELEASE 4 VERSION -- 10/21/75                           01-GETMA
0007F4 4510 70B8            007F8   826+         BAL   1,*+4                           INDICATE GETMAIN       01-GETMA
0007F8 0A0A                         827+         SVC   10                              ISSUE GETMAIN SVC      01-GETMA
                                    828 *                                                                       00741001
0007FA 5010 500C            0000C   829          ST    R1,BB                                                    00742001
0007FE 5A10 5010            00010   830          A     R1,BE                      BB+BE TO BE                 00743001
```

Active USINGs: IHADCB,R8 IHIGPRTN+X'740',R7 PGCF,R5

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000802 5010 5010            00010   831          ST    R1,BE                   BE DEFINE BUFFER END          00744001
000806 9680 501B      0001B         832          OI    PG,PG0                  PG0=1 DATASET OPEN            00745001
00080A 58D0 7210            00950   833          L     R13,SAVEOP+4                                          00746001
                                    834 *                                                                    00747001
                                    835          RETURN (14,12)                                            00748001
00080E 98EC D00C            0000C   836+         LM    14,12,12(13)                RESTORE THE REGISTERS     01-RETUR
000812 07FE                         837+         BR    14                          RETURN                    01-RETUR
                                    838 *                                                                    00749001
                                    839 *        OPEN EXIT ROUTINE                                           00750001
                                    840 *                                                                    00751001
000814 4820 803E            0003E   841 IHIGPRDX LH    R2,DCBBLKSI             DCBBLKSI = 0 ?                00752001
000818 1222                         842          LTR   R2,R2                                                 00753001
00081A 4780 70E6            00826   843          BZ    EXIT1                     BLKSIZE = 0                   00754001
00081E 5020 5010            00010   844          ST    R2,BE                     BLKSIZE NOT ZERO              00755001
000822 47F0 70EE            0082E   845          B     EXIT1+8                                                 00756001
                                    846 *                                                                    00757001
000826 5820 5010            00010   847 EXIT1    L     R2,BE                     BE=2048 TO BLKSIZE            00758001
00082A 4020 803E            0003E   848          STH   R2,DCBBLKSI                                           00759001
                                    849 *                                                                    00760001
                                    850          RETURN                                                    00761001
00082E 07FE                         851+         BR    14                          RETURN                    01-RETUR
                                    852 *                                                                    00762001
                                    853 *        CLOSE DATASET SYSUT2                                        00763001
                                    854 *                                                                    00764001
                                    855 *        RELEASE DCB, DECB AND I/O BUFFER                            00765001
                                    856 *        CALLED FROM IHGIOR - CLOSEPE                                00766001
                                    857 *                                                                    00767001
                                    858 IHIGPRCL SAVE  (14,12),,'IHIGPRCL LEVEL 2.1 &SYSDATE &SYSTIME'       00768001
000830 47F0 F026            00026   859+IHIGPRCL B     38(0,15)                    BRANCH AROUND ID          01-SAVE
000834 21                           860+         DC    AL1(33)                     LENGTH OF IDENTIFIER      01-SAVE
000835 C9C8C9C7D7D9C3D3             861+         DC    CL32'IHIGPRCL LEVEL 2.1 08/17/12 13.2' IDENTIFIER     01-SAVE
000855 F1                           862+         DC    CL1'1'                      IDENTIFIER                01-SAVE
000856 90EC D00C            0000C   863+         STM   14,12,12(13)                SAVE REGISTERS            01-SAVE
                                    864 *                                                                    00769001
00085A 187F                         865          LR    R7,R15                                                00770001
               R:7  00830           866          USING IHIGPRCL,R7                                           00771001
00085C 50D0 7120            00950   867          ST    R13,SAVEOP+4                                          00772001
000860 41D0 711C            0094C   868          LA    R13,SAVEOP                                            00773001
000864 5850 C0AC            000AC   869          L     R5,ADSTAB(,R12)                                       00774001
000868 5850 5000            00000   870          L     R5,0(,R5)                                             00775001
00086C 4160 0010            00010   871          LA    R6,16                                                 00776001
000870 5880 5000            00000   872          L     R8,ADCB                                               00777001
                                    873 *                                                                    00778001
                                    874          CLOSE ((R8))                                              00779001
000874                              875+         CNOP  0,4                         ALIGN LIST TO FULLWORD    01-CLOSE
000874 4510 704C            0087C   876+         BAL   1,*+8                       LOAD REG1 W/LIST ADDR     01-CLOSE
000878 00000000                     877+         DC    A(0)                        OPTION AND DCB ADDRESS    01-CLOSE
00087C 5081 0000            00000   878+         ST    R8,0(1,0)                   STORE DCB ADDRESS         01-CLOSE
000880 9280 1000      00000         879+         MVI   0(1),128                    MOVE IN OPTION BYTE       01-CLOSE
000884 0A14                         880+         SVC   20                          ISSUE CLOSE SVC           01-CLOSE
                                    881 *                                                                    00780001
000886 5810 500C            0000C   882          L     R1,BB                     BUFFER BEGIN ADDR TO R1       00781001
00088A 5800 5010            00010   883          L     R0,BE                                                 00782001
00088E 1B01                         884          SR    R0,R1                     BUFFER LENGTH TO R0         00783001
                                    885 *                                                                    00784001
                                    886 *        FREEMAIN FOR RECORD BUFFER                                  00785001
                                    887 *                                                                    00786001
                                    888          FREEMAIN  R,LV=(0),A=(1)                                  00787001
                                    889+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                     01-FREEM
000890 4110 1000            00000   890+         LA    1,0(0,1)                    CLEAR HI ORDER BYTE       01-FREEM
000894 0A0A                         891+         SVC   10                          ISSUE FREEMAIN SVC        01-FREEM
                                    892 *                                                                    00788001
                                    893 *        FREEMAIN FOR DCB AND DECB                                   00789001
                                    894 *                                                                    00790001
                                    895          FREEMAIN  R,LV=DCBAREAL,A=ADCB                            00791001
                                    896+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                     01-FREEM
000896 0700                         897+         CNOP  0,4                                                 01-FREEM
000898 47F0 7070            008A0   898+         B     *+8                         BRANCH AROUND LENGTH      01-FREEM
00089C 0000006C                     899+         DC    A(DCBAREAL)                 LENGTH                    01-FREEM
0008A0 5800 706C            0089C   900+         L     0,*-4                       LOAD SP AND LV            01-FREEM
0008A4 5810 5000            00000   901+         L     1,ADCB                      LOAD AREA ADDRESS         01-FREEM
0008A8 4110 1000            00000   902+         LA    1,0(0,1)                    CLEAR HI ORDER BYTE       01-FREEM
0008AC 0A0A                         903+         SVC   10                          ISSUE FREEMAIN SVC        01-FREEM
                                    904 *                                                                    00792001
0008AE 58D0 7120            00950   905          L     R13,SAVEOP+4                                          00793001
                                    906 *                                                                    00794001
                                    907          RETURN (14,12)                                            00795001
0008B2 98EC D00C            0000C   908+         LM    14,12,12(13)                RESTORE THE REGISTERS     01-RETUR
0008B6 07FE                         909+         BR    14                          RETURN                    01-RETUR
                                    910 *                                                                    00796001
0008B8 00                           911 RECPG    DC    X'00'                                                 00797001
0008B9 00                           912 RECOI    DC    X'00'                                                 00798001
0008BA 00                           913 TYPC     DC    X'00'                                                 00799001
0008BB 00                           914 PARTST   DC    X'00'                                                 00800001
0008BC 0000000000000000             915 SAVEPG   DC    18F'0'                                                00801001
000904 0000000000000000             916 SAVEOI   DC    18F'0'                                                00802001
00094C 0000000000000000             917 SAVEOP   DC    18F'0'                                                00803001
                                    918 *                                                                    00804001
                                    919 DCBMODEL DCB   DSORG=PS,MACRF=(RP,WP),DDNAME=SYSUT2,RECFM=V,NCP=1,     X00805001
                                                       EXLST=ADCBEXIT                                        00806001


                                    921+*                    DATA CONTROL BLOCK                           01-DCB
                                    922+*                                                                 01-DCB
000994                              923+DCBMODEL DC    0F'0'                    ORIGIN ON WORD BOUNDARY       01-DCB
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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                                925+*                    DIRECT ACCESS DEVICE INTERFACE                  01-DCB

000994 0000000000000000         927+         DC    BL16'0'                 FDAD,DVTBL                    01-DCB
0009A4 00000000                 928+         DC    A(0)                    KEYLE,DEVT,TRBAL              01-DCB

                                930+*                    COMMON ACCESS METHOD INTERFACE                  01-DCB

0009A8 00                       932+         DC    AL1(0)                  BUFNO                         01-DCB
0009A9 000001                   933+         DC    AL3(1)                  BUFCB                         01-DCB
0009AC 0000                     934+         DC    AL2(0)            BUFL                                01-DCB
0009AE 4000                     935+         DC    BL2'0100000000000000'           DSORG                 01-DCB
0009B0 00000001                 936+         DC    A(1)                     IOBAD                        01-DCB

                                938+*                    FOUNDATION EXTENSION                            01-DCB

0009B4 00                       940+         DC    BL1'00000000'                 BFTEK,BFLN,HIARCHY      01-DCB
0009B5 000001                   941+         DC    AL3(1)                  EODAD                         01-DCB
0009B8 40                       942+         DC    BL1'01000000'           RECFM                         01-DCB
0009B9 0009EC                   943+         DC    AL3(ADCBEXIT)           EXLST                         01-DCB

                                945+*                    FOUNDATION BLOCK                                01-DCB

0009BC E2E8E2E4E3F24040         947+         DC    CL8'SYSUT2'             DDNAME                        01-DCB
0009C4 02                       948+         DC    BL1'00000010'           OFLGS                         01-DCB
0009C5 00                       949+         DC    BL1'00000000'                        IFLG             01-DCB
0009C6 2424                     950+         DC    BL2'0010010000100100'   MACR                          01-DCB

                                952+*                    BSAM-BPAM-QSAM INTERFACE                        01-DCB

0009C8 00                       954+         DC    BL1'00000000'                                    RER1 01-DCB
0009C9 000001                   955+         DC    AL3(1)                  CHECK, GERR, PERR             01-DCB
0009CC 00000001                 956+         DC    A(1)                    SYNAD                         01-DCB
0009D0 0000                     957+         DC    H'0'                    CIND1, CIND2                  01-DCB
0009D2 0000                     958+         DC    AL2(0)                  BLKSIZE                       01-DCB
0009D4 00000000                 959+         DC    F'0'                    WCPO, WCPL, OFFSR, OFFSW      01-DCB
0009D8 00000001                 960+         DC    A(1)                    IOBA                          01-DCB
0009DC 01                       961+         DC    AL1(1)                  NCP                           01-DCB
0009DD 000001                   962+         DC    AL3(1)                  EOBR, EOBAD                   01-DCB

                                964+*                     BSAM-BPAM INTERFACE                            01-DCB

0009E0 00000001                 966+         DC    A(1)                    EOBW                          01-DCB
0009E4 0000                     967+         DC    H'0'                    DIRCT                         01-DCB
0009E6 0000                     968+         DC    AL2(0)          LRECL                                 01-DCB
0009E8 00000001                 969+         DC    A(1)                    CNTRL, NOTE, POINT            01-DCB
                     00058      970 DCBMODLN EQU   *-DCBMODEL              L'DCB                         00807001
                                971 *                                                                    00808001
0009EC                          972          DC    0F'0'                                                 00809001
0009EC 85                       973 ADCBEXIT DC    X'85'                                                 00810001
0009ED 000814                   974          DC    AL3(IHIGPRDX)                                         00811001
                                975 *                                                                    00812001
                                976 *        EXTERNAL ADDRESSES                                          00813001
                                977 *                                                                    00814001
0009F0 00000740                 978 AOPENPG  DC    A(IHIGPROP)                                           00815001
                                979 *                                                                    00816001
                                980 *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  * 00817001
                                981 *                                                                 *  00818001
                                982 *        THIS ROUTINE IS USED INSTEAD OF CAP1 IN FSA              *  00819001
                                983 *                                                                 *  00820001
                                984 *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  * 00821001
                                985 *                                                                    00822001
0009F4 0580                     986 CAP1GP   BALR  R8,0                                                  00823001
               R:8  009F6       987          USING *,R8                                                  00824001
** TXA533W USING range overlaps prior USING at statement 866.
** TXA301I Record 824 in SYSD.ALGOLFRT.ASM(IHIGPR)
0009F6 583D 00C8        000C8   988          L     R3,RASPT(FSB)                                         00825001
0009FA 4133 0008        00008   989          LA    R3,8(R3)                                              00826001
0009FE 593D 00D0        000D0   990          C     R3,RASPB(FSB)                                         00827001
000A02 47B0 8050        00A46   991          BNL   ERROR36                 RASOVERFLOW                   00828001
000A06 50A0 3000        00000   992          ST    R10,0(,R3)                                            00829001
000A0A 50F0 3004        00004   993          ST    R15,4(,R3)                                            00830001
000A0E 503D 00C8        000C8   994          ST    R3,RASPT(FSB)                                         00831001
000A12 5880 8026        00A1C   995          L     R8,ADRTHUNK                                           00832001
                                996          DROP  R8                                                    00833001
000A16 07F8                     997          BR    R8                      TO THUNK ROUTINE              00834001
                                998 *                                                                    00835001
000A18 00010000                 999 TWOP16   DC    F'65536'                2**16                         00836001
000A1C 00000000                1000 ADRTHUNK DC    A(0)                                                  00837001
                               1001 *                                                                    00838001
000A20                         1002          LTORG                                                       00839001
000A20 0004                    1003                =H'4'
                               1004 *                                                                    00840001
000A22 D200 4000 8000 00000 00000 1005 OUTINMOV MVC   0(1,R4),0(R8)                                      00841001
000A28 D200 8000 4000 00000 00000 1006 INOUTMOV MVC   0(1,R8),0(R4)                                      00842001
                               1007 *                                DATASET CLOSED                    00843001
000A2E 18DC                    1008 ERROR10  LR    R13,R12           ADDR OF FSA TO R13                00844001
000A30 47FC 01F4        001F4  1009          B     FSAERR+10*4(R12)                                      00845001
                               1010 *                                                                    00846001
000A34 18DC                    1011 ERROR14  LR    R13,R12           ADDR OF FSA TO R13                00847001
                               1012 *                                NO ENTRY IN NOTTAB IE BACK-       00848001
000A36 47FC 0204        00204  1013          B     FSAERR+14*4(R12)  WARD REPOSITIONING NOT DEFINED    00849001
                               1014 *                                                                    00850001
000A3A 18DC                    1015 ERROR20  LR    R13,R12           ADDR OF FSA TO R13                00851001
                               1016 *                                DIFFERENT TYPE OR KIND OF         00852001
000A3C 47FC 021C        0021C  1017          B     FSAERR+20*4(R12)  PARAMETER AT ACTUAL AND FORMAL    00853001
                               1018 *                                                                    00854001
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Active USINGs: IHIGPRTN+X'830',R7 PGCF,R5

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 Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000A40 18DC                      1019 ERROR21  LR    R13,R12               ADDR OF FSA TO R13                00855001
                                 1020 *                                    NUMBER OF PARAMETERS DOES NOT     00856001
000A42 47FC 0220           00220 1021          B     FSAERR+21*4(R12)      CORRESPOND BETWEEN DECLARATION    00857001
                                 1022 *                                    AND CALL                          00858001
                                 1023 *                                    TOO MANY NESTED BLOCKS, PROCS     00859001
000A46 18DC                      1024 ERROR36  LR    R13,R12               AND PARAMETER CALLS. INTERNAL     00860001
000A48 47FC 025C           0025C 1025          B     FSAERR+36*4(R12)      (RETURN ADDRESS STACK) OVERFLOW   00861001
                                 1026 *                                                                    00862001
000A4C 18DC                      1027 ERROR38  LR    R13,R12               ADDR OF FSA TO R13                00863001
000A4E 47FC 0264           00264 1028          B     FSAERR+38*4(R12)      GET/PUT BUFFER OVERFLOW           00864001
                                 1029 *                                                                    00865001
000A52 18DC                      1030 ERROR39  LR    R13,R12               ADDRESS OF FSA TO R13             00866001
                                 1031 *                                    GET/PUT IDENTIFICATION OUT OF     00867001
000A54 47FC 0268           00268 1032          B     FSAERR+39*4(R12)      RANGE                             00868001
                                 1033 *                                                                    00869001
                                 1034 *                                                                    00870001
000A58 18DC                      1035 ERROR43  LR    R13,R12               RECURSIVELY USE OF PUT/GET        00871001
000A5A 47FC 0278           00278 1036          B     FSAERR+43*4(R12)      OUTPUT/INPUT                      00872001
                                 1037 *                                                                    00873001
000000                00000 0001C 1038 PGCF      DSECT                                                     00874001
000000                            1039 ADCB      DS    A                                                   00875001
000004                            1040 R         DS    A                                                   00876001
000008                            1041 RE        DS    A                                                   00877001
00000C                            1042 BB        DS    A                                                   00878001
000010                            1043 BE        DS    A                                                   00879001
000014                            1044 NOTEADR   DS    A                                                   00880001
000018                            1045 S         DS    H                                                   00881001
00001A                            1046 TYP       DS    C                                                   00882001
00001B                            1047 PG        DS    C                                                   00883001
                                  1048 *                                                                    00884001
                                  1049 *         MAP DCB                                                    00885001
                                  1050 *                                                                    00886001
                                  1051           PRINT NOGEN                                                00887001
                                  1052 *                                                                    00888001
                                  1053           DCBD  DSORG=BS,DEVD=(DA)                                   00889001
                                  1560 *                                                                    00890001
                                  1561           PRINT GEN                                                  00891001
                                  1562 *                                                                    00892001
                                  1563 *         MAP DECB                                                   00893001
                                  1564 *                                                                    00894001
                                  1565           READ  DECB,SF,MF=L                                         00895001
000058 00000000                   1566+DECB      DC    F'0'                    EVENT CONTROL BLOCK          02-IHBRD
00005C 00                         1567+          DC    X'00'                   TYPE FIELD                   02-IHBRD
00005D 80                         1568+          DC    X'80'                   TYPE FIELD                   02-IHBRD
00005E 0000                       1569+          DC    AL2(0)                  LENGTH                       02-IHBRD
000060 00000000                   1570+          DC    A(0)                    DCB ADDRESS                  02-IHBRD
000064 00000000                   1571+          DC    A(0)                    AREA ADDRESS                 02-IHBRD
000068 00000000                   1572+          DC    A(0)                    RECORD POINTER WORD          02-IHBRD
                                  1573 *                                                                    00896001
                      0006C       1574 DCBAREAL  EQU   *-IHADCB                L'I/O CONTROL BLOCKS         00897001
                                  1575 *                                                                    00898001
000000                00000 00120 1576 FSAAREA   DSECT                                                     00899001
                                  1577           COPY  FSAREA                                               00900001
                                  1578=*                                                                    00001001
                                  1579=*         COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                 00002001
                                  1580=*                                                                    00003001
                                  1581=*         STATUS - LEVEL 2.1                                         00004001
                                  1582=*                                                                    00005001
                                  1583=*********************************************************************** 00006001
                                  1584=*                                                                    00007001
                                  1585=*         COMMON DATA AREA                                           00008001
                                  1586=*                                                                    00009001
                                  1587=*         FSAREA                                                     00010001
                                  1588=*                                                                    00011001
                                  1589=*********************************************************************** 00012001
                                  1590=*                                                                    00013001
                                  1591=*         DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                 00014001
                                  1592=*         MODULES DURING THE EXECUTION                               00015001
                                  1593=*                                                                    00016001
                                  1594=*         ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY              00017001
                                  1595=*         SUBROUTINES) BY R12                                        00018001
                                  1596=*                                                                    00019001
                      00000       1597=FSAREA    EQU   *                                                    00020001
                                  1598=*                                                                    00021001
                                  1599=*         SAVE AREAS                                                 00022001
                                  1600=*                                                                    00023001
000000                            1601=          DS    18F                     STANDARD SAVE AREA           00024001
                      00048       1602=ASAVE     EQU   *-FSAREA                ALTERNATE SAVE AREA USED BY  00025001
000048                            1603=          DS    18F                     CERTAIN SUBROUTINES          00026001
                                  1604=*                                                                    00027001
                                  1605=*         MISCELLANEOUS WORK AREAS AND CONSTANTS                     00028001
                                  1606=*                                                                    00029001
                      00090       1607=FCTVALST  EQU   *-FSAREA                TEMPORARY STORAGE FOR        00030001
000090                            1608=          DS    D                       FUNCTION VALUES              00031001
                      00098       1609=ASTLOC    EQU   *-FSAREA                DISPL FOR ADDR OF STAND LOCTN 00032001
000098 00000090                   1610=          DC    A(FSAREA+FCTVALST)                                   00033001
                      0009C       1611=BRRST     EQU   *-FSAREA                TEMPORARY SAVE REG BRR       00034001
                      0009C       1612=HW        EQU   BRRST                   TEMPORARY HALFWORD STORAGE   00035001
00009C                            1613=          DS    F                                                  00036001
                      000A0       1614=PROLREG   EQU   *-FSAREA                STORAGE FOR PBT AND LAT WHEN 00037001
0000A0                            1615=          DS    2A                      A PROCEDURE IS FORMAL PARAM  00038001
                                  1616=*                                                                    00039001
                                  1617=*         HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE      00040001
                                  1618=*                                                                    00041001
0000A8                            1619=          DS    0H                                                 00042001
0000A8 00                         1620=          DC    X'00'                                              00043001
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D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                      000A9        1621=PROLPBN  EQU   *-FSAREA              STORAGE FOR CALLED PBN           00044001
0000A9 00                          1622=         DC    X'00'                                                  00045001
                      000AA        1623=EIGHT    EQU   *-FSAREA              CONST FOR REDUCING RAS           00046001
0000AA 0008                        1624=         DC    H'8'                                                   00047001
                                   1625=*                                                                     00048001
0000AC                             1626=         DS    0F                                                     00049001
                      000AC        1627=ADSTAB   EQU   *-FSAREA              ADDR OF DSTABLE                  00050001
0000AC                             1628=         DS    A                     IN THE OBJECT PROGRAM            00051001
                      000B0        1629=ANOTTAB  EQU   *-FSAREA              ADDR OF NOTE TABLE               00052001
0000B0                             1630=         DS    A                     (INSERTED BY THE OPEN ROUTINE)   00053001
                                   1631=*                                                                     00054001
                      000B4        1632=IHIFSAST EQU   *                                                      00055001
                      000B4        1633=PGOPSW   EQU   *-FSAREA              PROGRAM CHECK OLD PSW            00056001
0000B4                             1634=         DS    2F                                                     00057001
                      000BC        1635=FSAPICA  EQU   *-FSAREA              OLD PICA ADDR                    00058001
0000BC 00000000                    1636=         DC    F'0'                                                   00059001
                      000C0        1637=SCRCS    EQU   *-FSAREA              SEMICOLON NUMBER                 00060001
0000C0                             1638=         DS    H                                                      00061001
                      000C2        1639=DTSW     EQU   *-FSAREA              OPTION SWITCHES                  00062001
                      000C2        1640=OPTSW    EQU   DTSW                                                   00063001
0000C2 00                          1641=         DC    X'00'                 DUMP-80, TRACE-40, SHORT-20      00064001
                      000C3        1642=FSAERCOD EQU   *-FSAREA              ERROR CODE FOR ERROR ROUTINE     00065001
0000C3                             1643=         DS    C                                                      00066001
                                   1644=*                                                                     00067001
                                   1645=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER            00068001
                                   1646=*                                                                     00069001
0000C4                             1647=         DS    0F                                                     00070001
                      000C4        1648=IHIFSARS EQU   *                                                      00071001
                      000C4        1649=RASSTART EQU   *-FSAREA              ADDR OF FIRST ENTRY IN RAS-8     00072001
0000C4                             1650=         DS    F                                                      00073001
                      000C8        1651=RASPT    EQU   *-FSAREA              RAS POINTER FROM TOP             00074001
0000C8                             1652=         DS    F                                                      00075001
                      000CC        1653=RASEND   EQU   *-FSAREA              ADDR OF LAST  ENTRY IN RAS+8     00076001
0000CC                             1654=         DS    F                                                      00077001
                      000D0        1655=RASPB    EQU   *-FSAREA              RAS POINTER FROM BOTTOM          00078001
0000D0                             1656=         DS    F                                                      00079001
                                   1657=*                                                                     00080001
                                   1658=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES      00081001
                                   1659=*                                                                     00082001
0000D4                             1660=BRLIST   DS    0F                                                     00083001
                      000D4        1661=CAP1     EQU   *-FSAREA              FIRST PART CAPS                  00084001
0000D4 4700 0000            00000  1662=         NOP   0                                                      00085001
                      000D8        1663=CAP2     EQU   *-FSAREA              SECOND PART CAPS                 00086001
0000D8 4700 0000            00000  1664=         NOP   0                                                      00087001
                      000DC        1665=PROLOGP  EQU   *-FSAREA              PROLOGUE FORMAL PARAMETER ENTRY  00088001
                      000DC        1666=PROLOGFP EQU   PROLOGP                                                00089001
0000DC 4700 0000            00000  1667=         NOP   0                                                      00090001
                      000E0        1668=PROLOG   EQU   *-FSAREA              PROLOGUE PROGRAM USUAL ENTRY     00091001
0000E0 4700 0000            00000  1669=         NOP   0                                                      00092001
                      000E4        1670=RETPROG  EQU   *-FSAREA              DISPLACEMENT RETURN PROGRAM      00093001
0000E4 4700 0000            00000  1671=         NOP   0                                                      00094001
                      000E8        1672=EPILOGP  EQU   *-FSAREA              EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000            00000  1673=         NOP   0                                                      00096001
                      000EC        1674=EPILOGB  EQU   *-FSAREA              EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000            00000  1675=         NOP   0                                                      00098001
                      000F0        1676=EPILPR3  EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3         00099001
0000F0 4700 0000            00000  1677=         NOP   0                                                      00100001
                      000F4        1678=CSWE1    EQU   *-FSAREA              FIRST PART CSWES                 00101001
0000F4 4700 0000            00000  1679=         NOP   0                                                      00102001
                      000F8        1680=CSWE2    EQU   *-FSAREA              SECOND PART CSWES                00103001
0000F8 4700 0000            00000  1681=         NOP   0                                                      00104001
                      000FC        1682=LOADPP   EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE    00105001
0000FC 4700 0000            00000  1683=         NOP   0                                                      00106001
                      00100        1684=TRACE    EQU   *-FSAREA                                               00107001
000100 D200 0000 0000 00000 00000  1685=         MVC   0(0),0                                                 00108001
000106 4700 0000            00000  1686=         NOP   0                                                      00109001
00010A 4700 0000            00000  1687=         NOP   0                                                      00110001
                      0010E        1688=TERMNTE  EQU   *-FSAREA              NORMAL TERMINATION EXIT          00111001
00010E 4700 0000            00000  1689=         NOP   0                                                      00112001
                      00112        1690=BCR      EQU   *-FSAREA                                               00113001
000112 0700                        1691=         BCR   0,0                   VARIABLE CONDITIONAL BRANCH      00114001
                      00114        1692=GETMSTO  EQU   *-FSAREA                                               00115001
000114 4700 0000            00000  1693=         NOP   0                                                      00116001
                                   1694=*                                                                     00117001
                      00118        1695=VALUCALL EQU   *-FSAREA                                               00118001
000118 4700 0000            00000  1696=         NOP   0                                                      00119001
                      0011C        1697=IORLST   EQU   *-FSAREA                                               00120001
00011C 4700 0000            00000  1698=         NOP   0                                                      00121001
                                   1699=*                                                                     00122001
                      001CC        1700=FSAERR   EQU   X'1CC'                DISPL  FOR ERROR LIST            00123001
                                   1701=*                                                                     00124001
                                   1702=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                 00125001
                                   1703=*                                                                     00126001
                      0020C        1704=OUTOFB   EQU   FSAERR+4*16                                            00127001
                      00218        1705=NUMBIND  EQU   FSAERR+4*19                                            00128001
                      00208        1706=ARRAYBD  EQU   FSAERR+4*15                                            00129001
                      0026C        1707=ERROR40  EQU   FSAERR+4*40                                            00130001
                      00224        1708=OERR22   EQU   FSAERR+4*22                                            00131001
                      00210        1709=ENDLESL  EQU   FSAERR+4*17                                            00132001
                      00220        1710=OERR21   EQU   FSAERR+4*21                                            00133001
                                   1711=*                                                                     00134001
                                   1712 *                                                                     00901001
                                   1713 *        REGISTER EQUATES                                             00902001
                                   1714 *                                                                     00903001
                                   1715          IEZREGS                                                      00904001
                      00000        1716+R0       EQU   0                                                      01-IEZRE
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Active USINGs: IHIGPRTN+X'830',R7 PGCF,R5

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D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                    X390 3.1.04  2012/08/17 13.21

                      00001        1717+R1       EQU   1                                          01-IEZRE
                      00002        1718+R2       EQU   2                                          01-IEZRE
                      00003        1719+R3       EQU   3                                          01-IEZRE
                      00004        1720+R4       EQU   4                                          01-IEZRE
                      00005        1721+R5       EQU   5                                          01-IEZRE
                      00006        1722+R6       EQU   6                                          01-IEZRE
                      00007        1723+R7       EQU   7                                          01-IEZRE
                      00008        1724+R8       EQU   8                                          01-IEZRE
                      00009        1725+R9       EQU   9                                          01-IEZRE
                      0000A        1726+R10      EQU   10                                         01-IEZRE
                      0000B        1727+R11      EQU   11                                         01-IEZRE
                      0000C        1728+R12      EQU   12                                         01-IEZRE
                      0000D        1729+R13      EQU   13                                         01-IEZRE
                      0000E        1730+R14      EQU   14                                         01-IEZRE
                      0000F        1731+R15      EQU   15                                         01-IEZRE
                                   1732 *                                                         00905001
                                   1733          END                                              00906001
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Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

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=H'4'          2 00000A20 00000001  H H              1003   164   254   519
ADCB           4 00000000 FFFFFFFF  A A              1039   144   182   494   799M  872   901
ADCBEXIT       1 000009EC 00000001  X X               973   943
ADRTHUNK       4 00000A1C 00000001  A A              1000   354M  680M  995
ADSTAB         1 000000AC           U                1627   134   322   485   654   869
ANOTTAB        1 000000B0           U                1629   211   549   775   784M
AOPENPG        4 000009F0 00000001  A A               978   180
BB             4 0000000C FFFFFFFF  A A              1042   223   251   252   259   543   567   704   829M  882
BE             4 00000010 FFFFFFFF  A A              1043   413   822   830   831M  844M  847   883
BRRST          1 0000009C           U                1611  1612
CAP1GP         2 000009F4 00000001  I                 986   371B  686B
CAP2           1 000000D8           U                1663   449B  752B
CI             1 00000000           U                  98   196   533
DCBAREAL       1 0000006C           U                1574   792   899
DCBBIT0        1 00000080           U                1075  1161  1169  1181  1204  1231  1233  1234  1236  1259  1262
                                                           1282  1286  1301  1338  1393  1417  1456  1460  1473
DCBBIT1        1 00000040           U                1076  1162  1170  1183  1205  1206  1215  1231  1233  1235  1236
                                                           1264  1282  1284  1286  1304  1305  1306  1341  1342  1393
                                                           1419  1462  1464  1476  1520
DCBBIT2        1 00000020           U                1077  1163  1171  1184  1185  1186  1205  1206  1210  1216  1231
                                                           1232  1237  1266  1287  1288  1309  1310  1311  1345  1346
                                                           1394  1424  1465  1481  1523  1526
DCBBIT3        1 00000010           U                1078  1164  1184  1186  1187  1205  1218  1238  1269  1287  1290
                                                           1313  1314  1315  1349  1350  1394  1426  1429  1431  1467
                                                           1482  1523  1527
DCBBIT4        1 00000008           U                1079  1172  1219  1239  1270  1292  1297  1298  1318  1319  1353
                                                           1354  1356  1357  1395  1434  1483  1523  1528
DCBBIT5        1 00000004           U                1080  1173  1220  1242  1243  1272  1292  1294  1295  1298  1322
                                                           1324  1325  1326  1360  1361  1362  1363  1395  1436  1439
                                                           1469  1485  1518
DCBBIT6        1 00000002           U                1081  1165  1221  1222  1225  1242  1244  1273  1329  1330  1331
                                                           1332  1366  1367  1368  1369  1396  1442  1487  1529
DCBBIT7        1 00000001           U                1082  1166  1221  1223  1225  1246  1277  1334  1335  1372  1373
                                                           1375  1376  1445  1471  1488  1531
DCBBLKSI       2 0000003E FFFFFFFE  H H              1490   841   848M
DCBFDAD        8 00000005 FFFFFFFE  C C              1102  1105
DCBMODEL       4 00000994 00000001  F F               923   804   970
DCBMODLN       1 00000058           U                 970   804
DCBOFLGS       1 00000030 FFFFFFFE  B B              1258   817
DCBOFOPN       1 00000010           U                1269   817
DCBSYNAD       4 00000038 FFFFFFFE  A A              1450   807M
DECB           4 00000058 FFFFFFFE  F F              1566   150   263   500   570   579
DTSW           1 000000C2           U                1639  1640
EN             1 00000018           U                 104   162   517
ER             1 00000020           U                 106   806
ERROR10        2 00000A2E 00000001  I                1008   493B
ERROR14        2 00000A34 00000001  I                1011   553B  585B
ERROR20        2 00000A3A 00000001  I                1015   332B  334B  338B  348B  393B  665B  669B
ERROR21        2 00000A40 00000001  I                1019   330B  662B
ERROR36        2 00000A46 00000001  I                1024   991B
ERROR38        2 00000A4C 00000001  I                1027   414B  707B
ERROR39        2 00000A52 00000001  I                1030   202B  204B  539B  541B
ERROR43        2 00000A58 00000001  I                1035   139B  327B  490B  659B
EXIT1          4 00000826 00000001  I                 847   843B  845B
FCTVALST       1 00000090           U                1607   391  1610
FPR0           1 00000000           U                  93   191M  194M  528M  531M
FSAERR         1 000001CC           U                1700   820B 1009B 1013B 1017B 1021B 1025B 1028B 1032B 1036B 1704
                                                          1705  1706  1707  1708  1709  1710
FSAREA         1 00000000 FFFFFFFD  U                1597  1602  1607  1609  1610  1611  1614  1621  1623  1627  1629
                                                           1633  1635  1637  1639  1642  1649  1651  1653  1655  1661
                                                           1663  1665  1668  1670  1672  1674  1676  1678  1680  1682
                                                           1684  1688  1690  1692  1695  1697
FSB            1 0000000D           U                 436   447   448   449   750   751   752   988   990   994
GET1           4 00000480 00000001  I                 523   497B
GET11          4 0000049C 00000001  I                 531   527B
GET11A         4 000004A0 00000001  I                 532   529B
GET2           4 000004AE 00000001  I                 537   525B
GET2A          2 000004B2 00000001  I                 538   535B
GET3           4 000004D6 00000001  I                 551   556B  558B
GP             1 0000001C           U                 105   773
IHADCB         1 00000000 FFFFFFFE  J                1058   145U  495U  768U 1143  1190  1255  1384  1399  1412  1508
                                                          1514  1541  1574
IHIGPRCL       4 00000830 00000001  I                 859    89   771   866U
IHIGPRDX       4 00000814 00000001  I                 841   974
IHIGPRGT       4 000003E4 00000001  I                 468    86   481U  593U  607U
IHIGPRIT       4 000005C4 00000001  I                 637    87   633U  651U  682U  732U  748
IHIGPROP       4 00000740 00000001  I                 760    88   767U  978
IHIGPROT       4 00000210 00000001  I                 304    85   300U  318U  367U  423U  445
IHIGPRPT       4 00000000 00000001  I                 117    84   113U  130U  236U  273U
INOUTMOV       6 00000A28 00000001  I                1006   725X
INPUTTAA       4 000006C0 00000001  I                 704   698B
INPUT1         4 000006E2 00000001  I                 714   710B
INPUT1AA       4 000006EA 00000001  I                 716   720B
INPUT2         4 000006F2 00000001  I                 719   715B
INPUT3         4 000006FE 00000001  I                 723   712B  717B
IORLST         1 0000011C           U                1697   161   195   516   532   772   805
LAT            1 0000000C           U                 435   448   751
NOTEADR        4 00000014 FFFFFFFF  A A              1044   167   169M  173   510M
OPGP1          4 000007AE 00000001  I                 792   776B
OPGP2          4 000007F0 00000001  I                 822   818B
OPTSW          1 000000C2           U                1640   189   406   526   719
OUTINMOV       6 00000A22 00000001  I                1005   416X
OUTPUTAA       4 00000350 00000001  I                 389   383B
OUTPUT01       4 000002A4 00000001  I                 343   336B  340B  341B
OUTPUT1        6 000002C4 00000001  I                 351   344B
OUTPUT2        6 000002CE 00000001  I                 354   349B
OUTPUT25       2 00000366 00000001  I                 395   390B
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OUTPUT3          4 00000378 00000001  I                401   397B
OUTPUT3A         4 00000380 00000001  I                403   407B
OUTPUT4          4 00000388 00000001  I                406   402B
OUTPUT5          4 00000394 00000001  I                410   399B  404B
PARTST           1 000008BB 00000001  X X              914   342M  389   394M
PBT              1 0000000B           U                434   448   751
PG               1 0000001B FFFFFFFF  C C             1047   141   146   177M  492   496   514M  832M
PGCF             1 00000000 FFFFFFFF  J                1038   137U  325U  488U  657U
PG0              1 00000080           U                 110   141   492   832
PG1              1 00000040           U                 111   146   496   514
PROLOG           1 000000E0           U                1668   240B  597B
PROLOGP          1 000000DC           U                1665  1666
PROLPBN          1 000000A9           U                1621   447M  750M
PROLREG          1 000000A0           U                1614   448M  751M
PUTNOT           4 0000010E 00000001  I                 213   218B  220B
PUT1             4 000000BA 00000001  I                 180   142B
PUT2             4 00000098 00000001  I                 167   147B
PUT3             4 000000C4 00000001  I                 186   165B  178B
PUT31            4 000000E0 00000001  I                 194   190B
PUT31A           4 000000E4 00000001  I                 195   192B
PUT4             4 000000F2 00000001  I                 200   188B
PUT4A            2 000000F6 00000001  I                 201   198B
PUT41            4 00000132 00000001  I                 223   215B
R                4 00000004 FFFFFFFF  A A              1040   225M  250   410   419M  545M  706   723   728M
RASPB            1 000000D0           U                1655   990
RASPT            1 000000C8           U                1651   988   994M
RE               4 00000008 FFFFFFFF  A A              1041   588M
RECOI            1 000008B9 00000001  X X               912   326   328M  420M  658   660M  729M
RECPG            1 000008B8 00000001  X X               911   138   140M  260M  489   491M  609M
R0               1 00000000           U                1716   200M  201M  203   207   537M  538M  540   542   560M  777M
                                                               792M  822M  883M  884M
R1               1 00000001           U                1717   170M  186M  187   234   510   523M  524   561M  589M  592
                                                               784   785   786   799   800   805M  806M  807   829   830M
                                                               831   882M  884
R10              1 0000000A           U                1726   212M  213M  214   217   219   221   370   550M  551M  552
                                                               555   557   560   685   992
R12              1 0000000C           U                1728   132M  134   161   189   195   211   233M  249M  272M  320M
                                                               322   361M  382M  391   406   422M  482M  485   516   526
                                                               532   549   591M  606M  652M  654   681M  697M  719   731M
                                                               772   775   784   805   819   820   869  1008  1009  1011
                                                              1013  1015  1017  1019  1021  1024  1025  1027  1028  1030
                                                              1032  1035  1036
R13              1 0000000D           U                1729   121   122M  131   133M  232M  233   237M  240   247M  249
                                                               271M  272   274M  308   309M  315   319   321M  360M  361
                                                               368M  379M  381   382   421M  422   424M  472   473M  483
                                                               484M  590M  591   594M  597   605M  606   608M  641   642M
                                                               648   653M  679M  681   683M  694M  696   697   730M  731
                                                               733M  769   770M  819M  833M  867   868M  905M 1008M 1011M
                                                              1015M 1019M 1024M 1027M 1030M 1035M
R14              1 0000000E           U                1730   163M  181M  197M  233M  249M  272M  275B  361M  381M  422M
                                                               518M  534M  591M  606M  610B  681M  696M  731M
R15              1 0000000F           U                1731   113U  117   128D  129   161M  162M  163B  180M  181B  195M
                                                               196M  197B  236U  238D  240M  246U  248D  273U  279D  329
                                                               331   333   335   337   339   345   351   354   371M  373U
                                                               380D  426   441M  442   443   464U  468   479D  480   516M
                                                               517M  518B  532M  533M  534B  593U  595D  597M  604U  607U
                                                               613D  661   664   666   680   686M  688U  695D  735   744M
                                                               745   746   766   865   993
R2               1 00000002           U                1718   167M  168M  169   187M  191   194   200   216M  217   391M
                                                               392   411M  412M  413   524M  528   531   537   554M  555
                                                               771M  774   775M  785M  788   790   841M  842M  844   847M
                                                               848
R3               1 00000003           U                1719   252M  253   255M  256   257   258   259M  266   567M  573
                                                               584   586   587M  588   704M  705M  706   988M  989M  990
                                                               992   993   994
R4               1 00000004           U                1720   223M  224M  225   250M  251M  253   254M  256   410M  411
                                                               418M  419   543M  544M  545   723M  727M  728  1005  1006
R5               1 00000005           U                1721   134M  135M  137U  160M  164M  322M  323M  325U  485M  486M
                                                               488U  515M  519M  654M  655M  657U  869M  870M
R6               1 00000006           U                1722   136M  216   324M  487M  554   656M  871M
R7               1 00000007           U                1723   129M  130U  317M  318U  381M  480M  481U  649M  651U  696M
                                                               766M  767U  865M  866U
R8               1 00000008           U                1724   144M  145U  156   170   182M  234M  265   300U  304   316D
                                                               317   367U  372D  392   423U  425D  442M  494M  495U  506
                                                               561   572   592M  633U  637   649   650D  682U  687D  732U
                                                               734D  745M  768U  800M  804   813   872M  878   986M  987U
                                                               995M  996D  997B 1005  1006
R9               1 00000009           U                1725   211M  212   214   382M  395M  398M  403M  408M  412   415M
                                                               416   417M  418   549M  550   552   697M  708M  711M  716M
                                                               721M  724M  725   726M  727   772M  773M  774   786M  787M
                                                               788   789M  790
S                2 00000018 FFFFFFFF  H H              1045   207M  219   257   542M  557   584
SAVEGET          4 0000057C 00000001  F F               612   483M  484   590
SAVEIN           4 00000678 00000001  F F               700   648M  653   679   694   730
SAVEOI           4 00000904 00000001  F F               916   308M  309   320   368   424   641M  642   652   683   733
SAVEOP           4 0000094C 00000001  F F               917   769M  770   833   867M  868   905
SAVEPG           4 000008BC 00000001  F F               915   121M  122   132   186   237   274   472M  473   482   523
                                                               589   594   605   608
SAVEPUT          4 000001C4 00000001  F F               277   131M  133   232   247   271
SAVOUTP          4 00000308 00000001  F F               385   315M  319M  321   360   379   421
THUNKIN          2 00000726 00000001  I                 744   599
THUNKOUT         2 000003CA 00000001  I                 441   242
TWOP16           4 00000A18 00000001  F F               999   203   540
TYP              1 0000001A FFFFFFFF  C C              1046   226M  258   343   347   351M  352M  396   401   586M  668
                                                               709   714
TYPC             1 000008BA 00000001  X X               913   345M  346M  347   666M  667M  668
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

0(0) 126 173M 200M 201M 203 207 230 233M 249M 272M 313 358 361M 381M 422M 477 537M 538M
540 542 560M 591M 606M 646 677 681M 696M 731M 764 777M 792M 822M 836M 863 883M 884M
900M 908M

1(1) 126 150M 151 156M 157 170M 174 186M 187 230 233M 234 249M 263M 264 265N 266N 267N
272M 313 358 361M 381M 422M 477 500M 501 506M 507 510 523M 524 561M 564 570M 571
572N 573N 574N 579M 580 589M 591M 592 606M 646 677 681M 696M 731M 764 781M 784 785
786 796M 799 800 805M 806M 807 811M 813N 814 826M 829 830M 831 836M 863 876M 878N
879 882M 884 890M 901M 902M 908M

2(2) 126 167M 168M 169 187M 191 194 200 216M 217 230 233M 249M 272M 313 358 361M 381M
391M 392 411M 412M 413 422M 477 524M 528 531 537 554M 555 591M 606M 646 677 681M
696M 731M 764 771M 774 775M 785M 788 790 836M 841M 842M 844 847M 848 863 908M

3(3) 126 230 233M 249M 252M 253 255M 256 257 258 259M 266 272M 313 358 361M 381M 422M
477 567M 573 584 586 587M 588 591M 606M 646 677 681M 696M 704M 705M 706 731M 764
836M 863 908M 988M 989M 989N 990 992 993 994

4(4) 126 223M 224M 225 230 233M 249M 250M 251M 253 254M 256 272M 313 358 361M 381M 410M
411 418M 419 422M 477 543M 544M 545 591M 606M 646 677 681M 696M 723M 727M 728 731M
764 836M 863 908M 1005 1006

5(5) 126 134M 135M 137U 160M 164M 230 233M 249M 272M 313 322M 323M 325U 358 361M 381M 422M
477 485M 486M 488U 515M 519M 591M 606M 646 654M 655M 657U 677 681M 696M 731M 764 836M
863 869M 870M 908M

6(6) 126 136M 216 230 233M 249M 272M 313 324M 358 361M 381M 422M 477 487M 554 591M 606M
646 656M 677 681M 696M 731M 764 836M 863 871M 908M

7(7) 126 129M 130U 230 233M 249M 272M 313 317M 318U 358 361M 381M 422M 477 480M 481U 591M
606M 646 649M 651U 677 681M 696M 731M 764 766M 767U 836M 863 865M 866U 908M

8(8) 126 144M 145U 156 170 182M 230 233M 234M 249M 265 272M 300U 304B 313 316D 317 358
361M 367U 372D 392 422M 423U 425D 442M 477 494M 495U 506 561 572 591M 592M 606M 633U
637B 646 649 650D 677 681M 682U 687D 731M 732U 734D 745M 764 768U 800M 804 813 836M
863 872M 878 908M 986M 987U 995M 996D 997B 1005 1006

9(9) 126 211M 212 214 230 233M 249M 272M 313 358 361M 382M 395M 398M 403M 408M 412 415M
416 417M 418 422M 477 549M 550 552 591M 606M 646 677 681M 697M 708M 711M 716M 721M
724M 725 726M 727 731M 764 772M 773M 774 786M 787M 788 789M 790 836M 863 908M

10(A) 126 212M 213M 214 217 219 221 230 233M 249M 272M 313 358 361M 370 382M 422M 477
550M 551M 552 555 557 560 591M 606M 646 677 681M 685 697M 731M 764 836M 863 908M
992

11(B) 126 230 233M 249M 272M 313 358 361M 382M 422M 448 477 591M 606M 646 677 681M 697M
731M 751 764 836M 863 908M

12(C) 126 132M 134N 161N 189 195N 211N 230 233M 249M 272M 313 320M 322N 358 361M 382M 391N
406 422M 448 477 482M 485N 516N 526 532N 549N 591M 606M 646 652M 654N 677 681M 697M
719 731M 751 764 772N 775 784N 805 819 820N 836M 863 869 908M 1008 1009N 1011 1013N
1015 1017N 1019 1021N 1024 1025N 1027 1028N 1030 1032N 1035 1036N

13(D) 121 122M 126 131 133M 230 232M 233 237M 240N 247M 249 271M 272 274M 308 309M 313
315 319 321M 358 360M 361 368M 379M 381 382 421M 422 424M 447 448 449B 472 473M
477 483 484M 590M 591 594M 597N 605M 606 608M 641 642M 646 648 653M 677 679M 681
683M 694M 696 697 730M 731 733M 750 751 752B 764 769 770M 819M 833M 836 863 867
868M 905M 908 988N 990N 994N 1008M 1011M 1015M 1019M 1024M 1027M 1030M 1035M

14(E) 126 151M 152 153M 158M 163M 175M 181M 197M 230 233M 249M 269M 272M 275B 313 358 361M
381M 422M 477 501M 502 503M 508M 518M 534M 565M 576M 580M 581 582M 591M 606M 610B 646
677 681M 696M 731M 764 836M 837B 851B 863 908M 909B

15(F) 113U 117B 126 128D 129 152M 153B 157M 158B 161M 162M 163B 174M 175N 180M 181B 195M 196M
196N 197B 230 233M 236U 238D 240M 246U 248D 249M 267M 268M 269B 272M 273U 279D 313 329
331 333 335 337 339 345 351 354 358 361M 371M 373U 380D 381M 422M 426B 441M 442
443N 464U 468B 477 479D 480 502M 503B 507M 508B 516M 517M 517N 518B 532M 533M 533N 534B
564M 565N 574M 575M 576B 581M 582B 591M 593U 595D 597M 604U 606M 607U 613D 646 661 664
666 677 680 681M 686M 688U 695D 696M 731M 735B 744M 745 746B 760B 764 766 836M 859B
863 865 908M 993

Dsect	Length	Id	Defn	Con	Member
FSAAREA	00000120	FFFFFFFD	1576		PRIMARY INPUT
IHADCB	0000006C	FFFFFFFE	1058	1	DCBD
PGCF	0000001C	FFFFFFFF	1038		PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               CHECK    CLOSE    DCB      DCBD     FREEMAIN GETMAIN  IEZREGS  IHBINNRA IHBRDWRS IHB01    NOTE
               OPEN     POINT    READ     RETURN   SAVE     WRITE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               FSAREA   IHIENTRY
  5 SYS1.AMODGEN
```

Stmt Level Action Type Id Address Range Reg Max Last Text X390 3.1.04 2012/08/17 13.21

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
113		USING	Ordinary	00000001	00000000	00001000	15	008C0	122	IHIGPRPT,R15
128		DROP					15			R15
130		USING	Ordinary	00000001	00000000	00001000	7	00A58	271	IHIGPRPT,R7
137		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001B	259	PGCF,R5
145		USING	Ordinary	FFFFFFFE	00000000	00001000	8	00058	263	IHADCB,R8
236		USING	Ordinary	00000001	00000000	00001000	15	008C0	237	IHIGPRPT,R15
238		DROP					15			R15
246		USING	Ordinary	00000001	00000164	00001000	15	00060	247	*,R15
248		DROP					15			R15
273		USING	Ordinary	00000001	00000000	00001000	15	008C0	274	IHIGPRPT,R15
279		DROP					15			R15
300		USING	Ordinary	00000001	00000210	00001000	8	006F8	315	IHIGPROT,R8
316		DROP					8			R8
318		USING	Ordinary	00000001	00000210	00001000	7	00848	421	IHIGPROT,R7
325		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001A	419	PGCF,R5
367		USING	Ordinary	00000001	00000210	00001000	8	007E4	371	IHIGPROT,R8
372		DROP					8			R8
373		USING	Ordinary	00000001	000002F0	00001000	15	00018	379	*,R15
380		DROP					15			R15
423		USING	Ordinary	00000001	00000210	00001000	8	006F8	424	IHIGPROT,R8
425		DROP					8			R8
464		USING	Ordinary	00000001	000003E4	00001000	15	004DC	473	*,R15
479		DROP					15			R15
481		USING	Ordinary	00000001	000003E4	00001000	7	00674	590	IHIGPRGT,R7
488		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001B	588	PGCF,R5
495		USING	Ordinary	FFFFFFFE	00000000	00001000	8	00058	579	IHADCB,R8
593		USING	Ordinary	00000001	000003E4	00001000	15	004DC	594	IHIGPRGT,R15
595		DROP					15			R15
604		USING	Ordinary	00000001	00000568	00001000	15	00354	605	*,R15
607		USING	Ordinary	00000001	000003E4	00001000	15	004DC	609	IHIGPRGT,R15
613		DROP					15			R15
633		USING	Ordinary	00000001	000005C4	00001000	8	00344	648	IHIGPRIT,R8
650		DROP					8			R8
651		USING	Ordinary	00000001	000005C4	00001000	7	00494	730	IHIGPRIT,R7
657		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001B	901	PGCF,R5
682		USING	Ordinary	00000001	000005C4	00001000	8	00430	686	IHIGPRIT,R8
687		DROP					8			R8
688		USING	Ordinary	00000001	00000660	00001000	15	00018	694	*,R15
695		DROP					15			R15
732		USING	Ordinary	00000001	000005C4	00001000	8	00344	733	IHIGPRIT,R8
734		DROP					8			R8
767		USING	Ordinary	00000001	00000740	00001000	7	00254	845	IHIGPROP,R7
768		USING	Ordinary	FFFFFFFE	00000000	00001000	8	0003E	848	IHADCB,R8
866		USING	Ordinary	00000001	00000830	00001000	7	00120	905	IHIGPRCL,R7
987		USING	Ordinary	00000001	000009F6	00001000	8	00050	995	*,R8
996		DROP					8			R8

The following statements were flagged -

SYSD.ALGOLFRT.ASM(IHIGPR)
236(218), 246(228), 273(248), 300(275), 367(334), 373(340), 423(390), 464(431), 593(534), 604(545), 607(548), 633(574), 682(615), 688(621), 732(665), 987(824)

16 statements flagged in this assembly, 4 was the highest severity code.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIGPR PROCSTEP: X390

Primary input: lines 1 to 906 of SYSD.ALGOLFRT.ASM(IHIGPR)

SYSLIB library records read: 6015

SYSUT1 work file size: 129876 bytes

SYSUT2 work file size: 556768 bytes

SYSUT3 work file size: 72480 bytes

SYSLIN file records written: 53

TXA000I Return code 4, elapsed time 1.96 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIGPRTN	000A5E	2

IHIIAR

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIIAR)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0138
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Active USINGs: None

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                  X390 3.1.04  2012/08/17 13.21

                                      2 *                                                                    00002001
                                      3 *       COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                   00003001
                                      4 *                                                                    00004001
                                      5 *       STATUS - LEVEL 2.1                                           00005001
                                      6 *                                                                    00006001
                                      7 *       FUNCTION/OPERATION -                                         00007001
                                      8 *       ASSIGN NUMBERS TO ARRAY INDICATED BY SECOND ACTUAL           00008001
                                      9 *       PARAMETER BY CALLING INREAL OR ININTEGER REPEATEDLY          00009001
                                     10 *                                                                    00010001
                                     11 *       ENTRY POINTS -                                               00011001
                                     12 *       IHIIARRY - FROM GENERATED OBJECT MODULE                      00012001
                                     13 *                  INARRAY  LA R1,PARMLIST                           00013001
                                     14 *       IHIIARRT - FROM GENERATED OBJECT MODULE                      00014001
                                     15 *                  INTARRAY BALR R14,R15                             00015001
                                     16 *       DATA PASSED BY NAME                                          00016001
                                     17 *                                                                    00017001
                                     18 *       INPUT - N/A                                                  00018001
                                     19 *                                                                    00019001
                                     20 *       OUTPUT - N/A                                                 00020001
                                     21 *                                                                    00021001
                                     22 *       EXTERNAL ROUTINES -                                          00022001
                                     23 *       IHIIOR - EVALUATE DATA SET NUMBER                            00023001
                                     24 *       IHIIDE - INREAL OR ININTEGER                                 00024001
                                     25 *                                                                    00025001
                                     26 *       EXIT - NORMAL - RELOAD REGISTERS AND RETURN VIA R14          00026001
                                     27 *                                                                    00027001
                                     28 *       EXIT - ERROR - N/A                                           00028001
                                     29 *                                                                    00029001
                                     30 *       TABLES/WORK AREAS - N/A                                      00030001
                                     31 *                                                                    00031001
                                     32 *       R1                        -> PARAMETER LIST                  00032001
                                     33 *       R7                        TRANSFER DESTADR                   00033001
                                     34 *       R10                       TRANSFER FLAGBYTE                  00034001
                                     35 *       R12                       -> FSA                             00035001
                                     36 *                                                                    00036001
000000                00000 000B8    37 IHIIARTN CSECT                                                       00037001
                                     38 *                                                                    00038001
                                     39          ENTRY IHIIARRT                                              00039001
                                     40          ENTRY IHIIARRY                                              00040001
                                     41 *                                                                    00041001
                                     42 IHIIARRT SAVE  (14,12),,'IHIIARRT LEVEL 2.1 &SYSDATE &SYSTIME'       00042001
000000 47F0 F026            00026    43+IHIIARRT B     38(0,15)                 BRANCH AROUND ID         01-SAVE
000004 21                            44+         DC    AL1(33)                  LENGTH OF IDENTIFIER     01-SAVE
000005 C9C8C9C9C1D9D9E3              45+         DC    CL32'IHIIARRT LEVEL 2.1 08/17/12 13.2' IDENTIFIER 01-SAVE
000025 F1                            46+         DC    CL1'1'                   IDENTIFIER               01-SAVE
000026 90EC D00C            0000C    47+         STM   14,12,12(13)             SAVE REGISTERS           01-SAVE
                                     48 *                                                                    00043001
                  R:F  00000         49          USING IHIIARRT,R15                                          00044001
00002A 18CD                          50          LR    R12,R13             R12 -> FSA                        00045001
00002C 4190 F03C            0003C    51          LA    R9,IHIIARRY         R9 -> IHGIARRY                    00046001
                                     52          DROP  R15                                                   00047001
                  R:9  0003C         53          USING IHIIARRY,R9                                           00048001
000030 41D0 D048            00048    54          LA    R13,ASAVE(,R13)     R13 -> SECOND SAVEAREA IN FSA     00049001
000034 41A0 0004            00004    55          LA    R10,4               FLAGBYTE INTARRAY                 00050001
000038 47F0 9034            00070    56          B     INAR1                                                 00051001
                                     57 *                                                                    00052001
                                     58 IHIIARRY SAVE  (14,12),,'IHIIARRY LEVEL 2.1 &SYSDATE &SYSTIME'       00053001
00003C 47F0 F026            00026    59+IHIIARRY B     38(0,15)                 BRANCH AROUND ID         01-SAVE
000040 21                            60+         DC    AL1(33)                  LENGTH OF IDENTIFIER     01-SAVE
000041 C9C8C9C9C1D9D9E8              61+         DC    CL32'IHIIARRY LEVEL 2.1 08/17/12 13.2' IDENTIFIER 01-SAVE
000061 F1                            62+         DC    CL1'1'                   IDENTIFIER               01-SAVE
000062 90EC D00C            0000C    63+         STM   14,12,12(13)             SAVE REGISTERS           01-SAVE
                                     64 *                                                                    00054001
000066 189F                          65          LR    R9,R15                                                00055001
000068 18CD                          66          LR    R12,R13             R12 -> FSA                        00056001
00006A 41D0 D048            00048    67          LA    R13,ASAVE(,R13)     R13 -> SECOND SAVEAREA IN FSA     00057001
00006E 1BAA                          68          SR    R10,R10             FLAGBYTE INARRAY                  00058001
                                     69 *                                                                    00059001
                                     70 *       EVALUATE DATASET NUMBER                                      00060001
                                     71 *                                                                    00061001
000070 58F0 9074            000B0    72 INAR1    L     R15,VIOREV                                            00062001
000074 05EF                          73          BALR  R14,R15                                               00063001
                                     74 *                                                                    00064001
                                     75 *       EVALUATE DEST ADDRS                                          00065001
                                     76 *                                                                    00066001
000076 5810 1004            00004    77          L     R1,4(,R1)           R1 -> SECOND PARAMETER            00067001
00007A 5880 100C            0000C    78          L     R8,12(,R1)          R8 -> DESTEND+1                   00068001
00007E 5870 1008            00008    79          L     R7,8(,R1)           R7 -> STARTDEST                   00069001
                                     80 *                                                                    00070001
                                     81 *       CALL ROUTINE INREAL - ININTEGER                              00071001
                                     82 *                                                                    00072001
000082 58F0 9078            000B4    83 INAR2    L     R15,VIDEAI          R15 -> IHIIDEAI                   00073001
000086 05EF                          84          BALR  R14,R15             CALL IHIIDEAI                     00074001
000088 12AA                          85          LTR   R10,R10                                               00075001
00008A 4720 9062            0009E    86          BP    INAR3                                                 00076001
00008E 9120 C0C2      000C2          87          TM    OPTSW(R12),X'20'    LONG OR SHORT PREC ?              00077001
000092 4710 9062            0009E    88          BO    INAR3                                                 00078001
000096 4170 7008            00008    89          LA    R7,8(,R7)           INCREASE  DEST ADDR INARRAY       00079001
00009A 47F0 9066            000A2    90          B     INAR3A                                                00080001
                                     91 *                                                                    00081001
00009E 4170 7004            00004    92 INAR3    LA    R7,4(,R7)           INCREASE  DEST ADDR INTARRAY      00082001
0000A2 1978                          93 INAR3A   CR    R7,R8                                                 00083001
0000A4 4740 9046            00082    94          BL    INAR2                                                 00084001
0000A8 18DC                          95          LR    R13,R12                                               00085001
                                     96 *                                                                    00086001
                                     97          RETURN (14,12)            RESTORE REGS AND RETURN           00087001
```

Active USINGs: IHIIARTN+X'3C',R9

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

0000AA 98EC D00C            0000C    98+         LM    14,12,12(13)                RESTORE THE REGISTERS  01-RETUR
0000AE 07FE                          99+         BR    14                          RETURN                 01-RETUR
                                    100 *                                                                   00088001
                                    101 *       EXTERNAL ADDRS                                              00089001
                                    102 *                                                                   00090001
0000B0 00000000                     103 VIOREV  DC    V(IHIIOREV)                                           00091001
0000B4 00000000                     104 VIDEAI  DC    V(IHIIDEAI)                                           00092001
                                    105 *                                                                   00093001
000000                 00000 00120  106 FAS     DSECT                                                       00094001
                                    107 *                                                                   00095001
                                    108         COPY  FSAREA                                                00096001
                                    109=*                                                                   00001001
                                    110=*       COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                  00002001
                                    111=*                                                                   00003001
                                    112=*       STATUS - LEVEL 2.1                                          00004001
                                    113=*                                                                   00005001
                                    114=********************************************************************** 00006001
                                    115=*                                                                   00007001
                                    116=*       COMMON DATA AREA                                            00008001
                                    117=*                                                                   00009001
                                    118=*       FSAREA                                                      00010001
                                    119=*                                                                   00011001
                                    120=********************************************************************** 00012001
                                    121=*                                                                   00013001
                                    122=*       DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                  00014001
                                    123=*       MODULES DURING THE EXECUTION                                00015001
                                    124=*                                                                   00016001
                                    125=*       ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY               00017001
                                    126=*       SUBROUTINES) BY R12                                         00018001
                                    127=*                                                                   00019001
                       00000        128=FSAREA  EQU   *                                                     00020001
                                    129=*                                                                   00021001
                                    130=*       SAVE AREAS                                                  00022001
                                    131=*                                                                   00023001
000000                              132=        DS    18F                   STANDARD SAVE AREA              00024001
                       00048        133=ASAVE   EQU   *-FSAREA              ALTERNATE SAVE AREA USED BY     00025001
000048                              134=        DS    18F                   CERTAIN SUBROUTINES             00026001
                                    135=*                                                                   00027001
                                    136=*       MISCELLANEOUS WORK AREAS AND CONSTANTS                      00028001
                                    137=*                                                                   00029001
                       00090        138=FCTVALST EQU  *-FSAREA              TEMPORARY STORAGE FOR           00030001
000090                              139=        DS    D                     FUNCTION VALUES                 00031001
                       00098        140=ASTLOC  EQU   *-FSAREA              DISPL FOR ADDR OF STAND LOCTN   00032001
000098 00000090                     141=        DC    A(FSAREA+FCTVALST)                                    00033001
                       0009C        142=BRRST   EQU   *-FSAREA              TEMPORARY SAVE REG BRR          00034001
                       0009C        143=HW      EQU   BRRST                 TEMPORARY HALFWORD STORAGE      00035001
00009C                              144=        DS    F                                                     00036001
                       000A0        145=PROLREG EQU   *-FSAREA              STORAGE FOR PBT AND LAT WHEN    00037001
0000A0                              146=        DS    2A                    A PROCEDURE IS FORMAL PARAM     00038001
                                    147=*                                                                   00039001
                                    148=*       HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE       00040001
                                    149=*                                                                   00041001
0000A8                              150=        DS    0H                                                    00042001
0000A8 00                           151=        DC    X'00'                                                 00043001
                       000A9        152=PROLPBN EQU   *-FSAREA              STORAGE FOR CALLED PBN          00044001
0000A9 00                           153=        DC    X'00'                                                 00045001
                       000AA        154=EIGHT   EQU   *-FSAREA              CONST FOR REDUCING RAS          00046001
0000AA 0008                         155=        DC    H'8'                                                  00047001
                                    156=*                                                                   00048001
0000AC                              157=        DS    0F                                                    00049001
                       000AC        158=ADSTAB  EQU   *-FSAREA              ADDR OF DSTABLE                 00050001
0000AC                              159=        DS    A                     IN THE OBJECT PROGRAM           00051001
                       000B0        160=ANOTTAB EQU   *-FSAREA              ADDR OF NOTE TABLE              00052001
0000B0                              161=        DS    A                     (INSERTED BY THE OPEN ROUTINE)  00053001
                                    162=*                                                                   00054001
                       000B4        163=IHIFSAST EQU  *                                                     00055001
                       000B4        164=PGOPSW  EQU   *-FSAREA              PROGRAM CHECK OLD PSW           00056001
0000B4                              165=        DS    2F                                                    00057001
                       000BC        166=FSAPICA EQU   *-FSAREA              OLD PICA ADDR                   00058001
0000BC 00000000                     167=        DC    F'0'                                                  00059001
                       000C0        168=SCRCS   EQU   *-FSAREA              SEMICOLON NUMBER                00060001
0000C0                              169=        DS    H                                                     00061001
                       000C2        170=DTSW    EQU   *-FSAREA              OPTION SWITCHES                 00062001
                       000C2        171=OPTSW   EQU   DTSW                                                  00063001
0000C2 00                           172=        DC    X'00'                 DUMP-80, TRACE-40, SHORT-20     00064001
                       000C3        173=FSAERCOD EQU  *-FSAREA              ERROR CODE FOR ERROR ROUTINE    00065001
0000C3                              174=        DS    C                                                     00066001
                                    175=*                                                                   00067001
                                    176=*       RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER           00068001
                                    177=*                                                                   00069001
0000C4                              178=        DS    0F                                                    00070001
                       000C4        179=IHIFSARS EQU  *                                                     00071001
                       000C4        180=RASSTART EQU  *-FSAREA              ADDR OF FIRST ENTRY IN RAS-8    00072001
0000C4                              181=        DS    F                                                     00073001
                       000C8        182=RASPT   EQU   *-FSAREA              RAS POINTER FROM TOP            00074001
0000C8                              183=        DS    F                                                     00075001
                       000CC        184=RASEND  EQU   *-FSAREA              ADDR OF LAST  ENTRY IN RAS+8    00076001
0000CC                              185=        DS    F                                                     00077001
                       000D0        186=RASPB   EQU   *-FSAREA              RAS POINTER FROM BOTTOM         00078001
0000D0                              187=        DS    F                                                     00079001
                                    188=*                                                                   00080001
                                    189=*       LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES     00081001
                                    190=*                                                                   00082001
0000D4                              191=BRLIST  DS    0F                                                    00083001
                       000D4        192=CAP1    EQU   *-FSAREA              FIRST PART CAPS                 00084001
0000D4 4700 0000            00000   193=        NOP   0                                                     00085001
```

Active USINGs: IHIIARTN+X'3C',R9


```
                    000D8          194=CAP2     EQU   *-FSAREA              SECOND PART CAPS                00086001
0000D8 4700 0000           00000   195=         NOP   0                                                     00087001
                    000DC          196=PROLOGP  EQU   *-FSAREA              PROLOGUE FORMAL PARAMETER ENTRY 00088001
                    000DC          197=PROLOGFP EQU   PROLOG                                               00089001
0000DC 4700 0000           00000   198=         NOP   0                                                     00090001
                    000E0          199=PROLOG   EQU   *-FSAREA              PROLOGUE PROGRAM USUAL ENTRY    00091001
0000E0 4700 0000           00000   200=         NOP   0                                                     00092001
                    000E4          201=RETPROG  EQU   *-FSAREA              DISPLACEMENT RETURN PROGRAM     00093001
0000E4 4700 0000           00000   202=         NOP   0                                                     00094001
                    000E8          203=EPILOGP  EQU   *-FSAREA              EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000           00000   204=         NOP   0                                                     00096001
                    000EC          205=EPILOGB  EQU   *-FSAREA              EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000           00000   206=         NOP   0                                                     00098001
                    000F0          207=EPILPR3  EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3        00099001
0000F0 4700 0000           00000   208=         NOP   0                                                     00100001
                    000F4          209=CSWE1    EQU   *-FSAREA              FIRST PART CSWES                00101001
0000F4 4700 0000           00000   210=         NOP   0                                                     00102001
                    000F8          211=CSWE2    EQU   *-FSAREA              SECOND PART CSWES               00103001
0000F8 4700 0000           00000   212=         NOP   0                                                     00104001
                    000FC          213=LOADPP   EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE   00105001
0000FC 4700 0000           00000   214=         NOP   0                                                     00106001
                    00100          215=TRACE    EQU   *-FSAREA                                              00107001
000100 D200 0000 0000 00000 00000  216=         MVC   0(0),0                                                00108001
000106 4700 0000           00000   217=         NOP   0                                                     00109001
00010A 4700 0000           00000   218=         NOP   0                                                     00110001
                    0010E          219=TERMNTE  EQU   *-FSAREA              NORMAL TERMINATION EXIT         00111001
00010E 4700 0000           00000   220=         NOP   0                                                     00112001
                    00112          221=BCR      EQU   *-FSAREA                                              00113001
000112 0700                        222=         BCR   0,0                   VARIABLE CONDITIONAL BRANCH     00114001
                    00114          223=GETMSTO  EQU   *-FSAREA                                              00115001
000114 4700 0000           00000   224=         NOP   0                                                     00116001
                                   225=*                                                                    00117001
                    00118          226=VALUCALL EQU   *-FSAREA                                              00118001
000118 4700 0000           00000   227=         NOP   0                                                     00119001
                    0011C          228=IORLST   EQU   *-FSAREA                                              00120001
00011C 4700 0000           00000   229=         NOP   0                                                     00121001
                                   230=*                                                                    00122001
                    001CC          231=FSAERR   EQU   X'1CC'                DISPL  FOR ERROR LIST           00123001
                                   232=*                                                                    00124001
                                   233=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                00125001
                                   234=*                                                                    00126001
                    0020C          235=OUTOFB   EQU   FSAERR+4*16                                           00127001
                    00218          236=NUMBIND  EQU   FSAERR+4*19                                           00128001
                    00208          237=ARRAYBD  EQU   FSAERR+4*15                                           00129001
                    0026C          238=ERROR40  EQU   FSAERR+4*40                                           00130001
                    00224          239=OERR22   EQU   FSAERR+4*22                                           00131001
                    00210          240=ENDLESL  EQU   FSAERR+4*17                                           00132001
                    00220          241=OERR21   EQU   FSAERR+4*21                                           00133001
                                   242=*                                                                    00134001
                                   243 *                                                                    00097001
                                   244 *        REGISTER EQUATES                                            00098001
                                   245 *                                                                    00099001
                                   246          IEZREGS                                                     00100001
                    00000          247+R0       EQU   0                                                     01-IEZRE
                    00001          248+R1       EQU   1                                                     01-IEZRE
                    00002          249+R2       EQU   2                                                     01-IEZRE
                    00003          250+R3       EQU   3                                                     01-IEZRE
                    00004          251+R4       EQU   4                                                     01-IEZRE
                    00005          252+R5       EQU   5                                                     01-IEZRE
                    00006          253+R6       EQU   6                                                     01-IEZRE
                    00007          254+R7       EQU   7                                                     01-IEZRE
                    00008          255+R8       EQU   8                                                     01-IEZRE
                    00009          256+R9       EQU   9                                                     01-IEZRE
                    0000A          257+R10      EQU   10                                                    01-IEZRE
                    0000B          258+R11      EQU   11                                                    01-IEZRE
                    0000C          259+R12      EQU   12                                                    01-IEZRE
                    0000D          260+R13      EQU   13                                                    01-IEZRE
                    0000E          261+R14      EQU   14                                                    01-IEZRE
                    0000F          262+R15      EQU   15                                                    01-IEZRE
                                   263 *                                                                    00101001
                                   264          END                                                         00102001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
ASAVE           1 00000048           U                 133   54   67
BRRST           1 0000009C           U                 142  143
DTSW            1 000000C2           U                 170  171
FCTVALST        1 00000090           U                 138  141
FSAERR          1 000001CC           U                 231  235  236  237  238  239  240  241
FSAREA          1 00000000 FFFFFFFF  U                 128  133  138  140  141  142  145  152  154  158  160  164  166
                                                           168  170  173  180  182  184  186  192  194  196  199  201
                                                           203  205  207  209  211  213  215  219  221  223  226  228
IHIIARRT        4 00000000 00000001  I                  43   39   49U
IHIIARRY        4 0000003C 00000001  I                  59   40   51   53U
IHIIDEAI        1 00000000 00000003  T                 104  104
IHIIOREV        1 00000000 00000002  T                 103  103
INAR1           4 00000070 00000001  I                  72   56B
INAR2           4 00000082 00000001  I                  83   94B
INAR3           4 0000009E 00000001  I                  92   86B  88B
INAR3A          2 000000A2 00000001  I                  93   90B
OPTSW           1 000000C2           U                 171   87
PROLOGP         1 000000DC           U                 196  197
R1              1 00000001           U                 248   77M  78   79
R10             1 0000000A           U                 257   55M  68M  85M
R12             1 0000000C           U                 259   50M  66M  87   95
R13             1 0000000D           U                 260   50   54M  66   67M  95M
R14             1 0000000E           U                 261   73M  84M
R15             1 0000000F           U                 262   49U  52D  65   72M  73B  83M  84B
R7              1 00000007           U                 254   79M  89M  92M  93
R8              1 00000008           U                 255   78M  93
R9              1 00000009           U                 256   51M  53U  65M
VIDEAI          4 000000B4 00000001  V V               104   83
VIOREV          4 000000B0 00000001  V V               103   72
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

0(0)	47	63	98M									
1(1)	47	63	77M	78	79	98M						
2(2)	47	63	98M									
3(3)	47	63	98M									
4(4)	47	63	98M									
5(5)	47	63	98M									
6(6)	47	63	98M									
7(7)	47	63	79M	89M	92M	93	98M					
8(8)	47	63	78M	93	98M							
9(9)	47	51M	53U	63	65M	98M						
10(A)	47	55M	63	68M	85M	98M						
11(B)	47	63	98M									
12(C)	47	50M	63	66M	87	95	98M					
13(D)	47	50	54M	63	66	67M	95M	98				
14(E)	47	63	73M	84M	98M	99B						
15(F)	43B	47	49U	52D	59B	63	65	72M	73B	83M	84B	98M

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

FAS 00000120 FFFFFFFF 106 PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04 2012/08/17 13.21
49		USING	Ordinary	00000001	00000000	00001000	15	0003C	51	IHIIARRT,R15	
52		DROP					15			R15	
53		USING	Ordinary	00000001	0000003C	00001000	9	00078	94	IHIIARRY,R9	

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIIAR PROCSTEP: X390

Primary input: lines 1 to 102 of SYSD.ALGOLFRT.ASM(IHIIAR)

SYSLIB library records read: 295

SYSUT1 work file size: 24261 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 8160 bytes

SYSLIN file records written: 8

TXA000I Return code 0, elapsed time 0.19 seconds.

Csect   Rel Addr(hex) Length(dec)

 No uninitialized areas found

IHIIBA

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIIBA)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0142
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Active USINGs: None

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                  X390 3.1.04  2012/08/17 13.21

                                      2 *                                                               00002001
                                      3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY             00003001
                                      4 *                                                               00004001
                                      5 *        STATUS - LEVEL 2.1                                     00005001
                                      6 *                                                               00006001
                                      7 *        FUNCTION/OPERATION -                                   00007001
                                      8 *        ASSIGN BOOLEAN VALUE TO ARRAY INDICATED BY SECOND ACTUAL 00008001
                                      9 *        PARAMETER BY CALLING INBOOLEAN REPEATEDLY              00009001
                                     10 *                                                               00010001
                                     11 *        ENTRY POINT -                                          00011001
                                     12 *        IHIIBARR - FROM GENERATED OBJECT MODULE                00012001
                                     13 *                   LA   R1,PARMLIST                            00013001
                                     14 *                   BALR R14,R15                                00014001
                                     15 *                   DATA PASSED BY NAME                         00015001
                                     16 *                                                               00016001
                                     17 *        INPUT - N/A                                            00017001
                                     18 *                                                               00018001
                                     19 *        OUTPUT - N/A                                           00019001
                                     20 *                                                               00020001
                                     21 *        EXTERNAL ROUTINES -                                    00021001
                                     22 *        IHIIOR - EVALUATE DATA SET NUMBER                      00022001
                                     23 *        IHIIBO - INBOOLEAN                                     00023001
                                     24 *                                                               00024001
                                     25 *        EXIT - NORMAL - RELOAD REGISTERS AND RETURN VIA R14    00025001
                                     26 *                                                               00026001
                                     27 *        EXIT - ERROR - N/A                                     00027001
                                     28 *                                                               00028001
                                     29 *        TABLES/WORK AREAS - N/A                                00029001
                                     30 *                                                               00030001
000000              00000 00064      31 IHIIBARR CSECT                                                  00031001
                                     32 *                                                               00032001
                                     33 *        R1                             -> PARAMETER LIST       00033001
                                     34 *        R12    12                      -> FSA                  00034001
                                     35 *                                                               00035001
                                     36          SAVE  (14,12),,'IHIIBARR LEVEL 2.1 &SYSDATE &SYSTIME'  00036001
000000 47F0 F026          00026      37+         B     38(0,15)                          BRANCH AROUND ID     01-SAVE
000004 21                            38+         DC    AL1(33)                           LENGTH OF IDENTIFIER 01-SAVE
000005 C9C8C9C9C2C1D9D9              39+         DC    CL32'IHIIBARR LEVEL 2.1 08/17/12 13.2' IDENTIFIER      01-SAVE
000025 F1                            40+         DC    CL1'1'                            IDENTIFIER           01-SAVE
000026 90EC D00C          0000C      41+         STM   14,12,12(13)                      SAVE REGISTERS       01-SAVE
                                     42 *                                                               00037001
00002A 187F                          43          LR    R7,R15                                           00038001
                 R:7  00000          44          USING IHIIBARR,R7                                      00039001
00002C 18CD                          45          LR    R12,R13                  R12 -> FSA              00040001
00002E 41D0 D048          00048      46          LA    R13,ASAVE(,R13)          R13 -> SECOND SAVEAREA IN FSA 00041001
                                     47 *                                                               00042001
                                     48 *        EVALUTE DATASET NUMBER                                 00043001
                                     49 *                                                               00044001
000032 58F0 705C          0005C      50          L     R15,VIOREV                                       00045001
000036 05EF                          51          BALR  R14,R15                                          00046001
                                     52 *                                                               00047001
                                     53 *        EVALUTE DESTINATION ADDR                               00048001
                                     54 *                                                               00049001
000038 5810 1004          00004      55          L     R1,4(,R1)                                        00050001
00003C 5830 100C          0000C      56          L     R3,12(,R1)               R3 -> DESTEND+1         00051001
000040 5820 1008          00008      57          L     R2,8(,R1)                R2 -> START DEST        00052001
                                     58 *                                                               00053001
                                     59 *        CALL FOR ROUTINE INBOOLEAN                             00054001
                                     60 *                                                               00055001
000044 58F0 7060          00060      61 INBARRY1 L     R15,VIBOAR                                       00056001
000048 05EF                          62          BALR  R14,R15                                          00057001
00004A 4120 2001          00001      63          LA    R2,1(,R2)                INCR ADEST              00058001
00004E 1923                          64          CR    R2,R3                                            00059001
000050 4740 7044          00044      65          BL    INBARRY1                 MORE VALUE TO BE READ   00060001
000054 18DC                          66          LR    R13,R12                                          00061001
                                     67 *                                                               00062001
                                     68          RETURN (14,12)                                         00063001
000056 98EC D00C          0000C      69+         LM    14,12,12(13)                      RESTORE THE REGISTERS 01-RETUR
00005A 07FE                          70+         BR    14                                RETURN               01-RETUR
                                     71 *                                                               00064001
                                     72 *        EXTERNAL ADDRS                                         00065001
                                     73 *                                                               00066001
00005C 00000000                      74 VIOREV   DC    V(IHIIOREV)              EVALUATE DATASET NUMBER 00067001
000060 00000000                      75 VIBOAR   DC    V(IHIIBOAR)              INBOOLEAN               00068001
                                     76 *                                                               00069001
000000              00000 00120      77 FAS      DSECT                                                  00070001
                                     78 *                                                               00071001
                                     79          COPY  FSAREA                                           00072001
                                     80=*                                                               00001001
                                     81=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY             00002001
                                     82=*                                                               00003001
                                     83=*        STATUS - LEVEL 2.1                                     00004001
                                     84=*                                                               00005001
                                     85=*********************************************************************** 00006001
                                     86=*                                                               00007001
                                     87=*        COMMON DATA AREA                                       00008001
                                     88=*                                                               00009001
                                     89=*        FSAREA                                                 00010001
                                     90=*                                                               00011001
                                     91=*********************************************************************** 00012001
                                     92=*                                                               00013001
                                     93=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL             00014001
                                     94=*        MODULES DURING THE EXECUTION                           00015001
                                     95=*                                                               00016001
                                     96=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY          00017001
                                     97=*        SUBROUTINES) BY R12                                    00018001
```

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                         X390 3.1.04  2012/08/17 13.21

                                     98=*                                                                          00019001
                      00000          99=FSAREA   EQU   *                                                           00020001
                                    100=*                                                                          00021001
                                    101=*        SAVE AREAS                                                        00022001
                                    102=*                                                                          00023001
000000                              103=         DS    18F                     STANDARD SAVE AREA                  00024001
                      00048         104=ASAVE    EQU   *-FSAREA                ALTERNATE SAVE AREA USED BY         00025001
000048                              105=         DS    18F                     CERTAIN SUBROUTINES                 00026001
                                    106=*                                                                          00027001
                                    107=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                            00028001
                                    108=*                                                                          00029001
                      00090         109=FCTVALST EQU   *-FSAREA                TEMPORARY STORAGE FOR               00030001
000090                              110=         DS    D                       FUNCTION VALUES                     00031001
                      00098         111=ASTLOC   EQU   *-FSAREA                DISPL FOR ADDR OF STAND LOCTN       00032001
000098 00000090                     112=         DC    A(FSAREA+FCTVALST)                                          00033001
                      0009C         113=BRRST    EQU   *-FSAREA                TEMPORARY SAVE REG BRR              00034001
                      0009C         114=HW       EQU   BRRST                   TEMPORARY HALFWORD STORAGE          00035001
00009C                              115=         DS    F                                                           00036001
                      000A0         116=PROLREG  EQU   *-FSAREA                STORAGE FOR PBT AND LAT WHEN        00037001
0000A0                              117=         DS    2A                      A PROCEDURE IS FORMAL PARAM         00038001
                                    118=*                                                                          00039001
                                    119=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE            00040001
                                    120=*                                                                          00041001
0000A8                              121=         DS    0H                                                          00042001
0000A8 00                           122=         DC    X'00'                                                       00043001
                      000A9         123=PROLPBN  EQU   *-FSAREA                STORAGE FOR CALLED PBN              00044001
0000A9 00                           124=         DC    X'00'                                                       00045001
                      000AA         125=EIGHT    EQU   *-FSAREA                CONST FOR REDUCING RAS              00046001
0000AA 0008                         126=         DC    H'8'                                                        00047001
                                    127=*                                                                          00048001
0000AC                              128=         DS    0F                                                          00049001
                      000AC         129=ADSTAB   EQU   *-FSAREA                ADDR OF DSTABLE                     00050001
0000AC                              130=         DS    A                       IN THE OBJECT PROGRAM               00051001
                      000B0         131=ANOTTAB  EQU   *-FSAREA                ADDR OF NOTE TABLE                  00052001
0000B0                              132=         DS    A                       (INSERTED BY THE OPEN ROUTINE)      00053001
                                    133=*                                                                          00054001
                      000B4         134=IHIFSAST EQU   *                                                           00055001
                      000B4         135=PGOPSW   EQU   *-FSAREA                PROGRAM CHECK OLD PSW               00056001
0000B4                              136=         DS    2F                                                          00057001
                      000BC         137=FSAPICA  EQU   *-FSAREA                OLD PICA ADDR                       00058001
0000BC 00000000                     138=         DC    F'0'                                                        00059001
                      000C0         139=SCRCS    EQU   *-FSAREA                SEMICOLON NUMBER                    00060001
0000C0                              140=         DS    H                                                           00061001
                      000C2         141=DTSW     EQU   *-FSAREA                OPTION SWITCHES                     00062001
                      000C2         142=OPTSW    EQU   DTSW                                                        00063001
0000C2 00                           143=         DC    X'00'                   DUMP-80, TRACE-40, SHORT-20         00064001
                      000C3         144=FSAERCOD EQU   *-FSAREA                ERROR CODE FOR ERROR ROUTINE        00065001
0000C3                              145=         DS    C                                                           00066001
                                    146=*                                                                          00067001
                                    147=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER                 00068001
                                    148=*                                                                          00069001
0000C4                              149=         DS    0F                                                          00070001
                      000C4         150=IHIFSARS EQU   *                                                           00071001
                      000C4         151=RASSTART EQU   *-FSAREA                ADDR OF FIRST ENTRY IN RAS-8        00072001
0000C4                              152=         DS    F                                                           00073001
                      000C8         153=RASPT    EQU   *-FSAREA                RAS POINTER FROM TOP                00074001
0000C8                              154=         DS    F                                                           00075001
                      000CC         155=RASEND   EQU   *-FSAREA                ADDR OF LAST  ENTRY IN RAS+8        00076001
0000CC                              156=         DS    F                                                           00077001
                      000D0         157=RASPB    EQU   *-FSAREA                RAS POINTER FROM BOTTOM             00078001
0000D0                              158=         DS    F                                                           00079001
                                    159=*                                                                          00080001
                                    160=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES          00081001
                                    161=*                                                                          00082001
0000D4                              162=BRLIST   DS    0F                                                          00083001
                      000D4         163=CAP1     EQU   *-FSAREA                FIRST PART CAPS                     00084001
0000D4 4700 0000            00000   164=         NOP   0                                                           00085001
                      000D8         165=CAP2     EQU   *-FSAREA                SECOND PART CAPS                    00086001
0000D8 4700 0000            00000   166=         NOP   0                                                           00087001
                      000DC         167=PROLOGP  EQU   *-FSAREA                PROLOGUE FORMAL PARAMETER ENTRY     00088001
                      000DC         168=PROLOGFP EQU   PROLOGP                                                     00089001
0000DC 4700 0000            00000   169=         NOP   0                                                           00090001
                      000E0         170=PROLOG   EQU   *-FSAREA                PROLOGUE PROGRAM USUAL ENTRY        00091001
0000E0 4700 0000            00000   171=         NOP   0                                                           00092001
                      000E4         172=RETPROG  EQU   *-FSAREA                DISPLACEMENT RETURN PROGRAM         00093001
0000E4 4700 0000            00000   173=         NOP   0                                                           00094001
                      000E8         174=EPILOGP  EQU   *-FSAREA                EPILOGUE PROGRAM,PROCEDURE ENTRY    00095001
0000E8 4700 0000            00000   175=         NOP   0                                                           00096001
                      000EC         176=EPILOGB  EQU   *-FSAREA                EPILOGE PROGRAM,BETA-BLOCK ENTRY    00097001
0000EC 4700 0000            00000   177=         NOP   0                                                           00098001
                      000F0         178=EPILPR3  EQU   *-FSAREA                EPILOGUE PROGRAM ENTRY 3            00099001
0000F0 4700 0000            00000   179=         NOP   0                                                           00100001
                      000F4         180=CSWE1    EQU   *-FSAREA                FIRST PART CSWES                    00101001
0000F4 4700 0000            00000   181=         NOP   0                                                           00102001
                      000F8         182=CSWE2    EQU   *-FSAREA                SECOND PART CSWES                   00103001
0000F8 4700 0000            00000   183=         NOP   0                                                           00104001
                      000FC         184=LOADPP   EQU   *-FSAREA                LOAD PRECOMPILED PROC ROUTINE       00105001
0000FC 4700 0000            00000   185=         NOP   0                                                           00106001
                      00100         186=TRACE    EQU   *-FSAREA                                                    00107001
000100 D200 0000 0000 00000 00000   187=         MVC   0(0),0                                                      00108001
000106 4700 0000            00000   188=         NOP   0                                                           00109001
00010A 4700 0000            00000   189=         NOP   0                                                           00110001
                      0010E         190=TERMNTE  EQU   *-FSAREA                NORMAL TERMINATION EXIT             00111001
00010E 4700 0000            00000   191=         NOP   0                                                           00112001
                      00112         192=BCR      EQU   *-FSAREA                                                    00113001
000112 0700                         193=         BCR   0,0                     VARIABLE CONDITIONAL BRANCH         00114001
```

Active USINGs: IHIIBARR,R7

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                      00114         194=GETMSTO  EQU   *-FSAREA                                                 00115001
000114 4700 0000             00000  195=         NOP   0                                                       00116001
                                    196=*                                                                      00117001
                      00118         197=VALUCALL EQU   *-FSAREA                                                00118001
000118 4700 0000             00000  198=         NOP   0                                                       00119001
                      0011C         199=IORLST   EQU   *-FSAREA                                                00120001
00011C 4700 0000             00000  200=         NOP   0                                                       00121001
                                    201=*                                                                      00122001
                      001CC         202=FSAERR   EQU   X'1CC'                DISPL  FOR ERROR LIST             00123001
                                    203=*                                                                      00124001
                                    204=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                  00125001
                                    205=*                                                                      00126001
                      0020C         206=OUTOFB   EQU   FSAERR+4*16                                             00127001
                      00218         207=NUMBIND  EQU   FSAERR+4*19                                             00128001
                      00208         208=ARRAYBD  EQU   FSAERR+4*15                                             00129001
                      0026C         209=ERROR40  EQU   FSAERR+4*40                                             00130001
                      00224         210=OERR22   EQU   FSAERR+4*22                                             00131001
                      00210         211=ENDLESL  EQU   FSAERR+4*17                                             00132001
                      00220         212=OERR21   EQU   FSAERR+4*21                                             00133001
                                    213=*                                                                      00134001
                                    214 *                                                                      00073001
                                    215 *        REGISTER EQUATES                                              00074001
                                    216 *                                                                      00075001
                                    217          IEZREGS                                                       00076001
                      00000         218+R0       EQU   0                                                       01-IEZRE
                      00001         219+R1       EQU   1                                                       01-IEZRE
                      00002         220+R2       EQU   2                                                       01-IEZRE
                      00003         221+R3       EQU   3                                                       01-IEZRE
                      00004         222+R4       EQU   4                                                       01-IEZRE
                      00005         223+R5       EQU   5                                                       01-IEZRE
                      00006         224+R6       EQU   6                                                       01-IEZRE
                      00007         225+R7       EQU   7                                                       01-IEZRE
                      00008         226+R8       EQU   8                                                       01-IEZRE
                      00009         227+R9       EQU   9                                                       01-IEZRE
                      0000A         228+R10      EQU   10                                                      01-IEZRE
                      0000B         229+R11      EQU   11                                                      01-IEZRE
                      0000C         230+R12      EQU   12                                                      01-IEZRE
                      0000D         231+R13      EQU   13                                                      01-IEZRE
                      0000E         232+R14      EQU   14                                                      01-IEZRE
                      0000F         233+R15      EQU   15                                                      01-IEZRE
                                    234 *                                                                      00077001
                                    235          END                                                           00078001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
ASAVE           1 00000048           U                 104   46
BRRST           1 0000009C           U                 113  114
DTSW            1 000000C2           U                 141  142
FCTVALST        1 00000090           U                 109  112
FSAERR          1 000001CC           U                 202  206  207  208  209  210  211  212
FSAREA          1 00000000 FFFFFFFF  U                  99  104  109  111  112  113  116  123  125  129  131  135  137
                                                            139  141  144  151  153  155  157  163  165  167  170  172
                                                            174  176  178  180  182  184  186  190  192  194  197  199
IHIIBARR        1 00000000 00000001  J                  31   44U
IHIIBOAR        1 00000000 00000003  T                  75   75
IHIIOREV        1 00000000 00000002  T                  74   74
INBARRY1        4 00000044 00000001  I                  61   65B
PROLOGP         1 000000DC           U                 167  168
R1              1 00000001           U                 219   55M  56   57
R12             1 0000000C           U                 230   45M  66
R13             1 0000000D           U                 231   45   46M  66M
R14             1 0000000E           U                 232   51M  62M
R15             1 0000000F           U                 233   43   50M  51B  61M  62B
R2              1 00000002           U                 220   57M  63M  64
R3              1 00000003           U                 221   56M  64
R7              1 00000007           U                 225   43M  44U
VIBOAR          4 00000060 00000001  V V                75   61
VIOREV          4 0000005C 00000001  V V                74   50
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

0(0)	41	69M						
1(1)	41	55M	56	57	69M			
2(2)	41	57M	63M	64	69M			
3(3)	41	56M	64	69M				
4(4)	41	69M						
5(5)	41	69M						
6(6)	41	69M						
7(7)	41	43M	44U	69M				
8(8)	41	69M						
9(9)	41	69M						
10(A)	41	69M						
11(B)	41	69M						
12(C)	41	45M	66	69M				
13(D)	41	45	46M	66M	69			
14(E)	41	51M	62M	69M	70B			
15(F)	37B	41	43	50M	51B	61M	62B	69M

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

FAS 00000120 FFFFFFFF 77 PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
44		USING	Ordinary	00000001	00000000	00001000	7	00060	65	IHIIBARR,R7

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIIBA PROCSTEP: X390

Primary input: lines 1 to 78 of SYSD.ALGOLFRT.ASM(IHIIBA)

SYSLIB library records read: 295

SYSUT1 work file size: 21100 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 6240 bytes

SYSLIN file records written: 5

TXA000I Return code 0, elapsed time 0.18 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIIBARR	000064	4

IHIIBO

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspunchH(//DDN:SYSPUNCH)     Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIIBO)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0146
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                  X390 3.1.04  2012/08/17 13.21

                                      2 *                                                                   00002001
                                      3 *       COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                  00003001
                                      4 *                                                                   00004001
                                      5 *       STATUS - LEVEL 2.1                                          00005001
                                      6 *                                                                   00006001
                                      7 *       FUNCTION/OPERATION -                                        00007001
                                      8 *       SCAN INPUT BUFFER UNTIL A BOOLEAN VALUE IS FOUND            00008001
                                      9 *       TRANSFER IF 'TRUE' 1 IF 'FALSE' 0 TO BOOLEAN IDENTIFIER,    00009001
                                     10 *       THE SECOND PARAMETER                                        00010001
                                     11 *                                                                   00011001
                                     12 *       ENTRY POINTS -                                              00012001
                                     13 *       IHIIBOOL - FROM GENERATED OBJECT MODULE                     00013001
                                     14 *                  LA    R1,PARMLIST                                00014001
                                     15 *                  BALR R14,R15                                     00015001
                                     16 *                  DATA PASSED BY NAME                              00016001
                                     17 *       IHIIBOAR - FROM ARRAY MODULE IHIIBA                         00017001
                                     18 *                  L     R2,A(DESTINATION)                          00018001
                                     19 *                  BALR R14,R15                                     00019001
                                     20 *                  DATA PASSED BY NAME                              00020001
                                     21 *                                                                   00021001
                                     22 *       INPUT - N/A                                                 00022001
                                     23 *                                                                   00023001
                                     24 *       OUTPUT - N/A                                                00024001
                                     25 *                                                                   00025001
                                     26 *       EXTERNAL ROUTINES -                                         00026001
                                     27 *       IHIIOR - EVALUATE DATASET NUMBER                            00027001
                                     28 *              - OPEN DATA SET                                      00028001
                                     29 *              - CHANGE TO NEXT INPUT RECORD                        00029001
                                     30 *                                                                   00030001
                                     31 *       EXITS - NORMAL - RELOAD REGISTERS AND EXIT VIA R14          00031001
                                     32 *                                                                   00032001
                                     33 *       EXITS - ERROR - INPUT REQUEST BEYOND END OF DATASET         00033001
                                     34 *                       BRANCH TO IHIFSA                            00034001
                                     35 *                       L      R13,IHIFSA                           00035001
                                     36 *                       B      FSAERR+XX*4(R13) XX ERROR NO 5       00036001
                                     37 *                                                                   00037001
                                     38 *       TABLES/WORK AREAS - N/A                                     00038001
                                     39 *                                                                   00039001
000000                00000 00282    40 IHIIBOOL CSECT                                                      00040001
                                     41 *                                                                   00041001
                                     42         ENTRY IHIIBOAR                                              00042001
                 R:5  00000          43         USING DSTABLE,R5                                            00043001
                                     44 *                                                                   00044001
                                     45 *       R5                          -> DSTABLE ENTRY                00045001
                                     46 *       R6                          =  DATASET NUMBER               00046001
                                     47 *                                                                   00047001
                                     48 *       DISPLACEMENTS IN ADRLST IN IHIFSA                           00048001
                                     49 *                                                                   00049001
                      00000          50 CI      EQU   0           DISPLACEMENT FOR - IHIIORCI               00050001
                      00004          51 CL      EQU   4                              IHIIORCL               00051001
                      00008          52 EV      EQU   8                              IHIIOREV               00052001
                      0000C          53 NX      EQU   12                             IHIIORNX               00053001
                      00010          54 OP      EQU   16                             IHIIOROP               00054001
                      00014          55 OQ      EQU   20                             IHIIOROQ               00055001
                                     56 *                                                                   00056001
                                     57         SAVE  (14,12),,'IHIIBOOL LEVEL 2.1 &SYSDATE &SYSTIME'       00057001
000000 47F0 F026            00026    58+        B     38(0,15)                       BRANCH AROUND ID       01-SAVE
000004 21                            59+        DC    AL1(33)                        LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9C9C2D6D6D3              60+        DC    CL32'IHIIBOOL LEVEL 2.1 08/17/12 13.2' IDENTIFIER     01-SAVE
000025 F1                            61+        DC    CL1'1'                         IDENTIFIER             01-SAVE
000026 90EC D00C            0000C    62+        STM   14,12,12(13)                   SAVE REGISTERS         01-SAVE
                                     63 *                                                                   00058001
                 R:F  00000          64         USING IHIIBOOL,R15                                          00059001
00002A 4170 F08E            0008E    65         LA    R7,COMMON                                             00060001
                                     66         DROP  R15                                                   00061001
                 R:7  0008E          67         USING COMMON,R7                                             00062001
00002E 18CD                          68         LR    R12,R13              R12 -> FSA                       00063001
000030 50D0 71AE            0023C    69         ST    R13,SAVEAREA+4       CHAIN SAVE AREAS                 00064001
000034 41D0 71AA            00238    70         LA    R13,SAVEAREA                                          00065001
000038 50D0 C008            00008    71         ST    R13,8(,R12)                                           00066001
                                     72 *                                                                   00067001
                                     73 *       EVALUATE DATA SET NUMBER                                    00068001
                                     74 *                                                                   00069001
00003C 58F0 C11C            0011C    75         L     R15,IORLST(,R12)                                      00070001
000040 58F0 F008            00008    76         L     R15,EV(,R15)                                          00071001
000044 05EF                          77         BALR  R14,R15                                               00072001
000046 47F0 7000            0008E    78         B     INBOOL1                                               00073001
                                     79 *                                                                   00074001
                                     80         DROP  R7                                                    00075001
                                     81 *                                                                   00076001
                                     82 IHIIBOAR SAVE (14,12),,'IHIIBOAR LEVEL 2.1 &SYSDATE &SYSTIME'       00077001
00004A 47F0 F026            00026    83+IHIIBOAR B    38(0,15)                       BRANCH AROUND ID       01-SAVE
00004E 21                            84+        DC    AL1(33)                        LENGTH OF IDENTIFIER   01-SAVE
00004F C9C8C9C9C2D6C1D9              85+        DC    CL32'IHIIBOAR LEVEL 2.1 08/17/12 13.2' IDENTIFIER     01-SAVE
00006F F1                            86+        DC    CL1'1'                         IDENTIFIER             01-SAVE
000070 90EC D00C            0000C    87+        STM   14,12,12(13)                   SAVE REGISTERS         01-SAVE
                                     88 *                                                                   00078001
                 R:F  0004A          89         USING IHIIBOAR,R15                                          00079001
000074 4170 F044            0008E    90         LA    R7,COMMON                                             00080001
                                     91         DROP  R15                                                   00081001
                 R:7  0008E          92         USING COMMON,R7                                             00082001
000078 18CD                          93         LR    R12,R13              R12 -> FSA                       00083001
00007A 50D0 71AE            0023C    94         ST    R13,SAVEAREA+4       CHAIN SAVE AREAS                 00084001
00007E 41D0 71AA            00238    95         LA    R13,SAVEAREA                                          00085001
000082 50D0 C008            00008    96         ST    R13,8(,R12)                                           00086001
000086 5020 719A            00228    97         ST    R2,ADEST             STORE DESTINATION ADDR           00087001
```

Active USINGs: IHIIBOOL+X'8E',R7 DSTABLE,R5

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

00008A 47F0 7008            00096    98          B     INBOOLOP                                                  00088001
                                     99 *                                                                        00089001
                       0008E        100 COMMON   EQU   *                    COMMON CODE POINT                    00090001
00008E 5810 1004            00004   101 INBOOL1  L     R1,4(,R1)                                                 00091001
000092 5010 719A            00228   102          ST    R1,ADEST                                                    00092001
000096 94DF 501B      0001B         103 INBOOLOP NI    DSF+1,255-DS10          SET DS10 = 0                      00093001
00009A 91FF 5019      00019         104          TM    Q,X'FF'                 DATASET SECTIONED ?               00094001
00009E 4770 7180            0020E   105          BNZ   ERROR2                  INCOMPATIBLE ACTION ON DATASET    00095001
0000A2 4960 71F2            00280   106          CH    R6,=H'1'                DATASET NUMBER 1?                 00096001
0000A6 4780 7180            0020E   107          BE    ERROR2                  INCOMPATIBLE ACTION ON DATASET    00097001
0000AA 9180 501A      0001A         108          TM    DSF,DS0                 DATASET OPEN ?                    00098001
0000AE 4710 7036            000C4   109          BO    INBOOL2                 YES, BRANCH                       00099001
0000B2 94FD 501A      0001A         110          NI    DSF,255-DS6             NO, SET DS6 TO 0                  00100001
0000B6 58F0 C11C            0011C   111          L     R15,IORLST(,R12)                                          00101001
0000BA 58F0 F010            00010   112          L     R15,OP(,R15)                                              00102001
0000BE 05EF                         113          BALR  R14,R15                 CALL OPEN ROUTINE                 00103001
0000C0 47F0 7052            000E0   114          B     INBOOL3                                                   00104001
                                    115 *                                                                        00105001
0000C4 9120 501A      0001A         116 INBOOL2  TM    DSF,DS2                 LAST I/O OUTPUT ?                 00106001
0000C8 4710 7186            00214   117          BO    ERROR3                  INPUT BEYOND LAST OUTPUT          00107001
0000CC 9102 501A      0001A         118          TM    DSF,DS6                 DS OPEN FOR OUTPUT ?              00108001
0000D0 4780 7052            000E0   119          BZ    INBOOL3                 NO, BRANCH                        00109001
0000D4 9101 501A      0001A         120          TM    DSF,DS7                 EOD REACHED ?                     00110001
0000D8 4710 718C            0021A   121          BO    ERROR5                  YES, BRANCH                       00111001
0000DC 47F0 7180            0020E   122          B     ERROR2                                                    00112001
                                    123 *                                                                        00113001
0000E0 5880 5004            00004   124 INBOOL3  L     R8,R                    CHARACTER POINTER IN R8           00114001
0000E4 0680                         125          BCTR  R8,0                    DECR CHARACTER PTR                00115001
0000E6 5080 5004            00004   126          ST    R8,R                                                      00116001
0000EA 9200 7192      00220         127 INBOOL4  MVI   FLAGS,0                 CLEAR FLAG BYTE                   00117001
0000EE 41A0 7193            00221   128 INBOOL5  LA    R10,MB                  MANTISSA BUFFER POINTER           00118001
0000F2 1B99                         129          SR    R9,R9                   BLANK COUNTER CLEARED             00119001
0000F4 9101 501A      0001A         130          TM    DSF,DS7                 INPUT REQ BEYOND END OF DATA ?    00120001
0000F8 4710 718C            0021A   131          BO    ERROR5                  YES, BRANCH                       00121001
0000FC 5830 5008            00008   132 INBOOL6  L     R3,RE                                                     00122001
000100 0630                         133          BCTR  R3,0                                                      00123001
000102 5880 5004            00004   134          L     R8,R                                                      00124001
000106 1983                         135          CR    R8,R3                                                     00125001
000108 4770 708C            0011A   136          BNE   INBOOL7                                                   00126001
00010C 58F0 C11C            0011C   137          L     R15,IORLST(,R12)        RECORD END IS REACHED             00127001
000110 58F0 F00C            0000C   138          L     R15,NX(,R15)                                              00128001
000114 05EF                         139          BALR  R14,R15                 CALL NEXTREC ROUTINE              00129001
000116 47F0 7052            000E0   140          B     INBOOL3                 LOOP BACK                         00130001
                                    141 *                                                                        00131001
00011A 4180 8001            00001   142 INBOOL7  LA    R8,1(,R8)               INCR R                            00132001
00011E 5080 5004            00004   143          ST    R8,R                    SAVE R                            00133001
000122 957D 8000      00000         144          CLI   0(R8),C''''             QUOTE FOUND ?                     00134001
000126 4780 70DA            00168   145          BE    INBOOL9                 YES, BRANCH                       00135001
00012A 91FF 7192      00220         146          TM    FLAGS,X'FF'                                               00136001
00012E 4780 706E            000FC   147          BZ    INBOOL6                 NO QUOTE READ NEXT CHARACTER      00137001
000132 9540 8000      00000         148          CLI   0(R8),C' '              QUOTE READ ALREADY ?              00138001
000136 4770 70C0            0014E   149          BNE   INBOOL8                 CHARACTER IS NOT BLANK            00139001
00013A 4190 9001            00001   150          LA    R9,1(,R9)               CHARACTER IS BLANK INCR COUNTER    00140001
00013E 1B44                         151          SR    R4,R4                                                     00141001
000140 4340 5018            00018   152          IC    R4,K                    TEST IF BLANK DELIMITERS DENOTE   00142001
000144 1949                         153          CR    R4,R9                   BY K IS ALREADY FOUND             00143001
000146 4780 705C            000EA   154          BE    INBOOL4                 NEW SCAN LOOP K DELIMT FOUND      00144001
00014A 4770 706E            000FC   155          BNE   INBOOL6                 K DELIMITERS NOT FOUND            00145001
00014E 1B99                         156 INBOOL8  SR    R9,R9                   CLEAR BLANK COUNTER               00146001
000150 41B0 7198            00226   157          LA    R11,MB+5                END OF BUFFER ADDR                00147001
000154 19AB                         158          CR    R10,R11                                                   00148001
000156 47B0 705C            000EA   159          BNL   INBOOL4                 NO VALID BOOLEAN VALUE FOUND      00149001
                                    160 *                                       NEW SCAN LOOP                     00150001
00015A D200 A000 8000 00000 00000   161          MVC   0(1,R10),0(R8)          INSERT FOUND CHAR TO BUFFER       00151001
000160 41A0 A001            00001   162          LA    R10,1(,R10)             INCR R10                          00152001
000164 47F0 706E            000FC   163          B     INBOOL6                 EXAMINE NEXT CHARACTER            00153001
                                    164 *                                                                        00154001
000168 1B99                         165 INBOOL9  SR    R9,R9                                                     00155001
00016A 91FF 7192      00220         166          TM    FLAGS,X'FF'                                               00156001
00016E 4770 70EC            0017A   167          BNZ   INBOOL10                QUOTE ALREADY FOUND               00157001
000172 9601 7192      00220         168          OI    FLAGS,X'01'             FIRST QUOTE, SET FLAGS            00158001
000176 47F0 706E            000FC   169          B     INBOOL6                                                   00159001
                                    170 *                                                                        00160001
00017A 41B0 7197            00225   171 INBOOL10 LA    R11,MB+4                FOUR CHARACTERS READ ?            00161001
00017E 19AB                         172          CR    R10,R11                                                   00162001
000180 4740 7060            000EE   173          BL    INBOOL5                                                   00163001
000184 4720 7110            0019E   174          BH    INBOOL11                                                  00164001
000188 D503 7193 719E 00221 0022C   175          CLC   MB(L'KTRUE),KTRUE       TRUE ?                            00165001
00018E 4770 7060            000EE   176          BNE   INBOOL5                 NO, INVALID BOOLEAN VALUE FOUND   00166001
000192 5820 719A            00228   177          L     R2,ADEST                YES, BOOLEAN VALUE TRUE FOUND     00167001
000196 9201 2000      00000         178          MVI   0(R2),X'01'             CHARACTER TO DESTINATION          00168001
00019A 47F0 7122            001B0   179          B     INBOOL12                                                  00169001
                                    180 *                                                                        00170001
00019E D504 7193 71A2 00221 00230   181 INBOOL11 CLC   MB(L'KFALSE),KFALSE     FALSE ?                           00171001
0001A4 4770 7060            000EE   182          BNE   INBOOL5                 NO, INVALID BOOLEAN VALUE FOUND   00172001
0001A8 5820 719A            00228   183          L     R2,ADEST                YES, BOOLEAN VALUE FALSE FOUND    00173001
0001AC 9200 2000      00000         184          MVI   0(R2),X'00'             CHARACTER TO DESTINATION          00174001
                                    185 *                                                                        00175001
                                    186 *        RECOGNITION OF THE LAST DELIMITING CHARACTER                    00176001
                                    187 *                                                                        00177001
0001B0 1B99                         188 INBOOL12 SR    R9,R9                                                     00178001
0001B2 1B11                         189          SR    R1,R1                                                     00179001
0001B4 4180 8001            00001   190 INBOOL13 LA    R8,1(,R8)               INCREASE CHARACTER POINTER        00180001
0001B8 5980 5008            00008   191          C     R8,RE                                                     00181001
0001BC 47B0 7172            00200   192          BNL   INBOOLNX                NEXT RECORD                       00182001
0001C0 9540 8000      00000         193          CLI   0(R8),C' '                                                00183001
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Active USINGs: IHIIBOOL+X'8E',R7 DSTABLE,R5

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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0001C4 4770 7152            001E0   194          BNE   INBOOL14              CHARACTER IS NOT BLANK            00184001
0001C8 4190 9001            00001   195          LA    R9,1(,R9)             CHARACTER IS BLANK  INCREASE R9 00185001
0001CC 1B44                         196          SR    R4,R4                 TEST IF BLANK DELIMITERS DENOTE   00186001
0001CE 4340 5018            00018   197          IC    R4,K                  BY K IS ALREADY FOUND             00187001
0001D2 1949                         198          CR    R4,R9                                                   00188001
0001D4 4770 7126            001B4   199          BNE   INBOOL13              NOT K BLANK DELIMITERS READ       00189001
0001D8 4110 1001            00001   200          LA    R1,1(,R1)             K BLANK DELIMITERS READ           00190001
0001DC 47F0 7126            001B4   201          B     INBOOL13                                                00191001
                                    202 *                                                                     00192001
0001E0 1211                         203 INBOOL14 LTR   R1,R1                 CHARACTER NOT EQUAL BLANK FOUND   00193001
0001E2 4720 715C            001EA   204          BP    INBOOLAA              K OR MORE BLANKS FOUND            00194001
0001E6 4180 8001            00001   205          LA    R8,1(,R8)             < K BLANKS FOUND                  00195001
0001EA 5980 5008            00008   206 INBOOLAA C     R8,RE                                                   00196001
0001EE 4780 7172            00200   207          BE    INBOOLNX              RECORD END REACHED                00197001
0001F2 5080 5004            00004   208          ST    R8,R                  STORE R TO DSTAB                  00198001
0001F6 58D0 71AE            0023C   209 INBOOLEX L     R13,SAVEAREA+4                                          00199001
                                    210 *                                                                     00200001
                                    211          RETURN (14,12)              RESTORE CALLERS REGS AND RETURN   00201001
0001FA 98EC D00C            0000C   212+         LM    14,12,12(13)                  RESTORE THE REGISTERS       01-RETUR
0001FE 07FE                         213+         BR    14                            RETURN                      01-RETUR
                                    214 *                                                                     00202001
000200 58F0 C11C            0011C   215 INBOOLNX L     R15,IORLST(,R12)      CALL NEXTREC ROUTINE              00203001
000204 58F0 F00C            0000C   216          L     R15,NX(,R15)                                            00204001
000208 05EF                         217          BALR  R14,R15                                                 00205001
00020A 47F0 7168            001F6   218          B     INBOOLEX                                                00206001
                                    219 *                                                                     00207001
00020E 18DC                         220 ERROR2   LR    R13,R12                                                 00208001
000210 47FD 01D4            001D4   221          B     FSAERR+2*4(R13)       INCOMP ACTION ON DATASET          00209001
                                    222 *                                                                     00210001
000214 18DC                         223 ERROR3   LR    R13,R12                                                 00211001
000216 47FD 01D8            001D8   224          B     FSAERR+3*4(R13)       INPUT BEYOND LAST OUTPUT          00212001
                                    225 *                                                                     00213001
00021A 18DC                         226 ERROR5   LR    R13,R12               INPUT REQUEST BEYOND END OF       00214001
00021C 47FD 01E0            001E0   227          B     FSAERR+5*4(R13)       DATA SET                          00215001
                                    228 *                                                                     00216001
000220 00                           229 FLAGS    DC    X'00'                 FLAG BYTE FOR APOSTROPHE          00217001
000221 404040404040                 230 MB       DC    CL6' '                BUFFER                            00218001
000227 00
000228 00000000                     231 ADEST    DC    A(0)                  DESTINATION ADDR                  00219001
                                    232 *                                                                     00220001
00022C E3D9E4C5                     233 KTRUE    DC    C'TRUE'               BOOLEAN VALUE TRUE                00221001
000230 C6C1D3E2C5                   234 KFALSE   DC    C'FALSE'              BOOLEAN VALUE FALSE               00222001
                                    235 *                                                                     00223001
000235 000000
000238 0000000000000000             236 SAVEAREA DC    18F'0'                SAVE AREA                         00224001
                                    237 *                                                                     00225001
000280                              238          LTORG                                                        00226001
000280 0001                         239               =H'1'
                                    240 *                                                                     00227001
                                    241          DSTABLE  DSECT=YES                                           00228001
000000                00000 00024   242+DSTABLE  DSECT                                                       01-DSTAB
                                    243+*                                                                     01-DSTAB
000000 00000000                     244+ADCB     DC    F'0'                  -> DCB                            01-DSTAB
000004 00000000                     245+R        DC    F'0'                  CHARACTER POINTER                 01-DSTAB
000008 00000000                     246+RE       DC    F'0'                                                    01-DSTAB
00000C 00000000                     247+NBB      DC    F'0'                                                    01-DSTAB
000010 00000000                     248+BB       DC    F'0'                                                    01-DSTAB
000014 0001                         249+S        DC    H'1'                  RECORD POINTER                    01-DSTAB
000016 0050                         250+P        DC    H'80'                 RECORD LENGTH                     01-DSTAB
000018 02                           251+K        DC    X'02'                 NUMBER OF BLANK DELIM CHARS       01-DSTAB
000019 00                           252+Q        DC    X'00'                 NO OF RECORDS PER SECTION         01-DSTAB
00001A 0000                         253+DSF      DC    H'00'                 DATASET FLAGS                     01-DSTAB
                                    254+*                                                                     01-DSTAB
                                    255+*        DATASET FLAGS - DSF                                          01-DSTAB
                                    256+*                                                                     01-DSTAB
                      00080         257+DS0      EQU   X'80'                 DATASET OPEN                      01-DSTAB
                      00040         258+DS1      EQU   X'40'                                                   01-DSTAB
                      00020         259+DS2      EQU   X'20'                 LAST I/O OUTPUT                   01-DSTAB
                      00010         260+DS3      EQU   X'10'                                                   01-DSTAB
                      00008         261+DS4      EQU   X'08'                                                   01-DSTAB
                      00004         262+DS5      EQU   X'04'                                                   01-DSTAB
                      00002         263+DS6      EQU   X'02'                 OPEN FOR OUTPUT                   01-DSTAB
                      00001         264+DS7      EQU   X'01'                 END OF FILE                       01-DSTAB
                                    265+*                                                                     01-DSTAB
                                    266+*        DATASET FLAGS - DSF+1                                        01-DSTAB
                                    267+*                                                                     01-DSTAB
                      00080         268+DS8      EQU   X'80'                 END OF DATA                       01-DSTAB
                      00040         269+DS9      EQU   X'40'                                                   01-DSTAB
                      00020         270+DS10     EQU   X'20'                 OPENED BY SYSACT 12               01-DSTAB
                      00010         271+DS11     EQU   X'10'                 INDICATE IHIERR-ROUT              01-DSTAB
                      00008         272+DSEOD    EQU   X'08'                                                   01-DSTAB
                      00004         273+DSIOERR  EQU   X'04'                 I/O ERROR                         01-DSTAB
                      00002         274+DS14     EQU   X'02'                 DATASET OPENED                    01-DSTAB
                      00001         275+DS15     EQU   X'01'                 CLOSE FROM IHIERR                 01-DSTAB
                                    276+*                                                                     01-DSTAB
00001C 00000000                     277+NOTEADR  DC    F'0'                                                    01-DSTAB
000020 0000                         278+BL       DC    H'0'                  LRECL+ TWO ARB                    01-DSTAB
000022 0000                         279+         DC    H'0'                                                    01-DSTAB
                                    280+*                                                                     01-DSTAB
                      00024         281+DSTABLEL EQU   *-DSTABLE             L'DSTABLE ENTRY                   01-DSTAB
                                    282+*                                                                     01-DSTAB
                                    283 *                                                                     00229001
000000                00000 00120   284 FAS      DSECT                                                       00230001
                                    285 *                                                                     00231001
                                    286          COPY  FSAREA                                                 00232001
                                    287=*                                                                     00001001
```

```
                                    288=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                    00002001
                                    289=*                                                                      00003001
                                    290=*        STATUS - LEVEL 2.1                                            00004001
                                    291=*                                                                      00005001
                                    292=*************************************************************************00006001
                                    293=*                                                                      00007001
                                    294=*        COMMON DATA AREA                                              00008001
                                    295=*                                                                      00009001
                                    296=*        FSAREA                                                        00010001
                                    297=*                                                                      00011001
                                    298=*************************************************************************00012001
                                    299=*                                                                      00013001
                                    300=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                    00014001
                                    301=*        MODULES DURING THE EXECUTION                                  00015001
                                    302=*                                                                      00016001
                                    303=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY                 00017001
                                    304=*        SUBROUTINES) BY R12                                           00018001
                                    305=*                                                                      00019001
                  00000             306=FSAREA   EQU   *                                                       00020001
                                    307=*                                                                      00021001
                                    308=*        SAVE AREAS                                                    00022001
                                    309=*                                                                      00023001
000000                              310=         DS    18F                  STANDARD SAVE AREA               00024001
                  00048             311=ASAVE    EQU   *-FSAREA             ALTERNATE SAVE AREA USED BY      00025001
000048                              312=         DS    18F                  CERTAIN SUBROUTINES              00026001
                                    313=*                                                                      00027001
                                    314=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                        00028001
                                    315=*                                                                      00029001
                  00090             316=FCTVALST EQU   *-FSAREA             TEMPORARY STORAGE FOR            00030001
000090                              317=         DS    D                    FUNCTION VALUES                  00031001
                  00098             318=ASTLOC   EQU   *-FSAREA             DISPL FOR ADDR OF STAND LOCTN    00032001
000098 00000090                     319=         DC    A(FSAREA+FCTVALST)                                     00033001
                  0009C             320=BRRST    EQU   *-FSAREA             TEMPORARY SAVE REG BRR           00034001
                  0009C             321=HW       EQU   BRRST                TEMPORARY HALFWORD STORAGE       00035001
00009C                              322=         DS    F                                                      00036001
                  000A0             323=PROLREG  EQU   *-FSAREA             STORAGE FOR PBT AND LAT WHEN     00037001
0000A0                              324=         DS    2A                   A PROCEDURE IS FORMAL PARAM      00038001
                                    325=*                                                                      00039001
                                    326=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE        00040001
                                    327=*                                                                      00041001
0000A8                              328=         DS    0H                                                     00042001
0000A8 00                           329=         DC    X'00'                                                  00043001
                  000A9             330=PROLPBN  EQU   *-FSAREA             STORAGE FOR CALLED PBN           00044001
0000A9 00                           331=         DC    X'00'                                                  00045001
                  000AA             332=EIGHT    EQU   *-FSAREA             CONST FOR REDUCING RAS           00046001
0000AA 0008                         333=         DC    H'8'                                                   00047001
                                    334=*                                                                      00048001
0000AC                              335=         DS    0F                                                     00049001
                  000AC             336=ADSTAB   EQU   *-FSAREA             ADDR OF DSTABLE                  00050001
0000AC                              337=         DS    A                    IN THE OBJECT PROGRAM            00051001
                  000B0             338=ANOTTAB  EQU   *-FSAREA             ADDR OF NOTE TABLE               00052001
0000B0                              339=         DS    A                    (INSERTED BY THE OPEN ROUTINE)   00053001
                                    340=*                                                                      00054001
                  000B4             341=IHIFSAST EQU   *                                                       00055001
                  000B4             342=PGOPSW   EQU   *-FSAREA             PROGRAM CHECK OLD PSW            00056001
0000B4                              343=         DS    2F                                                     00057001
                  000BC             344=FSAPICA  EQU   *-FSAREA             OLD PICA ADDR                    00058001
0000BC 00000000                     345=         DC    F'0'                                                   00059001
                  000C0             346=SCRCS    EQU   *-FSAREA             SEMICOLON NUMBER                 00060001
0000C0                              347=         DS    H                                                      00061001
                  000C2             348=DTSW     EQU   *-FSAREA             OPTION SWITCHES                  00062001
                  000C2             349=OPTSW    EQU   DTSW                                                  00063001
0000C2 00                           350=         DC    X'00'                DUMP-80, TRACE-40, SHORT-20      00064001
                  000C3             351=FSAERCOD EQU   *-FSAREA             ERROR CODE FOR ERROR ROUTINE     00065001
0000C3                              352=         DS    C                                                      00066001
                                    353=*                                                                      00067001
                                    354=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER             00068001
                                    355=*                                                                      00069001
0000C4                              356=         DS    0F                                                     00070001
                  000C4             357=IHIFSARS EQU   *                                                       00071001
                  000C4             358=RASSTART EQU   *-FSAREA             ADDR OF FIRST ENTRY IN RAS-8     00072001
0000C4                              359=         DS    F                                                      00073001
                  000C8             360=RASPT    EQU   *-FSAREA             RAS POINTER FROM TOP             00074001
0000C8                              361=         DS    F                                                      00075001
                  000CC             362=RASEND   EQU   *-FSAREA             ADDR OF LAST  ENTRY IN RAS+8     00076001
0000CC                              363=         DS    F                                                      00077001
                  000D0             364=RASPB    EQU   *-FSAREA             RAS POINTER FROM BOTTOM          00078001
0000D0                              365=         DS    F                                                      00079001
                                    366=*                                                                      00080001
                                    367=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES       00081001
                                    368=*                                                                      00082001
0000D4                              369=BRLIST   DS    0F                                                     00083001
                  000D4             370=CAP1     EQU   *-FSAREA             FIRST PART CAPS                  00084001
0000D4 4700 0000        00000       371=         NOP   0                                                      00085001
                  000D8             372=CAP2     EQU   *-FSAREA             SECOND PART CAPS                 00086001
0000D8 4700 0000        00000       373=         NOP   0                                                      00087001
                  000DC             374=PROLOGP  EQU   *-FSAREA             PROLOGUE FORMAL PARAMETER ENTRY  00088001
                  000DC             375=PROLOGFP EQU   PROLOGP                                              00089001
0000DC 4700 0000        00000       376=         NOP   0                                                      00090001
                  000E0             377=PROLOG   EQU   *-FSAREA             PROLOGUE PROGRAM USUAL ENTRY     00091001
0000E0 4700 0000        00000       378=         NOP   0                                                      00092001
                  000E4             379=RETPROG  EQU   *-FSAREA             DISPLACEMENT RETURN PROGRAM      00093001
0000E4 4700 0000        00000       380=         NOP   0                                                      00094001
                  000E8             381=EPILOGP  EQU   *-FSAREA             EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000        00000       382=         NOP   0                                                      00096001
                  000EC             383=EPILOGB  EQU   *-FSAREA             EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
```

Active USINGs: IHIIBOOL+X'8E',R7 DSTABLE,R5

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

0000EC 4700 0000           00000   384=          NOP   0                                                          00098001
                     000F0         385=EPILPR3   EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3            00099001
0000F0 4700 0000           00000   386=          NOP   0                                                          00100001
                     000F4         387=CSWE1     EQU   *-FSAREA              FIRST PART CSWES                    00101001
0000F4 4700 0000           00000   388=          NOP   0                                                          00102001
                     000F8         389=CSWE2     EQU   *-FSAREA              SECOND PART CSWES                   00103001
0000F8 4700 0000           00000   390=          NOP   0                                                          00104001
                     000FC         391=LOADPP    EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE       00105001
0000FC 4700 0000           00000   392=          NOP   0                                                          00106001
                     00100         393=TRACE     EQU   *-FSAREA                                                  00107001
000100 D200 0000 0000 00000 00000   394=          MVC   0(0),0                                                    00108001
000106 4700 0000           00000   395=          NOP   0                                                          00109001
00010A 4700 0000           00000   396=          NOP   0                                                          00110001
                     0010E         397=TERMNTE   EQU   *-FSAREA              NORMAL TERMINATION EXIT             00111001
00010E 4700 0000           00000   398=          NOP   0                                                          00112001
                     00112         399=BCR       EQU   *-FSAREA                                                  00113001
000112 0700                        400=          BCR   0,0                   VARIABLE CONDITIONAL BRANCH         00114001
                     00114         401=GETMSTO   EQU   *-FSAREA                                                  00115001
000114 4700 0000           00000   402=          NOP   0                                                          00116001
                                   403=*                                                                        00117001
                     00118         404=VALUCALL  EQU   *-FSAREA                                                  00118001
000118 4700 0000           00000   405=          NOP   0                                                          00119001
                     0011C         406=IORLST    EQU   *-FSAREA                                                  00120001
00011C 4700 0000           00000   407=          NOP   0                                                          00121001
                                   408=*                                                                        00122001
                     001CC         409=FSAERR    EQU   X'1CC'                DISPL  FOR ERROR LIST               00123001
                                   410=*                                                                        00124001
                                   411=*         DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                   00125001
                                   412=*                                                                        00126001
                     0020C         413=OUTOFB    EQU   FSAERR+4*16                                               00127001
                     00218         414=NUMBIND   EQU   FSAERR+4*19                                               00128001
                     00208         415=ARRAYBD   EQU   FSAERR+4*15                                               00129001
                     0026C         416=ERROR40   EQU   FSAERR+4*40                                               00130001
                     00224         417=OERR22    EQU   FSAERR+4*22                                               00131001
                     00210         418=ENDLESL   EQU   FSAERR+4*17                                               00132001
                     00220         419=OERR21    EQU   FSAERR+4*21                                               00133001
                                   420=*                                                                        00134001
                                   421 *                                                                        00233001
                                   422 *         REGISTER EQUATES                                               00234001
                                   423 *                                                                        00235001
                                   424           IEZREGS                                                        00236001
                     00000         425+R0        EQU   0                                                         01-IEZRE
                     00001         426+R1        EQU   1                                                         01-IEZRE
                     00002         427+R2        EQU   2                                                         01-IEZRE
                     00003         428+R3        EQU   3                                                         01-IEZRE
                     00004         429+R4        EQU   4                                                         01-IEZRE
                     00005         430+R5        EQU   5                                                         01-IEZRE
                     00006         431+R6        EQU   6                                                         01-IEZRE
                     00007         432+R7        EQU   7                                                         01-IEZRE
                     00008         433+R8        EQU   8                                                         01-IEZRE
                     00009         434+R9        EQU   9                                                         01-IEZRE
                     0000A         435+R10       EQU   10                                                        01-IEZRE
                     0000B         436+R11       EQU   11                                                        01-IEZRE
                     0000C         437+R12       EQU   12                                                        01-IEZRE
                     0000D         438+R13       EQU   13                                                        01-IEZRE
                     0000E         439+R14       EQU   14                                                        01-IEZRE
                     0000F         440+R15       EQU   15                                                        01-IEZRE
                                   441 *                                                                        00237001
                                   442           END                                                            00238001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
=H'1'          2 00000280 00000001  H H              239  106
ADEST          4 00000228 00000001  A A              231   97M 102M 177  183
BRRST          1 0000009C           U                320  321
COMMON         1 0000008E 00000001  U                100   65   67U  90   92U
DSF            2 0000001A FFFFFFFF  H H              253  103M 108  110M 116  118  120  130
DSTABLE        1 00000000 FFFFFFFF  J                242   43U 281
DS0            1 00000080           U                257  108
DS10           1 00000020           U                270  103
DS2            1 00000020           U                259  116
DS6            1 00000002           U                263  110  118
DS7            1 00000001           U                264  120  130
DTSW           1 000000C2           U                348  349
ERROR2         2 0000020E 00000001  I                220  105B 107B 122B
ERROR3         2 00000214 00000001  I                223  117B
ERROR5         2 0000021A 00000001  I                226  121B 131B
EV             1 00000008           U                 52   76
FCTVALST       1 00000090           U                316  319
FLAGS          1 00000220 00000001  X X              229  127M 146  166  168M
FSAERR         1 000001CC           U                409  221B 224B 227B 413  414  415  416  417  418  419
FSAREA         1 00000000 FFFFFFFE  U                306  311  316  318  319  320  323  330  332  336  338  342  344
                                                          346  348  351  358  360  362  364  370  372  374  377  379
                                                          381  383  385  387  389  391  393  397  399  401  404  406
IHIIBOAR       4 0000004A 00000001  I                 83   42   89U
IHIIBOOL       1 00000000 00000001  J                 40   64U
INBOOLAA       4 000001EA 00000001  I                206  204B
INBOOLEX       4 000001F6 00000001  I                209  218B
INBOOLNX       4 00000200 00000001  I                215  192B 207B
INBOOLOP       4 00000096 00000001  I                103   98B
INBOOL1        4 0000008E 00000001  I                101   78B
INBOOL10       4 0000017A 00000001  I                171  167B
INBOOL11       6 0000019E 00000001  I                181  174B
INBOOL12       2 000001B0 00000001  I                188  179B
INBOOL13       4 000001B4 00000001  I                190  199B 201B
INBOOL14       2 000001E0 00000001  I                203  194B
INBOOL2        4 000000C4 00000001  I                116  109B
INBOOL3        4 000000E0 00000001  I                124  114B 119B 140B
INBOOL4        4 000000EA 00000001  I                127  154B 159B
INBOOL5        4 000000EE 00000001  I                128  173B 176B 182B
INBOOL6        4 000000FC 00000001  I                132  147B 155B 163B 169B
INBOOL7        4 0000011A 00000001  I                142  136B
INBOOL8        2 0000014E 00000001  I                156  149B
INBOOL9        2 00000168 00000001  I                165  145B
IORLST         1 0000011C           U                406   75  111  137  215
K              1 00000018 FFFFFFFF  X X              251  152  197
KFALSE         5 00000230 00000001  C C              234  181
KTRUE          4 0000022C 00000001  C C              233  175
MB             6 00000221 00000001  C C              230  128  157  171  175  181
NX             1 0000000C           U                 53  138  216
OP             1 00000010           U                 54  112
PROLOGP        1 000000DC           U                374  375
Q              1 00000019 FFFFFFFF  X X              252  104
R              4 00000004 FFFFFFFF  F F              245  124  126M 134  143M 208M
RE             4 00000008 FFFFFFFF  F F              246  132  191  206
R1             1 00000001           U                426  101M 102  189M 200M 203M
R10            1 0000000A           U                435  128M 158  161  162M 172
R11            1 0000000B           U                436  157M 158  171M 172
R12            1 0000000C           U                437   68M  71   75   93M  96  111  137  215  220  223  226
R13            1 0000000D           U                438   68   69   70M  71   93   94   95M  96  209M 220M 221  223M
                                                          224  226M 227
R14            1 0000000E           U                439   77M 113M 139M 217M
R15            1 0000000F           U                440   64U  66D  75M  76M  77B  89U  91D 111M 112M 113B 137M 138M
                                                          139B 215M 216M 217B
R2             1 00000002           U                427   97  177M 178  183M 184
R3             1 00000003           U                428  132M 133M 135
R4             1 00000004           U                429  151M 152M 153  196M 197M 198
R5             1 00000005           U                430   43U
R6             1 00000006           U                431  106
R7             1 00000007           U                432   65M  67U  80D  90M  92U
R8             1 00000008           U                433  124M 125M 126  134M 135  142M 143  144  148  161  190M 191
                                                          193  205M 206  208
R9             1 00000009           U                434  129M 150M 153  156M 165M 188M 195M 198
SAVEAREA       4 00000238 00000001  F F              236   69M  70   94M  95  209
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   62   87  212M
    1(1)   62   87  101M 102  189M 200M 203M 212M
    2(2)   62   87   97  177M 178  183M 184  212M
    3(3)   62   87  132M 133M 135  212M
    4(4)   62   87  151M 152M 153  196M 197M 198  212M
    5(5)   43U  62   87  212M
    6(6)   62   87  106  212M
    7(7)   62   65M  67U  80D  87   90M  92U 212M
    8(8)   62   87  124M 125M 126  134M 135  142M 143  144  148  161  190M 191  193  205M 206  208  212M
    9(9)   62   87  129M 150M 153  156M 165M 188M 195M 198  212M
   10(A)   62   87  128M 158  161  162M 172  212M
   11(B)   62   87  157M 158  171M 172  212M
   12(C)   62   68M  71   75   87   93M  96  111  137  212M 215  220  223  226
   13(D)   62   68   69   70M  71   87   93   94   95M  96  209M 212  220M 221N 223M 224N 226M 227N
   14(E)   62   77M  87  113M 139M 212M 213B 217M
   15(F)   58B  62   64U  66D  75M  76M  77B  83B  87   89U  91D 111M 112M 113B 137M 138M 139B 212M 215M 216M 217B
```

Dsect	Length	Id	Defn	Con	Member
DSTABLE	00000024	FFFFFFFF	242	4	DSTABLE
FAS	00000120	FFFFFFFE	284		PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSAREA
  5 SYS1.AMODGEN
```

Stmt Level Action Type Id Address Range Reg Max Last Text X390 3.1.04 2012/08/17 13.21

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
43		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001B	208	DSTABLE,R5
64		USING	Ordinary	00000001	00000000	00001000	15	0008E	65	IHIIBOOL,R15
66		DROP					15			R15
67		USING	Ordinary	00000001	0000008E	00001000	7	001AE	78	COMMON,R7
80		DROP					7			R7
89		USING	Ordinary	00000001	0000004A	00001000	15	00044	90	IHIIBOAR,R15
91		DROP					15			R15
92		USING	Ordinary	00000001	0000008E	00001000	7	001F2	218	COMMON,R7

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIIBO PROCSTEP: X390

Primary input: lines 1 to 238 of SYSD.ALGOLFRT.ASM(IHIIBO)

SYSLIB library records read: 362

SYSUT1 work file size: 41800 bytes

SYSUT2 work file size: 17960 bytes

SYSUT3 work file size: 19040 bytes

SYSLIN file records written: 14

TXA000I Return code 0, elapsed time 0.28 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIIBOOL	000282	6

IHIDE

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIIDE)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0150
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    2 *                                                                          00002001
                                    3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                    4 *                                                                          00004001
                                    5 *        STATUS - LEVEL 2.1                                                00005001
                                    6 *                                                                          00006001
                                    7 *        FUNCTION/OPERATION -                                              00007001
                                    8 *        SCAN INPUT BUFFER UNTIL A VALID NUMBER IS FOUND TRANSFER          00008001
                                    9 *        TO BINARY AND STORE INTO SECOND PARAMETER                         00009001
                                   10 *                                                                          00010001
                                   11 *        ENTRY POINTS -                                                    00011001
                                   12 *        IHIIDEIR - FROM - GENERATED OBJECT MODULE - INREAL                00012001
                                   13 *        IHIIDEII - FROM - GENERATED OBJECT MODULE - ININTEGER             00013001
                                   14 *                   LA   R1,PARMLIST                                      00014001
                                   15 *                   BALR R14,R15                                          00015001
                                   16 *                   DATA PASSED BY NAME                                   00016001
                                   17 *        IHIIDEAI - FROM - ARRAY MODULE IHIIAR                             00017001
                                   18 *                   L    R7,A(DESTINATION)                                00018001
                                   19 *                   L    R10,FLAG                                         00019001
                                   20 *                   BALR R14,R15                                          00020001
                                   21 *                   DATA PASSED BY NAME                                   00021001
                                   22 *                                                                          00022001
                                   23 *        INPUT - N/A                                                       00023001
                                   24 *                                                                          00024001
                                   25 *        OUTPUT - N/A                                                      00025001
                                   26 *                                                                          00026001
                                   27 *        EXTERNAL ROUTINES -                                               00027001
                                   28 *        IHIIOR - EVALUATE DATASET NUMBER                                  00028001
                                   29 *               - OPEN DATASET                                             00029001
                                   30 *               - CHANGE TO NEXT INPUT RECORD                              00030001
                                   31 *               - CONVERT REAL TO INTEGER                                  00031001
                                   32 *        IHIFSA - CNVIRD, INTEGER TO REAL                                  00032001
                                   33 *        IHIPTT - POWER OF TEN TABLE                                       00033001
                                   34 *                                                                          00034001
                                   35 *        TABLE/WORK AREAS -                                                00035001
                                   36 *        IPTAB - TO EVALUATE CHARACTER FROM INPUT BUFFER WHEN              00036001
                                   37 *                SCANNING AND TO BRANCH TO CORRESPONDING SUBPROGRAM        00037001
                                   38 *        MB    - MANTISSA BUFFER FOR INTERMEDIATE STORING OF VALID         00038001
                                   39 *                DIGITS                                                    00039001
                                   40 *                                                                          00040001
                                   41 *        EXITS - NORMAL - RELOAD REGISTERS AND RETURN VIA R14              00041001
                                   42 *                                                                          00042001
                                   43 *        EXITS - ERROR - INPUT REQUEST BEYOND END OF DATASET NO 5          00043001
                                   44 *                      - EXP PART OF INPUT NUMBER CONSISTS OF              00044001
                                   45 *                        MORE THAN 2 DIGITS NO 6                           00045001
                                   46 *                        BRANCH TO FSA                                     00046001
                                   47 *                        LA     R13,IHIFSA                                 00047001
                                   48 *                        B      FSAERR+XX*4(R13) XX CORRESPONDING          00048001
                                   49 *                                                  ERROR NUMBER            00049001
                                   50 *                                                                          00050001
                                   51 *        NOTES - LINKING TO IHIIDEAI DEVIATES FROM STANDARD SEE            00051001
                                   52 *        ABOVE                                                             00052001
                                   53 *                                                                          00053001
000000                 00000 006D2  54 IHIIDECM CSECT                                                           00054001
                                   55 *                                                                          00055001
                                   56          ENTRY IHIIDEIR                                                   00056001
                                   57          ENTRY IHIIDEII                                                   00057001
                                   58          ENTRY IHIIDEAI                                                   00058001
                                   59 *                                                                          00059001
                                   60 *        REGISTER CONTENTS ON ENTRY POINT IHGIDEAI                         00060001
                                   61 *                                                                          00061001
                                   62 *        R7                          DESTINATION ADDR                     00062001
                                   63 *        R10                         FLAG BYTE                            00063001
                                   64 *                                                                          00064001
                                   65 *        FLOATING POINT REGISTERS                                          00065001
                                   66 *                                                                          00066001
                       00000       67 FPR0     EQU   0                                                          00067001
                                   68 *                                                                          00068001
                                   69 *        OTHER GENERAL REGISTERS                                           00069001
                                   70 *                                                                          00070001
                                   71 *        R5                          -> DSTABLE ENTRY                     00071001
                                   72 *        R6                          DATASET NUMBER                       00072001
                                   73 *        R13                         BASE REGISTER FOR                    00073001
                                   74 *        R7                          -> DESTINATION                       00074001
                                   75 *        R4                          CHARACTER POINTER                    00075001
                                   76 *        R0                          INTEGER NUMBER                       00076001
                                   77 *        R8                          MANTISSA BUFFER POINTER              00077001
                                   78 *        R9                          EXPONENT BUFFER POINTER              00078001
                                   79 *        R10                         DECIMAL POINT POINTER                00079001
                                   80 *        R11                         EXPONENT LESS EIGHT                  00080001
                                   81 *        R15                         -> POWERTEN TABLE LESS EIGHT         00081001
                                   82 *                                                                          00082001
                 R:5   00000       83          USING DSTABLE,R5                                                 00083001
                                   84 *                                                                          00084001
                                   85 *        DISPLACEMENTS IN ADRLST IN IHIFSA                                 00085001
                                   86 *                                                                          00086001
                       00000       87 CI       EQU   0            DISPLACEMENT FOR - IHIIORCI                   00087001
                       00004       88 CL       EQU   4                               IHIIORCL                   00088001
                       00008       89 EV       EQU   8                               IHIIOREV                   00089001
                       0000C       90 NX       EQU   12                              IHIIORNX                   00090001
                       00010       91 OP       EQU   16                              IHIIOROP                   00091001
                       00014       92 OQ       EQU   20                              IHIIOROQ                   00092001
                                   93 *                                                                          00093001
                                   94 IHIIDEAI SAVE  (14,12),,'IHIIDEAI LEVEL 2.1 &SYSDATE &SYSTIME'         00094001
000000 47F0 F026            00026  95+IHIIDEAI B     38(0,15)                        BRANCH AROUND ID       01-SAVE
000004 21                          96+         DC    AL1(33)                         LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9C9C4C5C1C9            97+         DC    CL32'IHIIDEAI LEVEL 2.1 08/17/12 13.2' IDENTIFIER      01-SAVE
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Active USINGs: DSTABLE,R5

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000025 F1                          98+         DC    CL1'1'                          IDENTIFIER            01-SAVE
000026 90EC D00C            0000C  99+         STM   14,12,12(13)                     SAVE REGISTERS        01-SAVE
                                   100 *                                                                    00095001
                 R:F  00000        101         USING IHIIDEAI,R15                                           00096001
00002A 183D                        102         LR    R3,R13                  CHAIN SAVE AREAS             00097001
00002C 41D0 F688            00688  103         LA    R13,SAVEAREA                                         00098001
000030 5030 D004            00004  104         ST    R3,4(,R13)                                           00099001
000034 50D0 3008            00008  105         ST    R13,8(,R3)                                           00100001
000038 4130 F0CC            000CC  106         LA    R3,COMMON                                            00101001
                                   107         DROP  R15                                                  00102001
                 R:3  000CC        108         USING COMMON,R3                                            00103001
00003C 42A0 3496            00562  109         STC   R10,FKT                 STORE FLAG BYTE              00104001
000040 47F0 300E            000DA  110         B     LADDRA                                               00105001
                                   111 *                                                                    00106001
                                   112         DROP  R3                                                   00107001
                                   113 *                                                                    00108001
                                   114 IHIIDEII SAVE  (14,12),,'IHIIDEII LEVEL 2.1 &SYSDATE &SYSTIME'      00109001
000044 47F0 F026            00026  115+IHIIDEII B     38(0,15)                        BRANCH AROUND ID     01-SAVE
000048 21                          116+        DC    AL1(33)                         LENGTH OF IDENTIFIER 01-SAVE
000049 C9C8C9C9C4C5C9C9            117+        DC    CL32'IHIIDEII LEVEL 2.1 08/17/12 13.2' IDENTIFIER    01-SAVE
000069 F1                          118+        DC    CL1'1'                          IDENTIFIER           01-SAVE
00006A 90EC D00C            0000C  119+        STM   14,12,12(13)                    SAVE REGISTERS       01-SAVE
                                   120 *                                                                    00110001
                 R:F  00044        121         USING IHIIDEII,R15                                         00111001
00006E 18CD                        122         LR    R12,R13                                              00112001
000070 41D0 F644            00688  123         LA    R13,SAVEAREA            CHAIN SAVE AREAS             00113001
000074 50C0 D004            00004  124         ST    R12,4(,R13)                                          00114001
000078 50D0 C008            00008  125         ST    R13,8(,R12)                                          00115001
00007C 4130 F088            000CC  126         LA    R3,COMMON                                            00116001
                                   127         DROP  R15                                                  00117001
                 R:3  000CC        128         USING COMMON,R3                                            00118001
000080 9204 3496            00562  129         MVI   FKT,X'04'               FLAG BYTE: ININTEGER         00119001
000084 47F0 3000            000CC  130         B     COMMON                                               00120001
                                   131 *                                                                    00121001
                                   132         DROP  R3                                                   00122001
                                   133 *                                                                    00123001
                                   134 IHIIDEIR SAVE  (14,12),,'IHIIDEIR LEVEL 2.1 &SYSDATE &SYSTIME'      00124001
000088 47F0 F026            00026  135+IHIIDEIR B     38(0,15)                        BRANCH AROUND ID     01-SAVE
00008C 21                          136+        DC    AL1(33)                         LENGTH OF IDENTIFIER 01-SAVE
00008D C9C8C9C9C4C5C9D9            137+        DC    CL32'IHIIDEIR LEVEL 2.1 08/17/12 13.2' IDENTIFIER    01-SAVE
0000AD F1                          138+        DC    CL1'1'                          IDENTIFIER           01-SAVE
0000AE 90EC D00C            0000C  139+        STM   14,12,12(13)                    SAVE REGISTERS       01-SAVE
                                   140 *                                                                    00125001
                 R:F  00088        141         USING IHIIDEIR,R15                                         00126001
0000B2 18CD                        142         LR    R12,R13                                              00127001
0000B4 41D0 F600            00688  143         LA    R13,SAVEAREA            CHAIN SAVE AREAS             00128001
0000B8 50C0 D004            00004  144         ST    R12,4(,R13)                                          00129001
0000BC 50D0 C008            00008  145         ST    R13,8(,R12)                                          00130001
0000C0 4130 F044            000CC  146         LA    R3,COMMON                                            00131001
                                   147         DROP  R15                                                  00132001
                 R:3  000CC        148         USING COMMON,R3                                            00133001
0000C4 9200 3496            00562  149         MVI   FKT,X'00'               FLAG BYTE: INREAL            00134001
0000C8 47F0 3000            000CC  150         B     COMMON                                               00135001
                                   151 *                                                                    00136001
                                   152 *       EVALUATE DATASET NUMBER (EVDSN)                            00137001
                                   153 *                                                                    00138001
0000CC 58F0 C11C            0011C  154 COMMON  L     R15,IORLST(,R12)                                     00139001
0000D0 58F0 F008            00008  155         L     R15,EV(,R15)                                         00140001
0000D4 05EF                        156         BALR  R14,R15                                              00141001
                                   157 *                                                                    00142001
0000D6 5870 1004            00004  158 LADDR   L     R7,4(,R1)               R7 -> DESTINATION ADDR       00143001
0000DA 94DF 501B      0001B        159 LADDRA  NI    DSF+1,255-DS10          SET DS10 = 0                 00144001
0000DE 91FF 5019      00019        160         TM    Q,X'FF'                 DATASET SECTIONED ?          00145001
0000E2 4770 343A            00506  161         BNZ   ERROR2                  YES, INCOMPATIBLE ACTION     00146001
0000E6 4960 3604            006D0  162         CH    R6,=H'1'                DATASET NO = 1 ?             00147001
0000EA 4780 343A            00506  163         BE    ERROR2                  YES, INCOMPATIBLE ACTION     00148001
0000EE 9180 501A      0001A        164         TM    DSF,DS0                 DATASET OPEN ?               00149001
0000F2 4710 3036            00102  165         BO    DSOPEN                  YES, BRANCH                  00150001
0000F6 58F0 C11C            0011C  166         L     R15,IORLST(,R12)        NO, SETUP FOR OPEN REQUEST   00151001
0000FA 58F0 F010            00010  167         L     R15,OP(,R15)                                         00152001
0000FE 47F0 3056            00122  168         B     REQOPEN                 DCB IS CLOSED, BRANCH TO OPEN IT 00153001
                                   169 *                                                                    00154001
000102 9120 501A      0001A        170 DSOPEN  TM    DSF,DS2                 LAST I/O OUTPUT ?            00155001
000106 4780 3042            0010E  171         BZ    DSOPENA                 NO, BRANCH                   00156001
00010A 47F0 3440            0050C  172         B     ERROR3                  INPUT BEYOND LAST OUTPUT     00157001
                                   173 *                                                                    00158001
00010E 9102 501A      0001A        174 DSOPENA TM    DSF,DS6                 OPEN FOR OUTPUT ?            00159001
000112 4780 305C            00128  175         BZ    SCAN                    NO, BRANCH                   00160001
000116 9101 501A      0001A        176         TM    DSF,DS7                                              00161001
00011A 4710 3446            00512  177         BO    ERROR5                  END OF DATA REACHED          00162001
00011E 47F0 343A            00506  178         B     ERROR2                                               00163001
000122 94FD 501A      0001A        179 REQOPEN NI    DSF,255-DS6             SET DS6 = 0                  00164001
000126 05EF                        180         BALR  R14,R15                 OPEN DATASET                 00165001
000128 5840 5004            00004  181 SCAN    L     R4,R                    CHARACTER POINTER            00166001
00012C 4180 349B            00567  182         LA    R8,MB+1                 MANTISSA BUFFER POINTER      00167001
000130 4190 34AD            00579  183         LA    R9,MB+19                EXPONENT BUFFER POINTER      00168001
000134 D213 349B 349A 00567 00566  184         MVC   MB+1(L'MB-1),MB         CLEAR BUFFER                 00169001
00013A 0640                        185 SCAN1   BCTR  R4,0                    DECREASE CHARACTER POINTER   00170001
00013C 924E 3498            00564  186 SCAN2   MVI   SM,C'+'                 MANTISSA SIGN INITIALLY PLUS 00171001
000140 9200 3497            00563  187 SCAN2A  MVI   F,0                     CLEAR FLAG BYTE F            00172001
000144 924E 3499            00565  188         MVI   SE,C'+'                 EXPONENT SIGN INITIALLY PLUS 00173001
000148 4140 4001            00001  189 SCAN3   LA    R4,1(,R4)                                            00174001
00014C 5940 5008            00008  190         C     R4,RE                                                00175001
000150 4770 30AA            00176  191         BNE   SCAN5                   R IS NOT EQUAL RECORD END(RE) 00176001
000154 9182 3497      00563        192 SCAN4   TM    F,X'82'                 RECORD END IS REACHED (R=RE) ? 00177001
000158 4770 323A            00306  193         BNZ   DELIMIT                 A VALID NUMBER HAS BEEN READ 00178001
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00015C 58F0 C11C            0011C   194          L     R15,IORLST(,R12)                                  00179001
000160 58F0 F00C            0000C   195          L     R15,NX(,R15)          REQUEST NEXT RECORD         00180001
000164 05EF                         196          BALR  R14,R15               RECORD CHANGE IS PERFORMED  00181001
000166 5840 5004            00004   197          L     R4,R                                              00182001
00016A 9101 501A      0001A         198          TM    DSF,DS7               END OF FILE ?               00183001
00016E 4710 3446            00512   199          BO    ERROR5                YES, END OF DATA REACHED    00184001
000172 47F0 306E            0013A   200          B     SCAN1                 NEXT RECORD IS TO BE SCANNED 00185001
                                    201 *                                                                 00186001
000176 1B22                         202 SCAN5    SR    R2,R2                                             00187001
000178 DDFF 4000 34B9 00000 00585   203          TRT   0(256,R4),IPTAB       EVALUATE NEXT CHARACTER     00188001
00017E 1BFF                         204          SR    R15,R15               CLEAR BLANK COUNTER (CB)    00189001
000180 47F2 30B4            00180   205          B     *(R2)                                             00190001
000184 47F0 30D0            0019C   206 BRANCH   B     BLANK                 +04                         00191001
000188 47F0 30F6            001C2   207          B     OTHERS                +08                         00192001
00018C 47F0 3102            001CE   208          B     DIGIT                 +12                         00193001
000190 47F0 3190            0025C   209          B     SIGN                  +16                         00194001
000194 47F0 31CC            00298   210          B     DECPT                 +20                         00195001
000198 47F0 3208            002D4   211          B     APOSTR                +24                         00196001
                                    212 *                                                                 00197001
00019C 41F0 F001            00001   213 BLANK    LA    R15,1(,R15)           INCR CB                     00198001
0001A0 4140 4001            00001   214          LA    R4,1(,R4)             INCREASE R                  00199001
0001A4 5940 5008            00008   215          C     R4,RE                                             00200001
0001A8 4780 3088            00154   216          BE    SCAN4                 RECORD END IS REACHED       00201001
0001AC 9540 4000      00000         217          CLI   0(R4),C' '                                        00202001
0001B0 4780 30D0            0019C   218          BE    BLANK                 NEXT CHARACTER ALSO BLANK   00203001
0001B4 1B22                         219          SR    R2,R2                                             00204001
0001B6 4320 5018            00018   220          IC    R2,K                                              00205001
0001BA 19F2                         221          CR    R15,R2                                            00206001
0001BC 4740 30AA            00176   222          BL    SCAN5                 < K BLANKS, EVAL NEXT CHARACTER 00207001
0001C0 0640                         223          BCTR  R4,0                  K BLANKS READ, DECREASE R   00208001
0001C2 9182 3497      00563         224 OTHERS   TM    F,X'82'                                           00209001
0001C6 4780 3070            0013C   225          BZ    SCAN2                 NO VALID NUMBER READ, NEW SCAN 00210001
0001CA 47F0 323A            00306   226          B     DELIMIT               A VALID NUMBER AND K BLANKS READ 00211001
                                    227 *                                                                 00212001
0001CE 9108 3497      00563         228 DIGIT    TM    F,X'08'                                           00213001
0001D2 4710 315C            00228   229          BO    DIGIT1                EXPONENT DIGIT              00214001
0001D6 9140 3497      00563         230          TM    F,X'40'               MANTISSA DIGIT              00215001
0001DA 4780 3136            00202   231          BZ    DIGIT2                FIRST MANTISSA DIGIT        00216001
0001DE 1989                         232          CR    R8,R9                                             00217001
0001E0 4740 311C            001E8   233          BL    DIGIT3                < 19 MANTISSA DIGITS        00218001
0001E4 47F0 3122            001EE   234          B     DIGIT3A                                           00219001
                                    235 *                                                                 00220001
0001E8 D200 8000 4000 00000 00000   236 DIGIT3   MVC   0(1,R8),0(R4)           DIGIT INTO MANTISSA BUFFER (MB) 00221001
0001EE 4180 8001            00001   237 DIGIT3A  LA    R8,1(,R8)             INCREASE MANTISSA POINTER   00222001
0001F2 9120 3497      00563         238          TM    F,X'20'                                           00223001
0001F6 4780 307C            00148   239          BZ    SCAN3                 NO DEC POINT IS READ, NEXT CHAR 00224001
0001FA 9610 3497      00563         240          OI    F,X'10'               F3 = 1 DIGIT BEHIND DEC PT READ 00225001
0001FE 47F0 307C            00148   241          B     SCAN3                                             00226001
                                    242 *                                                                 00227001
000202 95F0 4000      00000         243 DIGIT2   CLI   0(R4),C'0'                                         00228001
000206 4780 3146            00212   244          BE    DIGIT2A                                           00229001
00020A 96C0 3497      00563         245          OI    F,X'C0'               F0, F1 = 1 MANTISSA DIGIT ¬ 0 00230001
00020E 47F0 311C            001E8   246          B     DIGIT3                                            00231001
                                    247 *                                                                 00232001
000212 9680 3497      00563         248 DIGIT2A  OI    F,X'80'               F0 = 1 LEADING ZERO         00233001
000216 9120 3497      00563         249          TM    F,X'20'                                           00234001
00021A 4780 307C            00148   250          BZ    SCAN3                                             00235001
00021E 06A0                         251          BCTR  R10,0                 DECR DECIMAL POINT POINTER  00236001
000220 9610 3497      00563         252          OI    F,X'10'               F3 = 1 DIGIT BEHIND DEC P READ 00237001
000224 47F0 307C            00148   253          B     SCAN3                                             00238001
                                    254 *                                                                 00239001
000228 9101 3497      00563         255 DIGIT1   TM    F,X'01'                                           00240001
00022C 4780 317C            00248   256          BZ    DIGIT4                NO EXP DIGIT NOT 0 WAS READ 00241001
000230 4120 34AF            0057B   257          LA    R2,MB+21              END OF EXPONENT BUFFER      00242001
000234 1992                         258          CR    R9,R2                                             00243001
000236 47B0 344C            00518   259          BNL   ERROR6                MORE THAN 2 EXP DIGITS WERE READ 00244001
00023A D200 9000 4000 00000 00000   260 DIGIT5   MVC   0(1,R9),0(R4)           DIGIT INTO EXPONENT BUFFER  00245001
000240 4190 9001            00001   261          LA    R9,1(,R9)             INCREASE EXPONENT POINTER   00246001
000244 47F0 307C            00148   262          B     SCAN3                 EVALUATE NEXT CHARACTER     00247001
                                    263 *                                                                 00248001
000248 9602 3497      00563         264 DIGIT4   OI    F,X'02'               F6 = 1 ANY EXPONENT DIGIT READ 00249001
00024C 95F0 4000      00000         265          CLI   0(R4),C'0'                                        00250001
000250 4780 307C            00148   266          BE    SCAN3                 EVALUATE NEXT CHARACTER     00251001
000254 9601 3497      00563         267          OI    F,X'01'               F7 = 1 EXPONENT DIGIT ¬ 0 READ 00252001
000258 47F0 316E            0023A   268          B     DIGIT5                                            00253001
                                    269 *                                                                 00254001
00025C 9108 3497      00563         270 SIGN     TM    F,X'08'                                           00255001
000260 4710 31A4            00270   271          BO    SIGN1                 SIGN FOLLOWED AN APOSTROPHE 00256001
000264 9180 3497      00563         272          TM    F,X'80'                                           00257001
000268 4710 323A            00306   273          BO    DELIMIT               SIGN FOLLOWED A MANTISSA DIGIT 00258001
00026C 47F0 31B4            00280   274          B     SIGN2                                             00259001
                                    275 *                                                                 00260001
000270 9106 3497      00563         276 SIGN1    TM    F,X'06'                                           00261001
000274 4780 31BE            0028A   277          BZ    SIGN2A                EXPONENT SIGN               00262001
000278 9182 3497      00563         278          TM    F,X'82'                                           00263001
00027C 4770 323A            00306   279          BNZ   DELIMIT               SIGN FOLLOWED A VALID NUMBER 00264001
000280 D200 3498 4000 00564 00000   280 SIGN2    MVC   SM,0(R4)              MANTISSA SIGN               00265001
000286 47F0 3074            00140   281          B     SCAN2A                NEW SCAN                    00266001
                                    282 *                                                                 00267001
00028A D200 3499 4000 00565 00000   283 SIGN2A   MVC   SE,0(R4)              EXPONENT SIGN               00268001
000290 9604 3497      00563         284          OI    F,X'04'               F5 = 1 EXPONENT SIGN READ   00269001
000294 47F0 307C            00148   285          B     SCAN3                 EVALUATE NEXT CHARACTER     00270001
                                    286 *                                                                 00271001
000298 9128 3497      00563         287 DECPT    TM    F,X'28'                                           00272001
00029C 4780 31FA            002C6   288          BZ    DECPT1                NO DEC POINT OR APOST BEFORE 00273001
0002A0 9182 3497      00563         289          TM    F,X'82'                                           00274001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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0002A4 4770 323A            00306   290          BNZ   DELIMIT              DEC PT FOLLOWED A VALID NUMBER   00275001
0002A8 9108 3497      00563         291          TM    F,X'08'                                               00276001
0002AC 4710 31EC            002B8   292          BO    DECPTA               DEC POINT FOLLOWED APOSTROPHE    00277001
0002B0 924E 3498      00564         293          MVI   SM,C'+'              MANTISSA SIGN INITIALLY PLUS     00278001
0002B4 47F0 307C            00148   294          B     SCAN3                NEW SCAN                         00279001
                                    295 *                                                                    00280001
0002B8 D200 3498 3499 00564 00565   296 DECPTA   MVC   SM,SE                EXP SIGN IS ASSIGNED TO MANTSIGN 00281001
0002BE 924E 3499      00565         297          MVI   SE,C'+'              EXPONENT SIGN INITIALLY PLUS     00282001
0002C2 9200 3497      00563         298          MVI   F,0                  CLEAR FLAG BYTE F                00283001
0002C6 9620 3497      00563         299 DECPT1   OI    F,X'20'              F2 = 1 DEC POINT WAS READ        00284001
0002CA 18A8                         300          LR    R10,R8               STATE OF MANT POINTER INTO R10   00285001
0002CC 5040 3464            00530   301          ST    R4,DPI               STATE OF CHAR POINTER INTO DPI   00286001
0002D0 47F0 307C            00148   302          B     SCAN3                NEXT CHARACTER                   00287001
                                    303 *                                                                    00288001
0002D4 9108 3497      00563         304 APOSTR   TM    F,X'08'                                               00289001
0002D8 4710 3218            002E4   305          BO    APOSTRA              AN APOSTROPHE WAS ALREADY READ   00290001
0002DC 9130 3497      00563         306          TM    F,X'30'                                               00291001
0002E0 47B0 322E            002FA   307          BNM   APOSTR1              A VALID NUMBER WAS READ          00292001
0002E4 9182 3497      00563         308 APOSTRA  TM    F,X'82'              APOSTROPHE FOLLOWED DEC POINT    00293001
0002E8 4770 323A            00306   309          BNZ   DELIMIT              NUMBER BEFORE DEC POINT IS VALID 00294001
0002EC D200 3498 3499 00564 00565   310          MVC   SM,SE                EXP SIGN IS ASSNED TO MANT SIGN  00295001
0002F2 924E 3499      00565         311          MVI   SE,C'+'              EXPONENT SIGN INITIALLY PLUS     00296001
0002F6 9200 3497      00563         312          MVI   F,0                  CLEAR FLAG BYTE F                00297001
0002FA 9608 3497      00563         313 APOSTR1  OI    F,X'08'              APOSTROPHE WAS READ F4.=1        00298001
0002FE 5040 3460            0052C   314          ST    R4,API               STATE OF CHAR POINTER INTO API   00299001
000302 47F0 307C            00148   315          B     SCAN3                EVALUATE NEXT CHARACTER          00300001
                                    316 *                                                                    00301001
000306 9130 3497      00563         317 DELIMIT  TM    F,X'30'                                               00302001
00030A 47B0 324E            0031A   318          BNM   DELIMIT1             MANTISSA PART IS VALID           00303001
00030E 5840 3464            00530   319          L     R4,DPI               CHAR POINTER OF DEC POINT INTO R 00304001
000312 94DF 3497      00563         320          NI    F,X'DF'              F2.=0 NO DEC POINT WAS READ      00305001
000316 47F0 325E            0032A   321          B     DELIMIT2                                              00306001
                                    322 *                                                                    00307001
00031A 910A 3497      00563         323 DELIMIT1 TM    F,X'0A'                                               00308001
00031E 47B0 325E            0032A   324          BNM   DELIMIT2             EXPONENT PART IS VALID           00309001
000322 5840 3460            0052C   325          L     R4,API               CHAR PTR OF APOSTROPHE INTO R    00310001
000326 94F3 3497      00563         326          NI    F,X'F3'                                               00311001
00032A 5940 5008            00008   327 DELIMIT2 C     R4,RE                                                 00312001
00032E 4770 3274            00340   328          BNE   DELIMITB                                              00313001
000332 58F0 C11C            0011C   329 DELIMITC L     R15,IORLST(,R12)                                      00314001
000336 58F0 F00C            0000C   330          L     R15,NX(,R15)         REQUEST NEXT RECORD              00315001
00033A 05EF                         331          BALR  R14,R15              RECORD CHANGE IS PERFORMED       00316001
00033C 47F0 3284            00350   332          B     DELIMIT3                                              00317001
                                    333 *                                                                    00318001
000340 4140 4001            00001   334 DELIMITB LA    R4,1(,R4)            INCR CHARACTER POINTER           00319001
000344 5940 5008            00008   335          C     R4,RE                                                 00320001
000348 4780 3266            00332   336          BE    DELIMITC                                              00321001
00034C 5040 5004            00004   337          ST    R4,R                 STORE CHAR POINTER TO DSTABLE    00322001
000350 9128 3497      00563         338 DELIMIT3 TM    F,X'28'              TEST TYPE OF NUMBER              00323001
000354 4770 330A            003D6   339          BNZ   TRREAL               REAL TYPE NUMBER                 00324001
000358 9140 3497      00563         340          TM    F,X'40'                                               00325001
00035C 4710 329A            00366   341          BO    DELIMITD             NUMBER ¬= ZERO                   00326001
000360 1B00                         342          SR    R0,R0                                                 00327001
000362 47F0 32D8            003A4   343          B     TRINT1               NUMBER = ZERO                    00328001
                                    344 *                                                                    00329001
000366 4120 34A5            00571   345 DELIMITD LA    R2,MB+11                                              00330001
00036A 1982                         346          CR    R8,R2                                                 00331001
00036C 4720 330A            003D6   347          BH    TRREAL               > 10 DIGITS READ, REAL           00332001
000370 4740 32B2            0037E   348          BL    DELIMITH             < 10 DIGITS READ, INTEGER        00333001
000374 D509 349B 34AF 00567 0057B   349          CLC   MB+1(10),DMINT       10 DIGITS WERE READ              00334001
00037A 47B0 330A            003D6   350          BNL   TRREAL               NUMBER GREATER (2**31)-1, REAL   00335001
00037E 4120 349C            00568   351 DELIMITH LA    R2,MB+2                                               00336001
000382 1B82                         352          SR    R8,R2                NUMBER OF DIGITS DECR BY ONE     00337001
000384 4480 3428            004F4   353          EX    R8,PACK              PACK NUMBER                      00338001
000388 954E 3498      00564         354          CLI   SM,C'+'              TEST SIGN OF THE NUMBER          00339001
00038C 4770 32CC            00398   355          BNE   DELIMITE                                              00340001
000390 960F 34AB      00577         356          OI    MB+17,X'0F'                                           00341001
000394 47F0 32D4            003A0   357          B     DELIMITF                                              00342001
                                    358 *                                                                    00343001
000398 960D 34AB      00577         359 DELIMITE OI    MB+17,X'0D'                                           00344001
00039C 94FD 34AB      00577         360          NI    MB+17,X'FD'                                           00345001
0003A0 4F00 34A4            00570   361 DELIMITF CVB   R0,MB+10                                            00346001
0003A4 4120 0004            00004   362 TRINT1   LA    R2,4                                                  00347001
0003A8 9504 3496      00562         363          CLI   FKT,X'04'                                             00348001
0003AC 4780 341A            004E6   364          BE    FIN3                 CONVERSION NOT REQ, FKT=INTEGER  00349001
                                    365 *                                                                    00350001
                                    366 *        CALL CONVERSION ROUTINE (LOADED IN FSA)                     00351001
                                    367 *                                                                    00352001
0003B0 90ED D008            00008   368          STM   R14,R13,8(R13)       ALL REGISTERS INTO SAVEAREA      00353001
0003B4 182D                         369          LR    R2,R13               R2 -> SAVE AREA                  00354001
0003B6 4170 C120            00120   370          LA    R7,ACNVIRD(,R12)                                      00355001
0003BA 18E0                         371          LR    R14,R0               INTEGER INTO R14                 00356001
0003BC 18DC                         372          LR    R13,R12              R13 -> FSA                       00357001
0003BE 0587                         373          BALR  R8,R7                                                 00358001
0003C0 98ED 2008            00008   374          LM    R14,R13,8(R2)        RESTORE REGS                     00359001
0003C4 1B22                         375          SR    R2,R2                                                 00360001
               R:C  00000           376          USING FSAAREA,R12                                           00361001
0003C6 9120 C0C2      000C2         377          TM    OPTSW(R12),X'20'     LONG OR SHORT PRECISION ?        00362001
0003CA 4780 341A            004E6   378          BZ    FIN3                 LONG PRECISION STATED            00363001
0003CE 4120 0008            00008   379          LA    R2,8                                                  00364001
0003D2 47F0 341A            004E6   380          B     FIN3                                                  00365001
                                    381 *                                                                    00366001
0003D6 2F00                         382 TRREAL   SWR   FPR0,FPR0                                            00367001
0003D8 91C0 3497      00563         383          TM    F,X'C0'                                               00368001
0003DC 4710 3322            003EE   384          BO    TRREALA                                               00369001
0003E0 4740 33E8            004B4   385          BM    FIN                  MANTISSA IS ZERO                 00370001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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0003E4 1BAA                          386          SR    R10,R10                                    00371001
0003E6 6800 3474            00540    387          LD    FPR0,KFPD1          MANTISSA IS 1.0        00372001
0003EA 47F0 3362            0042E    388          B     TRREAL1                                    00373001
                                     389 *                                                         00374001
0003EE 9120 3497      00563          390 TRREALA  TM    F,X'20'                                    00375001
0003F2 4710 332C            003F8    391          BO    TRREALB             A DECIMAL WAS READ     00376001
0003F6 18A8                          392          LR    R10,R8              DECPT IS ACCEPTED BEH LAST DIGIT 00377001
0003F8 4120 34A4            00570    393 TRREALB  LA    R2,MB+10                                   00378001
0003FC 1BA2                          394          SR    R10,R2              POS OF DECPT: BEHIND 9. DIGIT 00379001
0003FE F278 349C 349B 00568 00567    395 TRREAL2  PACK  MB+2(8),MB+1(9)      PACK UPPER 9 DIGITS    00380001
000404 960F 34A3      0056F          396          OI    MB+9,X'0F'                                 00381001
000408 4F00 349C            00568    397          CVB   R0,MB+2             CONVERT UPPER 9 DIGITS TO BINARY 00382001
00040C 5000 3488            00554    398          ST    R0,MASK+4           MASK FLOATING ZERO WITH EXPON 78 00383001
000410 6A00 3484            00550    399          AD    FPR0,MASK           TRANSFORM NUMBER TO FLOAT TYPE 00384001
000414 1982                          400          CR    R8,R2                                      00385001
000416 47D0 3362            0042E    401          BNH   TRREAL1                                    00386001
00041A 6C00 347C            00548    402          MD    FPR0,TPNINE                                00387001
00041E 5BA0 3458            00524    403          S     R10,KF9             SHIFT DECPT 9 POSITIONS TO RIGHT 00388001
000422 1B88                          404          SR    R8,R8                                      00389001
000424 F278 349C 34A4 00568 00570    405          PACK  MB+2(8),MB+10(9)    PACK LOWER 9 DIGITS    00390001
00042A 47F0 3338            00404    406          B     TRREAL2+6           REPEAT ACTION FOR LOWER 9 DIGITS 00391001
                                     407 *                                                         00392001
00042E 954E 3498      00564          408 TRREAL1  CLI   SM,C'+'                                     00393001
000432 4780 336C            00438    409          BE    TRREAL1A            NUMBER IS POSITIVE     00394001
000436 2300                          410          LCDR  FPR0,FPR0           INSERT MINUS           00395001
000438 1B00                          411 TRREAL1A SR    R0,R0                                      00396001
00043A 9101 3497      00563          412          TM    F,X'01'                                    00397001
00043E 4780 33A0            0046C    413          BZ    TRREAL3             SCALE FACTOR           00398001
000442 940F 34AD      00579          414          NI    MB+19,X'0F'         CLEAR ZONE OF ONE EXPONENT DIGIT 00399001
000446 4300 34AD            00579    415          IC    R0,MB+19                                   00400001
00044A 91FF 34AE      0057A          416          TM    MB+20,X'FF'         2. EXPONENT DIGIT IS TESTED 00401001
00044E 4780 3396            00462    417          BZ    TRREAL3A            NO 2. EXPONENT         00402001
000452 4C00 3494            00560    418          MH    R0,KH10             FIRST EXPONENT DIGIT MULT BY 10 00403001
000456 1820                          419          LR    R2,R0                                      00404001
000458 940F 34AE      0057A          420          NI    MB+20,X'0F'         CLEAR ZONE OF 2. EXPONENT DIGIT 00405001
00045C 4300 34AE            0057A    421          IC    R0,MB+20                                   00406001
000460 1A02                          422          AR    R0,R2               TOTAL PRELIMINARY EXPONENT 00407001
000462 954E 3499      00565          423 TRREAL3A CLI   SE,C'+'                                     00408001
000466 4780 33A0            0046C    424          BE    TRREAL3             EXPONENT IS POSITIVE   00409001
00046A 1300                          425          LCR   R0,R0               INSERT MINUS           00410001
00046C 1AA0                          426 TRREAL3  AR    R10,R0              CORR EXP BY DEC POINT POSITION 00411001
00046E 4780 33E8            004B4    427          BZ    FIN                 CORRECTED EXPONENT IS ZERO 00412001
000472 58F0 3454            00520    428          L     R15,VPTTAB          ADDR OF POWERTEN TABLE 00413001
000476 4720 33B2            0047E    429          BP    TRREAL3B                                   00414001
00047A 41FF 0080            00080    430          LA    R15,128(R15)        ADDR OF 10**(-1) DIMIN BY EIGHT 00415001
00047E 10AA                          431 TRREAL3B LPR   R10,R10             ABS (CORRECTED EXPONENT) 00416001
000480 1BBB                          432          SR    R11,R11             CLEAR REGISTER         00417001
000482 8EA0 0003            00003    433          SRDA  R10,3                                      00418001
000486 8BA0 0003            00003    434          SLA   R10,3                                      00419001
00048A 4780 33DA            004A6    435 TRREAL5  BZ    TRREAL4A            CORRECTED EXPONENT LESS 8 00420001
00048E 59A0 345C            00528    436          C     R10,KF72                                   00421001
000492 47D0 33D6            004A2    437          BNH   TRREAL4             CORRECTED EXPONENT LESS 73 00422001
000496 6C00 F080            00080    438          MD    FPR0,128(,R15)      MULTIPLY OR DIVIDE BY 10**72 00423001
00049A 5BA0 345C            00528    439          S     R10,KF72            DECREASE CORRECTED EXP BY 72 00424001
00049E 47F0 33BE            0048A    440          B     TRREAL5             REPEAT MULT OR DIVISION    00425001
                                     441 *                                                         00426001
0004A2 6C0A F038            00038    442 TRREAL4  MD    FPR0,56(R10,R15)                           00427001
0004A6 88B0 001A            0001A    443 TRREAL4A SRL   R11,26                                     00428001
0004AA 12BB                          444          LTR   R11,R11                                    00429001
0004AC 4780 33E8            004B4    445          BZ    FIN                                        00430001
0004B0 6C0B F000            00000    446          MD    FPR0,0(R11,R15)     * OR / 10**(EXP-(ENTIER(EXP/8)*8)) 00431001
0004B4 1B22                          447 FIN      SR    R2,R2               CLEAR R2, TYPE = REAL LONG 00432001
0004B6 9120 C0C2      000C2          448          TM    OPTSW(R12),X'20'    LONG OR SHORT PRECISION ? 00433001
0004BA 4780 3404            004D0    449          BZ    FIN1                LONG PRECISION STATED  00434001
0004BE 6000 346C            00538    450          STD   FPR0,BUFF           SHORT PRECISION STATED 00435001
0004C2 D200 348C 346C 00558 00538    451          MVC   ROUND(1),BUFF       EXPONENT TO ROUND      00436001
0004C8 6A00 348C            00558    452          AD    FPR0,ROUND          LONG PRECISION ROUNDED TO SHORT 00437001
0004CC 4120 0008            00008    453          LA    R2,8                TYPE = REALSHORT       00438001
0004D0 9500 3496      00562          454 FIN1     CLI   FKT,0                                      00439001
0004D4 4780 341A            004E6    455          BE    FIN3                CONVERSION NOT NECESSARY 00440001
0004D8 4120 0004            00004    456          LA    R2,4                TYPE = INTEGER         00441001
0004DC 58F0 C11C            0011C    457          L     R15,IORLST(,R12)                           00442001
0004E0 58F0 F000            00000    458          L     R15,CI(,R15)                               00443001
0004E4 05EF                          459          BALR  R14,R15             NUMBER CONVERTED TO INTEGER 00444001
0004E6 4402 342E            004FA    460 FIN3     EX    0,STORE(R2)                                00445001
0004EA 58D0 35C0            0068C    461          L     R13,SAVEAREA+4                             00446001
                                     462 *                                                         00447001
                                     463          RETURN (14,12)                                   00448001
0004EE 98EC D00C            0000C    464+         LM    14,12,12(13)                RESTORE THE REGISTERS 01-RETUR
0004F2 07FE                          465+         BR    14                          RETURN         01-RETUR
                                     466 *                                                         00449001
0004F4 F270 34A4 349B 00570 00567    467 PACK     PACK  MB+10(8),MB+1(0)    EXE INSTRUCTIONS       00450001
0004FA 6000 7000            00000    468 STORE    STD   FPR0,0(,R7)         *                      00451001
0004FE 5000 7000            00000    469          ST    R0,0(,R7)           |                      00452001
000502 7000 7000            00000    470          STE   FPR0,0(,R7)         V                      00453001
                                     471 *                                                         00454001
000506 18DC                          472 ERROR2   LR    R13,R12                                    00455001
000508 47FC 01D4            001D4    473          B     FSAERR+2*4(R12)     INCOMP ACTION ON DATASET 00456001
                                     474 *                                                         00457001
00050C 18DC                          475 ERROR3   LR    R13,R12                                    00458001
00050E 47FC 01D8            001D8    476          B     FSAERR+3*4(R12)     INPUT BEYOND LAST OUTPUT 00459001
                                     477 *                                                         00460001
000512 18DC                          478 ERROR5   LR    R13,R12             INPUT REQ BEYOND END OF DATASET 00461001
000514 47FC 01E0            001E0    479          B     FSAERR+5*4(R12)                            00462001
                                     480 *                                                         00463001
000518 18DC                          481 ERROR6   LR    R13,R12             EXP PART CONSIST OF    00464001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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00051A 47FC 01E4            001E4   482          B     FSAERR+6*4(R12)         MORE TH.2DIGITS                 00465001
                                    483 *                                                                      00466001
                                    484 *        EXTERNAL ADDRS                                                00467001
                                    485 *                                                                      00468001
00051E 0000
000520 00000000                     486 VPTTAB   DC    V(IHIPTTAB)                                              00469001
                                    487 *                                                                      00470001
                         00120      488 ACNVIRD  EQU   X'120'                                                  00471001
                                    489 *                                                                      00472001
                                    490 *        INTERNAL CONSTANTS AND STORAGE                                00473001
                                    491 *                                                                      00474001
000524 00000009                     492 KF9      DC    F'9'                    FOR SHIFT OF DECIMAL POINT      00475001
000528 00000048                     493 KF72     DC    F'72'                   FOR EXPONENT TREATMENT          00476001
00052C 00000000                     494 API      DC    A(0)                    CHARACTER POINTER OF APOSTROPHE 00477001
000530 00000000                     495 DPI      DC    A(0)                    CHARACTER POINTER OF DEC POINT  00478001
000534 00000000
000538 0000000000000000             496 BUFF     DC    D'0'                    FOR CONVERSION OF NUMBER        00479001
000540 4110000000000000             497 KFPD1    DC    D'1.0'                                                  00480001
000548 483B9ACA00000000             498 TPNINE   DC    DE9'1'                  10**9                           00481001
000550 4E00000000000000             499 MASK     DC    FL8S56'78'              FLOAT 0 WITH EXPONENT 78        00482001
000558 0000000080000000             500 ROUND    DC    X'0000000080000000'     FOR CONVERSION OF NUMBER        00483001
000560 000A                         501 KH10     DC    H'10'                   FOR EXPONENT TREATMENT          00484001
000562 00                           502 FKT      DC    X'00'                   FLAG BYTE                       00485001
000563 00                           503 F        DC    X'00'                   FLAG BYTE                       00486001
000564 40                           504 SM       DC    C' '                                                    00487001
000565 40                           505 SE       DC    C' '                                                    00488001
000566 0000000000000000             506 MB       DC    XL21'00'                MANTISSA BUFFER                 00489001
00057B F2F1F4F7F4F8F3F6             507 DMINT    DC    C'2147483648'           2**31                           00490001
                                    508 *                                                                      00491001
000585 0808080808080808             509 IPTAB    DC    64X'08'                 OTHERS                          00492001
0005C5 04                           510          DC    X'04'                   BLANK                           00493001
0005C6 0808080808080808             511          DC    10X'08'                 OTHERS                          00494001
0005D0 14                           512          DC    X'14'                   DECIMAL POINT                   00495001
0005D1 0808                         513          DC    2X'08'                  OTHERS                          00496001
0005D3 10                           514          DC    X'10'                   SIGN +                          00497001
0005D4 0808080808080808             515          DC    17X'08'                 OTHERS                          00498001
0005E5 10                           516          DC    X'10'                   SIGN -                          00499001
0005E6 0808080808080808             517          DC    28X'08'                 OTHERS                          00500001
000602 18                           518          DC    X'18'                   APOSTROPHE                      00501001
000603 0808080808080808             519          DC    114X'08'                OTHERS                          00502001
000675 0C0C0C0C0C0C0C0C             520          DC    10X'0C'                 DIGITS 0 TO 9                   00503001
00067F 080808080808                 521          DC    6X'08'                  OTHERS                          00504001
                                    522 *                                                                      00505001
000685 000000
000688 0000000000000000             523 SAVEAREA DC    18F'0'                                                  00506001
                                    524 *                                                                      00507001
0006D0                              525          LTORG                                                         00508001
0006D0 0001                         526               =H'1'
                                    527 *                                                                      00509001
                                    528          DSTABLE  DSECT=YES                                            00510001
000000                   00000 00024  529+DSTABLE  DSECT                                                      01-DSTAB
                                    530+*                                                                      01-DSTAB
000000 00000000                     531+ADCB     DC    F'0'                    -> DCB                          01-DSTAB
000004 00000000                     532+R        DC    F'0'                    CHARACTER POINTER               01-DSTAB
000008 00000000                     533+RE       DC    F'0'                                                    01-DSTAB
00000C 00000000                     534+NBB      DC    F'0'                                                    01-DSTAB
000010 00000000                     535+BB       DC    F'0'                                                    01-DSTAB
000014 0001                         536+S        DC    H'1'                    RECORD POINTER                  01-DSTAB
000016 0050                         537+P        DC    H'80'                   RECORD LENGTH                   01-DSTAB
000018 02                           538+K        DC    X'02'                   NUMBER OF BLANK DELIM CHARS     01-DSTAB
000019 00                           539+Q        DC    X'00'                   NO OF RECORDS PER SECTION       01-DSTAB
00001A 0000                         540+DSF      DC    H'00'                   DATASET FLAGS                   01-DSTAB
                                    541+*                                                                      01-DSTAB
                                    542+*        DATASET FLAGS - DSF                                           01-DSTAB
                                    543+*                                                                      01-DSTAB
                         00080      544+DS0      EQU   X'80'                   DATASET OPEN                    01-DSTAB
                         00040      545+DS1      EQU   X'40'                                                   01-DSTAB
                         00020      546+DS2      EQU   X'20'                   LAST I/O OUTPUT                 01-DSTAB
                         00010      547+DS3      EQU   X'10'                                                   01-DSTAB
                         00008      548+DS4      EQU   X'08'                                                   01-DSTAB
                         00004      549+DS5      EQU   X'04'                                                   01-DSTAB
                         00002      550+DS6      EQU   X'02'                   OPEN FOR OUTPUT                 01-DSTAB
                         00001      551+DS7      EQU   X'01'                   END OF FILE                     01-DSTAB
                                    552+*                                                                      01-DSTAB
                                    553+*        DATASET FLAGS - DSF+1                                         01-DSTAB
                                    554+*                                                                      01-DSTAB
                         00080      555+DS8      EQU   X'80'                   END OF DATA                     01-DSTAB
                         00040      556+DS9      EQU   X'40'                                                   01-DSTAB
                         00020      557+DS10     EQU   X'20'                   OPENED BY SYSACT 12             01-DSTAB
                         00010      558+DS11     EQU   X'10'                   INDICATE IHIERR-ROUT            01-DSTAB
                         00008      559+DSEOD    EQU   X'08'                                                   01-DSTAB
                         00004      560+DSIOERR  EQU   X'04'                   I/O ERROR                       01-DSTAB
                         00002      561+DS14     EQU   X'02'                   DATASET OPENED                  01-DSTAB
                         00001      562+DS15     EQU   X'01'                   CLOSE FROM IHIERR               01-DSTAB
                                    563+*                                                                      01-DSTAB
00001C 00000000                     564+NOTEADR  DC    F'0'                                                    01-DSTAB
000020 0000                         565+BL       DC    H'0'                    LRECL+ TWO ARB                  01-DSTAB
000022 0000                         566+         DC    H'0'                                                    01-DSTAB
                                    567+*                                                                      01-DSTAB
                         00024      568+DSTABLEL EQU   *-DSTABLE               L'DSTABLE ENTRY                 01-DSTAB
                                    569+*                                                                      01-DSTAB
                                    570 *                                                                      00511001
000000                   00000 00120  571 FSAAREA  DSECT                                                      00512001
                                    572 *                                                                      00513001
                                    573          COPY  FSAREA                                                  00514001
                                    574=*                                                                      00001001
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D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    575=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                    00002001
                                    576=*                                                                      00003001
                                    577=*        STATUS - LEVEL 2.1                                            00004001
                                    578=*                                                                      00005001
                                    579=*********************************************************************** 00006001
                                    580=*                                                                      00007001
                                    581=*        COMMON DATA AREA                                              00008001
                                    582=*                                                                      00009001
                                    583=*        FSAREA                                                        00010001
                                    584=*                                                                      00011001
                                    585=*********************************************************************** 00012001
                                    586=*                                                                      00013001
                                    587=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                    00014001
                                    588=*        MODULES DURING THE EXECUTION                                  00015001
                                    589=*                                                                      00016001
                                    590=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY                 00017001
                                    591=*        SUBROUTINES) BY R12                                           00018001
                                    592=*                                                                      00019001
                    00000           593=FSAREA   EQU   *                                                       00020001
                                    594=*                                                                      00021001
                                    595=*        SAVE AREAS                                                    00022001
                                    596=*                                                                      00023001
000000                              597=         DS    18F                  STANDARD SAVE AREA                 00024001
                    00048           598=ASAVE    EQU   *-FSAREA             ALTERNATE SAVE AREA USED BY        00025001
000048                              599=         DS    18F                  CERTAIN SUBROUTINES                00026001
                                    600=*                                                                      00027001
                                    601=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                        00028001
                                    602=*                                                                      00029001
                    00090           603=FCTVALST EQU   *-FSAREA             TEMPORARY STORAGE FOR              00030001
000090                              604=         DS    D                    FUNCTION VALUES                    00031001
                    00098           605=ASTLOC   EQU   *-FSAREA             DISPL FOR ADDR OF STAND LOCTN      00032001
000098 00000090                     606=         DC    A(FSAREA+FCTVALST)                                       00033001
                    0009C           607=BRRST    EQU   *-FSAREA             TEMPORARY SAVE REG BRR             00034001
                    0009C           608=HW       EQU   BRRST                TEMPORARY HALFWORD STORAGE         00035001
00009C                              609=         DS    F                                                        00036001
                    000A0           610=PROLREG  EQU   *-FSAREA             STORAGE FOR PBT AND LAT WHEN       00037001
0000A0                              611=         DS    2A                   A PROCEDURE IS FORMAL PARAM        00038001
                                    612=*                                                                      00039001
                                    613=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE        00040001
                                    614=*                                                                      00041001
0000A8                              615=         DS    0H                                                       00042001
0000A8 00                           616=         DC    X'00'                                                    00043001
                    000A9           617=PROLPBN  EQU   *-FSAREA             STORAGE FOR CALLED PBN             00044001
0000A9 00                           618=         DC    X'00'                                                    00045001
                    000AA           619=EIGHT    EQU   *-FSAREA             CONST FOR REDUCING RAS             00046001
0000AA 0008                         620=         DC    H'8'                                                     00047001
                                    621=*                                                                      00048001
0000AC                              622=         DS    0F                                                       00049001
                    000AC           623=ADSTAB   EQU   *-FSAREA             ADDR OF DSTABLE                    00050001
0000AC                              624=         DS    A                    IN THE OBJECT PROGRAM              00051001
                    000B0           625=ANOTTAB  EQU   *-FSAREA             ADDR OF NOTE TABLE                 00052001
0000B0                              626=         DS    A                    (INSERTED BY THE OPEN ROUTINE)     00053001
                                    627=*                                                                      00054001
                    000B4           628=IHIFSAST EQU   *                                                       00055001
                    000B4           629=PGOPSW   EQU   *-FSAREA             PROGRAM CHECK OLD PSW              00056001
0000B4                              630=         DS    2F                                                       00057001
                    000BC           631=FSAPICA  EQU   *-FSAREA             OLD PICA ADDR                      00058001
0000BC 00000000                     632=         DC    F'0'                                                     00059001
                    000C0           633=SCRCS    EQU   *-FSAREA             SEMICOLON NUMBER                   00060001
0000C0                              634=         DS    H                                                        00061001
                    000C2           635=DTSW     EQU   *-FSAREA             OPTION SWITCHES                    00062001
                    000C2           636=OPTSW    EQU   DTSW                                                     00063001
0000C2 00                           637=         DC    X'00'                DUMP-80, TRACE-40, SHORT-20        00064001
                    000C3           638=FSAERCOD EQU   *-FSAREA             ERROR CODE FOR ERROR ROUTINE       00065001
0000C3                              639=         DS    C                                                        00066001
                                    640=*                                                                      00067001
                                    641=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER             00068001
                                    642=*                                                                      00069001
0000C4                              643=         DS    0F                                                       00070001
                    000C4           644=IHIFSARS EQU   *                                                       00071001
                    000C4           645=RASSTART EQU   *-FSAREA             ADDR OF FIRST ENTRY IN RAS-8       00072001
0000C4                              646=         DS    F                                                        00073001
                    000C8           647=RASPT    EQU   *-FSAREA             RAS POINTER FROM TOP               00074001
0000C8                              648=         DS    F                                                        00075001
                    000CC           649=RASEND   EQU   *-FSAREA             ADDR OF LAST  ENTRY IN RAS+8       00076001
0000CC                              650=         DS    F                                                        00077001
                    000D0           651=RASPB    EQU   *-FSAREA             RAS POINTER FROM BOTTOM            00078001
0000D0                              652=         DS    F                                                        00079001
                                    653=*                                                                      00080001
                                    654=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES      00081001
                                    655=*                                                                      00082001
0000D4                              656=BRLIST   DS    0F                                                       00083001
                    000D4           657=CAP1     EQU   *-FSAREA             FIRST PART CAPS                    00084001
0000D4 4700 0000          00000     658=         NOP   0                                                        00085001
                    000D8           659=CAP2     EQU   *-FSAREA             SECOND PART CAPS                   00086001
0000D8 4700 0000          00000     660=         NOP   0                                                        00087001
                    000DC           661=PROLOGP  EQU   *-FSAREA             PROLOGUE FORMAL PARAMETER ENTRY    00088001
                    000DC           662=PROLOGFP EQU   PROLOGP                                                 00089001
0000DC 4700 0000          00000     663=         NOP   0                                                        00090001
                    000E0           664=PROLOG   EQU   *-FSAREA             PROLOGUE PROGRAM USUAL ENTRY       00091001
0000E0 4700 0000          00000     665=         NOP   0                                                        00092001
                    000E4           666=RETPROG  EQU   *-FSAREA             DISPLACEMENT RETURN PROGRAM        00093001
0000E4 4700 0000          00000     667=         NOP   0                                                        00094001
                    000E8           668=EPILOGP  EQU   *-FSAREA             EPILOGUE PROGRAM,PROCEDURE ENTRY   00095001
0000E8 4700 0000          00000     669=         NOP   0                                                        00096001
                    000EC           670=EPILOGB  EQU   *-FSAREA             EPILOGE PROGRAM,BETA-BLOCK ENTRY   00097001
```

Active USINGs: FSAAREA,R12 IHIIDECM+X'CC',R3 DSTABLE,R5

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

0000EC 4700 0000           00000   671=          NOP   0                                                          00098001
                     000F0         672=EPILPR3   EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3            00099001
0000F0 4700 0000           00000   673=          NOP   0                                                          00100001
                     000F4         674=CSWE1     EQU   *-FSAREA              FIRST PART CSWES                    00101001
0000F4 4700 0000           00000   675=          NOP   0                                                          00102001
                     000F8         676=CSWE2     EQU   *-FSAREA              SECOND PART CSWES                   00103001
0000F8 4700 0000           00000   677=          NOP   0                                                          00104001
                     000FC         678=LOADPP    EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE       00105001
0000FC 4700 0000           00000   679=          NOP   0                                                          00106001
                     00100         680=TRACE     EQU   *-FSAREA                                                  00107001
000100 D200 0000 0000 00000 00000   681=          MVC   0(0),0                                                    00108001
000106 4700 0000           00000   682=          NOP   0                                                          00109001
00010A 4700 0000           00000   683=          NOP   0                                                          00110001
                     0010E         684=TERMNTE   EQU   *-FSAREA              NORMAL TERMINATION EXIT             00111001
00010E 4700 0000           00000   685=          NOP   0                                                          00112001
                     00112         686=BCR       EQU   *-FSAREA                                                  00113001
000112 0700                        687=          BCR   0,0                   VARIABLE CONDITIONAL BRANCH         00114001
                     00114         688=GETMSTO   EQU   *-FSAREA                                                  00115001
000114 4700 0000           00000   689=          NOP   0                                                          00116001
                                   690=*                                                                        00117001
                     00118         691=VALUCALL  EQU   *-FSAREA                                                  00118001
000118 4700 0000           00000   692=          NOP   0                                                          00119001
                     0011C         693=IORLST    EQU   *-FSAREA                                                  00120001
00011C 4700 0000           00000   694=          NOP   0                                                          00121001
                                   695=*                                                                        00122001
                     001CC         696=FSAERR    EQU   X'1CC'                DISPL  FOR ERROR LIST               00123001
                                   697=*                                                                        00124001
                                   698=*         DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                   00125001
                                   699=*                                                                        00126001
                     0020C         700=OUTOFB    EQU   FSAERR+4*16                                               00127001
                     00218         701=NUMBIND   EQU   FSAERR+4*19                                               00128001
                     00208         702=ARRAYBD   EQU   FSAERR+4*15                                               00129001
                     0026C         703=ERROR40   EQU   FSAERR+4*40                                               00130001
                     00224         704=OERR22    EQU   FSAERR+4*22                                               00131001
                     00210         705=ENDLESL   EQU   FSAERR+4*17                                               00132001
                     00220         706=OERR21    EQU   FSAERR+4*21                                               00133001
                                   707=*                                                                        00134001
                                   708 *                                                                        00515001
                                   709 *         REGISTER EQUATES                                               00516001
                                   710 *                                                                        00517001
                                   711           IEZREGS                                                        00518001
                     00000         712+R0        EQU   0                                                         01-IEZRE
                     00001         713+R1        EQU   1                                                         01-IEZRE
                     00002         714+R2        EQU   2                                                         01-IEZRE
                     00003         715+R3        EQU   3                                                         01-IEZRE
                     00004         716+R4        EQU   4                                                         01-IEZRE
                     00005         717+R5        EQU   5                                                         01-IEZRE
                     00006         718+R6        EQU   6                                                         01-IEZRE
                     00007         719+R7        EQU   7                                                         01-IEZRE
                     00008         720+R8        EQU   8                                                         01-IEZRE
                     00009         721+R9        EQU   9                                                         01-IEZRE
                     0000A         722+R10       EQU   10                                                        01-IEZRE
                     0000B         723+R11       EQU   11                                                        01-IEZRE
                     0000C         724+R12       EQU   12                                                        01-IEZRE
                     0000D         725+R13       EQU   13                                                        01-IEZRE
                     0000E         726+R14       EQU   14                                                        01-IEZRE
                     0000F         727+R15       EQU   15                                                        01-IEZRE
                                   728 *                                                                        00519001
                                   729           END                                                            00520001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
=H'1'          2 000006D0 00000001  H H               526  162
ACNVIRD        1 00000120           U                 488  370
API            4 0000052C 00000001  A A               494  314M 325
APOSTR         4 000002D4 00000001  I                 304  211B
APOSTRA        4 000002E4 00000001  I                 308  305B
APOSTR1        4 000002FA 00000001  I                 313  307B
BLANK          4 0000019C 00000001  I                 213  206B 218B
BRRST          1 0000009C           U                 607  608
BUFF           8 00000538 00000001  D D               496  450M 451
CI             1 00000000           U                  87  458
COMMON         4 000000CC 00000001  I                 154  106  108U 126  128U 130B 146  148U 150B
DECPT          4 00000298 00000001  I                 287  210B
DECPTA         6 000002B8 00000001  I                 296  292B
DECPT1         4 000002C6 00000001  I                 299  288B
DELIMIT        4 00000306 00000001  I                 317  193B 226B 273B 279B 290B 309B
DELIMITB       4 00000340 00000001  I                 334  328B
DELIMITC       4 00000332 00000001  I                 329  336B
DELIMITD       4 00000366 00000001  I                 345  341B
DELIMITE       4 00000398 00000001  I                 359  355B
DELIMITF       4 000003A0 00000001  I                 361  357B
DELIMITH       4 0000037E 00000001  I                 351  348B
DELIMIT1       4 0000031A 00000001  I                 323  318B
DELIMIT2       4 0000032A 00000001  I                 327  321B 324B
DELIMIT3       4 00000350 00000001  I                 338  332B
DIGIT          4 000001CE 00000001  I                 228  208B
DIGIT1         4 00000228 00000001  I                 255  229B
DIGIT2         4 00000202 00000001  I                 243  231B
DIGIT2A        4 00000212 00000001  I                 248  244B
DIGIT3         6 000001E8 00000001  I                 236  233B 246B
DIGIT3A        4 000001EE 00000001  I                 237  234B
DIGIT4         4 00000248 00000001  I                 264  256B
DIGIT5         6 0000023A 00000001  I                 260  268B
DMINT         10 0000057B 00000001  C C               507  349
DPI            4 00000530 00000001  A A               495  301M 319
DSF            2 0000001A FFFFFFFF  H H               540  159M 164  170  174  176  179M 198
DSOPEN         4 00000102 00000001  I                 170  165B
DSOPENA        4 0000010E 00000001  I                 174  171B
DSTABLE        1 00000000 FFFFFFFF  J                 529   83U 568
DS0            1 00000080           U                 544  164
DS10           1 00000020           U                 557  159
DS2            1 00000020           U                 546  170
DS6            1 00000002           U                 550  174  179
DS7            1 00000001           U                 551  176  198
DTSW           1 000000C2           U                 635  636
ERROR2         2 00000506 00000001  I                 472  161B 163B 178B
ERROR3         2 0000050C 00000001  I                 475  172B
ERROR5         2 00000512 00000001  I                 478  177B 199B
ERROR6         2 00000518 00000001  I                 481  259B
EV             1 00000008           U                  89  155
F              1 00000563 00000001  X X               503  187M 192  224  228  230  238  240M 245M 248M 249  252M 255
                                                           264M 267M 270  272  276  278  284M 287  289  291  298M 299M
                                                           304  306  308  312M 313M 317  320M 323  326M 338  340  383
                                                           390  412
FCTVALST       1 00000090           U                 603  606
FIN            2 000004B4 00000001  I                 447  385B 427B 445B
FIN1           4 000004D0 00000001  I                 454  449B
FIN3           4 000004E6 00000001  I                 460  364B 378B 380B 455B
FKT            1 00000562 00000001  X X               502  109M 129M 149M 363  454
FPR0           1 00000000           U                  67  382M 387M 399M 402M 410M 438M 442M 446M 450  452M 468  470
FSAAREA        1 00000000 FFFFFFFE  J                 571  376U
FSAERR         1 000001CC           U                 696  473B 476B 479B 482B 700  701  702  703  704  705  706
FSAREA         1 00000000 FFFFFFFE  U                 593  598  603  605  606  607  610  617  619  623  625  629  631
                                                           633  635  638  645  647  649  651  657  659  661  664  666
                                                           668  670  672  674  676  678  680  684  686  688  691  693
IHIIDEAI       4 00000000 00000001  I                  95   58  101U
IHIIDEII       4 00000044 00000001  I                 115   57  121U
IHIIDEIR       4 00000088 00000001  I                 135   56  141U
IHIPTTAB       1 00000000 00000002  T                 486  486
IORLST         1 0000011C           U                 693  154  166  194  329  457
IPTAB          1 00000585 00000001  X X               509  203
K              1 00000018 FFFFFFFF  X X               538  220
KFPD1          8 00000540 00000001  D D               497  387
KF72           4 00000528 00000001  F F               493  436  439
KF9            4 00000524 00000001  F F               492  403
KH10           2 00000560 00000001  H H               501  418
LADDRA         4 000000DA 00000001  I                 159  110B
MASK           8 00000550 00000001  G F               499  398M 399
MB            21 00000566 00000001  X X               506  182  183  184M 257  345  349  351  356M 359M 360M 361  393
                                                           395M 396M 397  405M 414M 415  416  420M 421  467M
NX             1 0000000C           U                  90  195  330
OP             1 00000010           U                  91  167
OPTSW          1 000000C2           U                 636  377  448
OTHERS         4 000001C2 00000001  I                 224  207B
PACK           6 000004F4 00000001  I                 467  353X
PROLOGP        1 000000DC           U                 661  662
Q              1 00000019 FFFFFFFF  X X               539  160
R              4 00000004 FFFFFFFF  F F               532  181  197  337M
RE             4 00000008 FFFFFFFF  F F               533  190  215  327  335
REQOPEN        4 00000122 00000001  I                 179  168B
ROUND          8 00000558 00000001  X X               500  451M 452
R0             1 00000000           U                 712  342M 361M 371  397M 398  411M 415M 418M 419  421M 422M 425M
                                                           426  469
R1             1 00000001           U                 713  158
R10            1 0000000A           U                 722  109  251M 300M 386M 392M 394M 403M 426M 431M 433M 434M 436
                                                           439M 442
R11            1 0000000B           U                 723  432M 443M 444M 446
R12            1 0000000C           U                 724  122M 124  125  142M 144  145  154  166  194  329  370  372
```

Symbol	Length	Value	Id	Type	Asm	Program	Defn	References	X390 3.1.04 2012/08/17 13.21
								376U 377 448 457 472 473 475 476 478 479 481 482	
R13	1	0000000D		U			725	102 103M 104 105 122 123M 124 125 142 143M 144 145	
								368 369 372M 374M 461M 472M 475M 478M 481M	
R14	1	0000000E		U			726	156M 180M 196M 331M 368 371M 374M 459M	
R15	1	0000000F		U			727	101U 107D 121U 127D 141U 147D 154M 155M 156B 166M 167M 180B	
								194M 195M 196B 204M 213M 221 329M 330M 331B 428M 430M 438	
								442 446 457M 458M 459B	
R2	1	00000002		U			714	202M 205 219M 220M 221 257M 258 345M 346 351M 352 362M	
								369M 374 375M 379M 393M 394 400 419M 422 447M 453M 456M	
								460	
R3	1	00000003		U			715	102M 104 105 106M 108U 112D 126M 128U 132D 146M 148U	
R4	1	00000004		U			716	181M 185M 189M 190 197M 203 214M 215 217 223M 236 243	
								260 265 280 283 301 314 319M 325M 327 334M 335 337	
R5	1	00000005		U			717	83U	
R6	1	00000006		U			718	162	
R7	1	00000007		U			719	158M 370M 373B 468 469 470	
R8	1	00000008		U			720	182M 232 236 237M 300 346 352M 353 373M 392 400 404M	
R9	1	00000009		U			721	183M 232 258 260 261M	
SAVEAREA	4	00000688	00000001	F	F		523	103 123 143 461	
SCAN	4	00000128	00000001	I			181	175B	
SCAN1	2	0000013A	00000001	I			185	200B	
SCAN2	4	0000013C	00000001	I			186	225B	
SCAN2A	4	00000140	00000001	I			187	281B	
SCAN3	4	00000148	00000001	I			189	239B 241B 250B 253B 262B 266B 285B 294B 302B 315B	
SCAN4	4	00000154	00000001	I			192	216B	
SCAN5	2	00000176	00000001	I			202	191B 222B	
SE	1	00000565	00000001	C	C		505	188M 283M 296 297M 310 311M 423	
SIGN	4	0000025C	00000001	I			270	209B	
SIGN1	4	00000270	00000001	I			276	271B	
SIGN2	6	00000280	00000001	I			280	274B	
SIGN2A	6	0000028A	00000001	I			283	277B	
SM	1	00000564	00000001	C	C		504	186M 280M 293M 296M 310M 354 408	
STORE	4	000004FA	00000001	I			468	460X	
TPNINE	8	00000548	00000001	D	D		498	402	
TRINT1	4	000003A4	00000001	I			362	343B	
TRREAL	2	000003D6	00000001	I			382	339B 347B 350B	
TRREALA	4	000003EE	00000001	I			390	384B	
TRREALB	4	000003F8	00000001	I			393	391B	
TRREAL1	4	0000042E	00000001	I			408	388B 401B	
TRREAL1A	2	00000438	00000001	I			411	409B	
TRREAL2	6	000003FE	00000001	I			395	406B	
TRREAL3	2	0000046C	00000001	I			426	413B 424B	
TRREAL3A	4	00000462	00000001	I			423	417B	
TRREAL3B	2	0000047E	00000001	I			431	429B	
TRREAL4	4	000004A2	00000001	I			442	437B	
TRREAL4A	4	000004A6	00000001	I			443	435B	
TRREAL5	4	0000048A	00000001	I			435	440B	
VPTTAB	4	00000520	00000001	V	V		486	428	

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   99  119  139  342M 361M 368  371  374M 397M 398  411M 415M 418M 419  421M 422M 425M 426  464M 469
    1(1)   99  119  139  158  203M 368  374M 464M
    2(2)   99  119  139  202M 203M 205N 219M 220M 221  257M 258  345M 346  351M 352  362M 368  369M 374M 375M 379M 393M
          394  400  419M 422  447M 453M 456M 460N 464M
    3(3)   99  102M 104  105  106M 108U 112D 119  126M 128U 132D 139  146M 148U 368  374M 464M
    4(4)   99  119  139  181M 185M 189M 190  197M 203  214M 215  217  223M 236  243  260  265  280  283  301  314  319M
          325M 327  334M 335  337  368  374M 464M
    5(5)   83U  99  119  139  368  374M 464M
    6(6)   99  119  139  162  368  374M 464M
    7(7)   99  119  139  158M 368  370M 373B 374M 464M 468  469  470
    8(8)   99  119  139  182M 232  236  237M 300  346  352M 353  368  373M 374M 392  400  404M 464M
    9(9)   99  119  139  183M 232  258  260  261M 368  374M 464M
   10(A)   99  109  119  139  251M 300M 368  374M 386M 392M 394M 403M 426M 431M 433M 434M 436  439M 442N 464M
   11(B)   99  119  139  368  374M 432M 433M 443M 444M 446N 464M
   12(C)   99  119  122M 124  125  139  142M 144  145  154  166  194  329  368  370  372  374M 376U 377  448  457  464M
          472  473N 475  476N 478  479N 481  482N
   13(D)   99  102  103M 104  105  119  122  123M 124  125  139  142  143M 144  145  368  369  372M 374M 461M 464  472M
          475M 478M 481M
   14(E)   99  119  139  156M 180M 196M 331M 368  371M 374M 459M 464M 465B
   15(F)   95B  99  101U 107D 115B 119  121U 127D 135B 139  141U 147D 154M 155M 156B 166M 167M 180B 194M 195M 196B 204M
          213M 221  329M 330M 331B 368  374M 428M 430M 430N 438  442  446  457M 458M 459B 464M
```

Dsect	Length	Id	Defn	Con	Member
DSTABLE	00000024	FFFFFFFF	529	4	DSTABLE
FSAAREA	00000120	FFFFFFFE	571		PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04 2012/08/17 13.21
83		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001B	337	DSTABLE,R5	
101		USING	Ordinary	00000001	00000000	00001000	15	00688	106	IHIIDEAI,R15	
107		DROP					15			R15	
108		USING	Ordinary	00000001	000000CC	00001000	3	00496	110	COMMON,R3	
112		DROP					3			R3	
121		USING	Ordinary	00000001	00000044	00001000	15	00644	126	IHIIDEII,R15	
127		DROP					15			R15	
128		USING	Ordinary	00000001	000000CC	00001000	3	00496	130	COMMON,R3	
132		DROP					3			R3	
141		USING	Ordinary	00000001	00000088	00001000	15	00600	146	IHIIDEIR,R15	
147		DROP					15			R15	
148		USING	Ordinary	00000001	000000CC	00001000	3	00604	467	COMMON,R3	
376		USING	Ordinary	FFFFFFFE	00000000	00001000	12			FSAAREA,R12	

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIIDE PROCSTEP: X390

Primary input: lines 1 to 520 of SYSD.ALGOLFRT.ASM(IHIIDE)

SYSLIB library records read: 362

SYSUT1 work file size: 71621 bytes

SYSUT2 work file size: 17960 bytes

SYSUT3 work file size: 41600 bytes

SYSLIN file records written: 36

TXA000I Return code 0, elapsed time 0.39 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIIDECM	0006D2	6

IHIIOR

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIIOR)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0154
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Active USINGs: None

  Loc  Object Code      Addr1 Addr2  Stmt   Source Statement                                                 X390 3.1.04  2012/08/17 13.21

                                        2 *                                                                       00002001
                                        3 *       COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                      00003001
                                        4 *                                                                       00004001
                                        5 *       THE CODE HAS BEEN UPDATED -                                     00005001
                                        6 *                                                                       00006001
                                        7 *       1. ALL HARDCODED LENGTH CALCULATIONS FOR GETMAINED              00007001
                                        8 *          AREAS USED FOR DCB, DECB ETC ARE NOW CALCULATED              00008001
                                        9 *       2. ALL REFERENCES TO VARIOUS DCB FIELDS UTILIZE THE             00009001
                                       10 *          MAPPING SYMBOLS PROVIDED BY DCBD                             00010001
                                       11 *       3. ALL REFERENCES TO VARIOUS JFCB FIELDS UTILIZE THE            00011001
                                       12 *          MAPPING SYMBOLS PROVIDED BY IEFJFCBN                         00012001
                                       13 *       4. THE DCBS FOR SYSIN, SYSPRINT AND ALGLIB01 ARE OPENED         00013001
                                       14 *          WITH OPEN OPTIONS SUITABLE FOR JES2/3 DATASETS               00014001
                                       15 *          THIS WILL PREVENT 013-BC ABENDS THAT OCCURRED WITH THE       00015001
                                       16 *          PREVIOUS RELEASE                                             00016001
                                       17 *       5. ALL NUMERIC BRANCH CONDITIONS ARE RATIONALIZED TO USE        00017001
                                       18 *          STANDARD ASSEMBLER MNEMONICS                                 00018001
                                       19 *       6. MINOR CODE AND COMMENT CHANGES FOR IMPROVED READABILITY      00019001
                                       20 *                                                                       00020001
                                       21 *       FUNCTION/OPERATION -                                            00021001
                                       22 *       THIS MODULE CONTAINS A SET OF SERVICE ROUTINES USED BY          00022001
                                       23 *       OTHER I/O MODULES AS SUBROUTINES                                00023001
                                       24 *       THEY PERFORM THE FOLLOWING -                                    00024001
                                       25 *       OPEN DATASET                                                    00025001
                                       26 *       CHANGE TO NEXT RECORD                                           00026001
                                       27 *       CLOSE DATASET                                                   00027001
                                       28 *       CLOSE ALL DATASETS                                              00028001
                                       29 *       CLEAR NOTTAB                                                    00029001
                                       30 *       ENTRY NOTTAB                                                    00030001
                                       31 *       EVALUATE DATASET NUMBER                                         00031001
                                       32 *       END OF DATA HANDLING                                            00032001
                                       33 *       SYNCHRONOUS ERROR HANDLING                                      00033001
                                       34 *       CONVERT REAL TO INTEGER.                                        00034001
                                       35 *       MORE DETAIL BEFORE EACH ROUTINE                                 00035001
                                       36 *                                                                       00036001
                                       37 *       ENTRY POINTS -                                                  00037001
                                       38 *       IHIIOROP                                                        00038001
                                       39 *       IHIIOROQ                                                        00039001
                                       40 *       IHIIORNX                                                        00040001
                                       41 *       IHIIORCL                                                        00041001
                                       42 *       IHIIORCP                                                        00042001
                                       43 *       IHIIORCN                                                        00043001
                                       44 *       IHIIOREN                                                        00044001
                                       45 *       IHIIOREV                                                        00045001
                                       46 *       IHIIORCI                                                        00046001
                                       47 *       IHIIORED                                                        00047001
                                       48 *       IHIIORER                                                        00048001
                                       49 *       ALL INVOKED BY BALR R14,R15                                     00049001
                                       50 *       DIFFERENCE EXPLAINED BEFORE EACH ROUTINE                        00050001
                                       51 *                                                                       00051001
                                       52 *       INPUT - SEE EACH ROUTINE                                        00052001
                                       53 *                                                                       00053001
                                       54 *       OUTPUT - SEE EACH ROUTINE                                       00054001
                                       55 *                                                                       00055001
                                       56 *       EXTERNAL ROUTINES - IHIGPR - CLOSE DATASET FOR PUT/GET          00056001
                                       57 *                                                                       00057001
                                       58 *       EXITS - NORMAL - ALL ROUTINES EXCEPT END OF DATA AND            00058001
                                       59 *                        SYNAD RELOAD REGISTERS AND BR 14               00059001
                                       60 *             - ERROR  - NO  EXPLANATION                                00060001
                                       61 *                        0   DATASET NUMBER OUT OF RANGE                00061001
                                       62 *                        1   REAL NUMBER TO BE CONVERTED OUT OF         00062001
                                       63 *                            INTEGER RANGE                              00063001
                                       64 *                        2   INCOMPATIBLE ACTIONS ON SAME DATASET       00064001
                                       65 *                        3   INPUT BEYOND LAST OUTPUT                   00065001
                                       66 *                        4   OVERFLOW OF NOTTAB                         00066001
                                       67 *                        5   INPUT REQUEST BEYOND END OF DATASET        00067001
                                       68 *                        7   DATA SECTIONED AND NO CTRL CHARACTER       00068001
                                       69 *                            SPECIFIED                                  00069001
                                       70 *                        32  UNRECOVERABLE I/O ERROR                    00070001
                                       71 *                        37  BLOCKSIZE NOT A MULTIPLE OF RECORD         00071001
                                       72 *                            LENGTH                                     00072001
                                       73 *                        41  DDCARD INCORRECT OR MISSING                00073001
                                       74 *             - ACTION - BRANCH TO IHGFSA                               00074001
                                       75 *                        LA 13,IHGFSA                                   00075001
                                       76 *                        B  FSAERR+XX*4(13)   XX ERROR NUMBER           00076001
                                       77 *                                                                       00077001
                                       78 *       TABLES/WORK AREAS -                                             00078001
                                       79 *       NOTTAB, FOR STORING OF RECORD IDENTIFICATION USING WHEN         00079001
                                       80 *       REPOSITIONING, IS CREATED DYNAMICALLY WHEN OPEN A DATASET       00080001
                                       81 *       WITH UNBLOCKED RECORD FORMAT SIZE OF 1024 BYTES                 00081001
                                       82 *                                                                       00082001
                                       83 *       ATTRIBUTES - SERIALLY REUSABLE                                  00083001
                                       84 *                                                                       00084001
                                       85 *       NOTES -                                                         00085001
                                       86 *       THE OPERATION OF THIS MODULE DOES NOT DEPEND UPON A             00086001
                                       87 *       SPECIAL INTERNAL REPRESENTATION OF THE EXTERNAL                 00087001
                                       88 *       CHARACTER SET                                                   00088001
                                       89 *                                                                       00089001
                                       90 *       REGISTER USAGE                                                  00090001
                                       91 *                                                                       00091001
                                       92 *       R5  -> RELEVANT ENTRY IN DSTAB                                  00092001
                                       93 *       R6     DATASET NUMBER                                           00093001
                                       94 *       R7     PROGRAM BASE REGISTER                                    00094001
                                       95 *       R8  -> DCB AND DECB'S                                           00095001
                                       96 *       R12 -> FSA                                                      00096001
                                       97 *       R13 -> SAVE AREA                                                00097001
```

Active USINGs: None

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 Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    98 *        R14 -> RETURN                                                    00098001
                                    99 *        R15 -> ROUTINE                                                   00099001
                                   100 *                                                                         00100001
000000                00000 00D6A  101 IHIIORTN CSECT                                                           00101001
                                   102 *                                                                         00102001
                                   103          ENTRY IHIIOROP                                                   00103001
                                   104          ENTRY IHIIOROQ                                                   00104001
                                   105          ENTRY IHIIORNX                                                   00105001
                                   106          ENTRY IHIIORCL                                                   00106001
                                   107          ENTRY IHIIORCP                                                   00107001
                                   108          ENTRY IHIIORGP                                                   00108001
                                   109          ENTRY IHIIORCN                                                   00109001
                                   110          ENTRY IHIIOREN                                                   00110001
                                   111          ENTRY IHIIOREV                                                   00111001
                                   112          ENTRY IHIIORED                                                   00112001
                                   113          ENTRY IHIIORCI                                                   00113001
                                   114          ENTRY IHIIORER                                                   00114001
                                   115 *                                                                         00115001
                                   116 *        DISPLACEMENT IN FSA                                              00116001
                                   117 *                                                                         00117001
                      000AC        118 ADSTAB   EQU   X'AC'                                                      00118001
                      000B0        119 ANOTTAB  EQU   X'B0'                                                      00119001
                      000C2        120 OPTSW    EQU   X'C2'                                                      00120001
                      001CC        121 FSAERR   EQU   X'1CC'                                                     00121001
                                   122 *                                                                         00122001
                                   123 *                                                                         00123001
                                   124 *                                                                         00124001
                                   125 *-------------------------------------------------------------------------00125001
                                   126 *        OPEN A DATASET                                                   00126001
                                   127 *-------------------------------------------------------------------------00127001
                                   128 *                                                                         00128001
                                   129 *        FUNCTION/OPERATION -                                             00129001
                                   130 *        RESERVE STORAGE FOR AND COMPLETE A DCB AND TWO I/O BUFFERS       00130001
                                   131 *                                                                         00131001
                                   132 *        COMPLETE DSTAB FIELDS IN GENERATED OBJECT MODULE                 00132001
                                   133 *                                                                         00133001
                                   134 *        STAB HAS AN ENTRY AND INDICATOR STATUS FOR EVERY DATASET         00134001
                                   135 *        USED IN THE PROGRAM                                              00135001
                                   136 *                                                                         00136001
                                   137 *        INPUT -                                                          00137001
                                   138 *        IF DATASET SHOULD PERFORM ONLY INPUT OR OUTPUT BLOCKED           00138001
                                   139 *        RECORD FORMAT IS USED ELSE UNBLOCKED FORMAT - ACCESS             00139001
                                   140 *        METHOD BSAM.                                                     00140001
                                   141 *        IN CASE OF INPUT TWO RECORDS OR BLOCKS READ TO I/O               00141001
                                   142 *        BUFFERS. BLOCKED RECORD FORMAT IS USED ONLY WHEN                 00142001
                                   143 *        BLOCKING FACTOR > 1                                              00143001
                                   144 *                                                                         00144001
                                   145 *        OUTPUT - N/A                                                     00145001
                                   146 *                                                                         00146001
                                   147 *        NOTES -                                                          00147001
                                   148 *        ADDR OF THE DCB IS LOADED IN R8 AND KEPT THROUGH ALL             00148001
                                   149 *        I/O MODULES                                                      00149001
                                   150 *                                                                         00150001
                                   151 *        ROUTINE IHIIOROQ IS ENTERED FROM SYSACT 12                       00151001
                                   152 *                                                                         00152001
                                   153 IHIIOROQ SAVE  (14,12),,'IHIIOROQ LEVEL 2.1 &SYSDATE &SYSTIME'            00153001
000000 47F0 F026            00026  154+IHIIOROQ B     38(0,15)                        BRANCH AROUND ID       01-SAVE
000004 21                          155+         DC    AL1(33)                         LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9C9D6D9D6D8            156+         DC    CL32'IHIIOROQ LEVEL 2.1 08/17/12 13.2' IDENTIFIER      01-SAVE
000025 F1                          157+         DC    CL1'1'                          IDENTIFIER             01-SAVE
000026 90EC D00C            0000C  158+         STM   14,12,12(13)                    SAVE REGISTERS         01-SAVE
                                   159 *                                                                         00154001
00002A 184F                        160          LR    R4,R15                                                   00155001
                 R:4  00000        161          USING IHIIOROQ,R4                                              00156001
00002C 4170 40E6            000E6  162          LA    R7,IHIIOROP                                              00157001
                 R:7  000E6        163          USING IHIIOROP,R7                                              00158001
** TXA533W USING range overlaps prior USING at statement 161.
** TXA301I Record 158 in SYSD.ALGOLFRT.ASM(IHIIOR)
000030 50D0 7C0E            00CF4  164          ST    R13,SAVAR+4                                              00159001
000034 41D0 7C0A            00CF0  165          LA    R13,SAVAR                                                00160001
                 R:5  00000        166          USING DSTABLE,R5              DSN RELEVANT ENTRY IN DSTABLE    00161001
000038 4960 7C72            00D58  167          CH    R6,=H'1'                DATASET NUMBER 0 OR 1 ?          00162001
00003C 47D0 7034            0011A  168          BNH   OPEN00                  YES, BRANCH TO IHIIOROP          00163001
000040 94FD 501A      0001A        169          NI    DSF,255-DS6                                              00164001
000044 9102 501B      0001B        170          TM    DSF+1,DS14              DATASET BEEN OPEN BEFORE ?       00165001
000048 4710 7034            0011A  171          BO    OPEN00                  YES                              00166001
                                   172 *                                                                         00167001
                                   173 *        OPEN DATASET FOR THE FIRST TIME                                  00168001
                                   174 *                                                                         00169001
                                   175 *        GETMAIN AREA FOR DCB, DECB AND JFCB                              00170001
                                   176 *        EXAMINE THE DISP PARAMETER IN JFCB IF NEW OPEN THE               00171001
                                   177 *        DATASET FOR OUTIN ELSE FOR INOUT                                 00172001
                                   178 *                                                                         00173001
                                   179          GETMAIN R,LV=DCBAREAL                                            00174001
                                   180+*        OS/VS2 RELEASE 4 VERSION -- 10/21/75                             01-GETMA
00004C                             181+         CNOP  0,4                                                      01-GETMA
00004C 4510 4054            00054  182+         BAL   1,*+8                           BRANCH AROUND LENGTH     01-GETMA
000050 00000120                    183+         DC    A(DCBAREAL)                     LENGTH                   01-GETMA
000054 5800 1000            00000  184+         L     0,0(0,1)                        LOAD LENGTH              01-GETMA
000058 0A0A                        185+         SVC   10                              ISSUE GETMAIN SVC        01-GETMA
                                   186 *                                                                         00175001
00005A 5010 5000            00000  187          ST    R1,ADCB                 SAVE DCB ADDR IN DSTABLE         00176001
00005E 1881                        188          LR    R8,R1                                                    00177001
                 R:8  00000        189          USING IHADCB,R8                                                00178001
000060 D257 8000 7BA2 00000 00C88  190          MVC   0(DCBMODLN,R8),DCBMODEL  MOVE DCBMODEL INTO GETMAIN AREA 00179001
                                   191 *                                                                         00180001
```

Active USINGs: IHADCB,R8 DSTABLE,R5 IHIIORTN+X'E6',R7 IHIIORTN,R4

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

```
                                    192 *        CONVERT BINARY DATASET NUMBER INTO CHARACTER TO                00181001
                                    193 *        MOVE INTO THE DDNAME                                          00182001
                                    194 *                                                                      00183001
000066 4E60 7C02            00CE8   195          CVD   R6,DWORD                                                00184001
00006A F311 7C02 7C08 00CE8 00CEE   196          UNPK  DWORD(2),DWORD+6(2)     EXTRACT LAST TWO DIGITS         00185001
000070 96F0 7C03      00CE9         197          OI    DWORD+1,X'F0'                                           00186001
000074 D201 802E 7C02 0002E 00CE8   198          MVC   DCBDDNAM+6(2),DWORD     MOVE IN DCB DDNAME NUMBER       00187001
00007A 4130 8070            00070   199          LA    R3,JFCB                                                 00188001
00007E BE37 7BFF            00CE5   200          STCM  R3,B'0111',ADCBEXIT+5   STORE JFCB AREA ADDR             00189001
                                    201 *                                                                      00190001
                                    202          RDJFCB ((R8))                                                 00191001
000082 0700                         203+         CNOP  0,4                           ALIGN LIST TO FULLWORD 02-OPEN
000084 4510 408C            0008C   204+         BAL   1,*+8                         LOAD REG1 W/LIST ADDR. 02-OPEN
000088 00000000                     205+         DC    A(0)                          OPT BYTE AND DCB ADDR. 02-OPEN
00008C 5081 0000            00000   206+         ST    R8,0(1,0)                     STORE INTO LIST        02-OPEN
000090 9280 1000      00000         207+         MVI   0(1),128                      MOVE IN OPTION BYTE    02-OPEN
000094 0A40                         208+         SVC   64                            ISSUE RDJFCB SVC       01-RDJFC
                                    209 *                                                                      00192001
000096 9120 80A4      000A4         210          TM    JFCBTSDM,JFCSDS         SYSIN/SYSOUT DATASET ?           00193001
00009A 4780 40BE            000BE   211          BZ    ROQA                    NO, BRANCH                       00194001
                                    212 *                                                                      00195001
                                    213 *        SUBSYSTEM DATASET                                             00196001
                                    214 *                                                                      00197001
00009E 9180 80C7      000C7         215          TM    JFCBIND2,JFCMOD         NEW OR MOD DATASET ?             00198001
0000A2 4710 40B0            000B0   216          BO    ROQB                    YES, MUST BE SYSOUT              00199001
0000A6 D201 802A 7C74 0002A 00D5A   217          MVC   DCBMACRF,=AL1(DCBMRRD,0)  NO POINT OPTION FOR SUBSYS DS  00200001
0000AC 47F0 40CA            000CA   218          B     ROQD                                                     00201001
                                    219 *                                                                      00202001
0000B0 D201 802A 7C76 0002A 00D5C   220 ROQB     MVC   DCBMACRF,=AL1(0,DCBMRWRT) NO POINT OPTION FOR SUBSYS DS  00203001
0000B6 9602 501A      0001A         221          OI    DSF,DS6                                                  00204001
0000BA 47F0 40CA            000CA   222          B     ROQD                                                     00205001
                                    223 *                                                                      00206001
0000BE 9180 80C7      000C7         224 ROQA     TM    JFCBIND2,JFCMOD         NEW OR MOD DATASET ?             00207001
0000C2 4780 40CA            000CA   225          BZ    ROQD                    NO, BRANCH                       00208001
0000C6 9602 501A      0001A         226          OI    DSF,DS6                                                  00209001
0000CA 4110 8070            00070   227 ROQD     LA    R1,JFCB                                                  00210001
                                    228 *                                                                      00211001
                                    229 *        FREE UP THE JFCB AREA ON THE END OF DCBAREA AS ITS NO         00212001
                                    230 *        LONGER NEEDED                                                 00213001
                                    231 *                                                                      00214001
                                    232          FREEMAIN R,LV=JFCB_LEN,A=(1)                                  00215001
                                    233+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                         01-FREEM
0000CE 0700                         234+         CNOP  0,4                                                     01-FREEM
0000D0 47F0 40D8            000D8   235+         B     *+8                           BRANCH AROUND LENGTH    01-FREEM
0000D4 000000B0                     236+         DC    A(JFCB_LEN)                   LENGTH                  01-FREEM
0000D8 5800 40D4            000D4   237+         L     0,*-4                         LOAD SP AND LV          01-FREEM
0000DC 4110 1000            00000   238+         LA    1,0(0,1)                      CLEAR HI ORDER BYTE     01-FREEM
0000E0 0A0A                         239+         SVC   10                            ISSUE FREEMAIN SVC      01-FREEM
                                    240 *                                                                      00216001
0000E2 47F0 70EE            001D4   241          B     OPEN20                                                   00217001
                                    242 *                                                                      00218001
                                    243 IHIIOROP SAVE  (14,12),,'IHIIOROP LEVEL 2.1 &SYSDATE &SYSTIME'          00219001
0000E6 47F0 F026            00026   244+IHIIOROP B     38(0,15)                      BRANCH AROUND ID        01-SAVE
0000EA 21                           245+         DC    AL1(33)                       LENGTH OF IDENTIFIER    01-SAVE
0000EB C9C8C9C9D6D9D6D7             246+         DC    CL32'IHIIOROP LEVEL 2.1 08/17/12 13.2' IDENTIFIER     01-SAVE
00010B F1                           247+         DC    CL1'1'                        IDENTIFIER              01-SAVE
00010C 90EC D00C            0000C   248+         STM   14,12,12(13)                  SAVE REGISTERS          01-SAVE
                                    249 *                                                                      00220001
000110 187F                         250          LR    R7,R15                                                   00221001
000112 50D0 7C0E            00CF4   251          ST    R13,SAVAR+4                                              00222001
000116 41D0 7C0A            00CF0   252          LA    R13,SAVAR                                                00223001
00011A 4960 7C72            00D58   253 OPEN00   CH    R6,=H'1'                                                 00224001
00011E 4770 704E            00134   254          BNE   OPEN01                                                   00225001
                                    255 *                                                                      00226001
                                    256 *        DATASET NUMBER = 1                                            00227001
                                    257 *        IF DATASET HAS BEEN OPENED BEFORE (DS14=1)                    00228001
                                    258 *        SET DS0 = 1 AND GO BACK. IF NOT OPEN THE DATASET              00229001
                                    259 *                                                                      00230001
000122 9102 501B      0001B         260          TM    DSF+1,DS14              PREVIOUSLY OPENED ?              00231001
000126 4780 704E            00134   261          BZ    OPEN01                  NO, BRANCH                       00232001
00012A 9680 501A      0001A         262          OI    DSF,DS0                                                  00233001
00012E 47F0 7280            00366   263          B     OPEN51                                                   00234001
                                    264 *                                                                      00235001
                                    265 *        GETMAIN FOR DCB AND DECB, NO JFCB                             00236001
                                    266 *                                                                      00237001
                                    267 OPEN01   GETMAIN R,LV=DCBAREAL-JFCB_LEN                                00238001
                                    268+*        OS/VS2 RELEASE 4 VERSION -- 10/21/75                          01-GETMA
000132 0700                         269+         CNOP  0,4                                                     01-GETMA
000134 4510 7056            0013C   270+OPEN01   BAL   1,*+8                           BRANCH AROUND LENGTH    01-GETMA
000138 00000070                     271+         DC    A(DCBAREAL-JFCB_LEN)          LENGTH                  01-GETMA
00013C 5800 1000            00000   272+         L     0,0(0,1)                      LOAD LENGTH             01-GETMA
000140 0A0A                         273+         SVC   10                            ISSUE GETMAIN SVC       01-GETMA
                                    274 *                                                                      00239001
000142 5010 5000            00000   275          ST    R1,ADCB                                                  00240001
000146 1881                         276          LR    R8,R1                                                    00241001
000148 D257 8000 7BA2 00000 00C88   277          MVC   0(DCBMODLN,R8),DCBMODEL  MOVE IN MODEL DCB               00242001
00014E 4960 7C72            00D58   278          CH    R6,=H'1'                                                 00243001
000152 4740 708C            00172   279          BL    DSIN                                                     00244001
000156 4780 70B0            00196   280          BE    DSPRINT                                                  00245001
                                    281 *                                                                      00246001
                                    282 *        CONVERT BINARY DSNUMBER TO CHAR                               00247001
                                    283 *                                                                      00248001
00015A 4E60 7C02            00CE8   284          CVD   R6,DWORD                DATASET NUMBER TO DDNAME         00249001
00015E F311 7C02 7C08 00CE8 00CEE   285          UNPK  DWORD(2),DWORD+6(2)     EXTRACT LAST TWO DIGITS          00250001
000164 96F0 7C03      00CE9         286          OI    DWORD+1,X'F0'                                            00251001
000168 D201 802E 7C02 0002E 00CE8   287          MVC   DCBDDNAM+6(2),DWORD     MOVE IN DCB DDNAME NUMBER        00252001
```

Active USINGs: IHADCB,R8 DSTABLE,R5 IHIIORTN+X'E6',R7 IHIIORTN,R4

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

```
00016E 47F0 70E8            001CE   288          B     OPEN2                                                  00253001
                                    289 *                                                                     00254001
000172 D207 8028 7C62 00028 00D48   290 DSIN     MVC   DCBDDNAM,=CL8'SYSIN   '                               00255001
000178 D201 8032 7C74 00032 00D5A   291          MVC   DCBMACR,=AL1(DCBMRRD,0)  NO POINT OPTION FOR SYSIN     00256001
                                    292 *                                                                     00257001
                                    293          OPEN  ((R8),(INPUT))          INPUT ONLY FOR SYSIN        00258001
00017E 0700                         294+         CNOP  0,4                           ALIGN LIST TO FULLWORD 01-OPEN
000180 4510 70A2            00188   295+         BAL   1,*+8                         LOAD REG1 W/LIST ADDR. 01-OPEN
000184 00000000                     296+         DC    A(0)                          OPT BYTE AND DCB ADDR. 01-OPEN
000188 5081 0000            00000   297+         ST    R8,0(1,0)                     STORE INTO LIST        01-OPEN
00018C 9280 1000      00000         298+         MVI   0(1),128                      MOVE IN OPTION BYTE    01-OPEN
000190 0A13                         299+         SVC   19                            ISSUE OPEN SVC         01-OPEN
                                    300 *                                                                     00259001
000192 47F0 7134            0021A   301          B     OPEN300                                                 00260001
                                    302 *                                                                     00261001
                                    303 *        IF DS11 = 0 OPEN DATASET SYSPRINT                            00262001
                                    304 *        IF DS11 = 1 OPEN DATASET ALGLDD01                            00263001
                                    305 *                                                                     00264001
000196 9110 501B      0001B         306 DSPRINT  TM    DSF+1,DS11                                             00265001
00019A 4710 70C6            001AC   307          BO    DSPR2                                                  00266001
00019E D201 802E 7C78 0002E 00D5E   308          MVC   DCBDDNAM+6(2),=CL2'01'  LAST 2 CHARS OF DDNAME        00267001
0001A4 9602 501B      0001B         309          OI    DSF+1,DS14                                             00268001
0001A8 47F0 70CC            001B2   310          B     DSPR2A                                                 00269001
                                    311 *                                                                     00270001
0001AC D207 8028 7C6A 00028 00D50   312 DSPR2    MVC   DCBDDNAM,=CL8'SYSPRINT'                               00271001
0001B2 D201 8032 7C76 00032 00D5C   313 DSPR2A   MVC   DCBMACR(2),=AL1(0,DCBMRWRT)  NO POINT OPT FOR SYSPRINT  00272001
                                    314 *                                                                     00273001
                                    315          OPEN  ((R8),(OUTPUT))        OUTPUT ONLY FOR SUBSYS SYSOUT  00274001
0001B8                              316+         CNOP  0,4                           ALIGN LIST TO FULLWORD 01-OPEN
0001B8 4510 70DA            001C0   317+         BAL   1,*+8                         LOAD REG1 W/LIST ADDR. 01-OPEN
0001BC 00000000                     318+         DC    A(0)                          OPT BYTE AND DCB ADDR. 01-OPEN
0001C0 5081 0000            00000   319+         ST    R8,0(1,0)                     STORE INTO LIST        01-OPEN
0001C4 928F 1000      00000         320+         MVI   0(1),143                      MOVE IN OPTION BYTE    01-OPEN
0001C8 0A13                         321+         SVC   19                            ISSUE OPEN SVC         01-OPEN
                                    322 *                                                                     00275001
0001CA 47F0 7134            0021A   323          B     OPEN300                                                 00276001
                                    324 *                                  SET MACRF=(RP,WP)                  00277001
0001CE D201 8032 7C7A 00032 00D60   325 OPEN2    MVC   DCBMACR,=AL1(DCBMRRD+DCBMRPT1,DCBMRWRT+DCBMRPT2)      00278001
0001D4 BF2F C0B0            000B0   326 OPEN20   ICM   R2,B'1111',ANOTTAB(R12)                                00279001
0001D8 4770 7118            001FE   327          BNZ   OPEN3                                                   00280001
                                    328 *                                                                     00281001
                                    329          GETMAIN R,LV=1024             GET AREA FOR NOTE TABLE     00282001
                                    330+*        OS/VS2 RELEASE 4 VERSION -- 10/21/75                        01-GETMA
0001DC 4100 0400            00400   331+         LA    0,1024(0,0)                   LOAD LENGTH            01-GETMA
0001E0 4510 70FE            001E4   332+         BAL   1,*+4                         INDICATE GETMAIN       01-GETMA
0001E4 0A0A                         333+         SVC   10                            ISSUE GETMAIN SVC      01-GETMA
                                    334 *                                                                     00283001
0001E6 501C 00B0            000B0   335          ST    R1,ANOTTAB(R12)                                         00284001
0001EA 1821                         336          LR    R2,R1                   ANOTTAB TO R2                   00285001
0001EC 1832                         337          LR    R3,R2                   ANOTTAB TO R3                   00286001
0001EE 4130 3008            00008   338          LA    R3,8(,R3)                                               00287001
0001F2 5030 2000            00000   339          ST    R3,0(,R2)               STORE POINTER NXE IN NOTTAB     00288001
0001F6 4130 33F8            003F8   340          LA    R3,1016(,R3)                                            00289001
0001FA 5030 2004            00004   341          ST    R3,4(,R2)               STORE POINTER NEXEF IN NOTTAB   00290001
0001FE 9102 501A      0001A         342 OPEN3    TM    DSF,DS6                 OUTPUT POSSIBLE ?               00291001
000202 4710 7146            0022C   343          BO    OPEN30                  YES                             00292001
                                    344 *                                                                     00293001
                                    345          OPEN  ((R8),(INOUT))                                        00294001
000206 0700                         346+         CNOP  0,4                           ALIGN LIST TO FULLWORD 01-OPEN
000208 4510 712A            00210   347+         BAL   1,*+8                         LOAD REG1 W/LIST ADDR. 01-OPEN
00020C 00000000                     348+         DC    A(0)                          OPT BYTE AND DCB ADDR. 01-OPEN
000210 5081 0000            00000   349+         ST    R8,0(1,0)                     STORE INTO LIST        01-OPEN
000214 9283 1000      00000         350+         MVI   0(1),131                      MOVE IN OPTION BYTE    01-OPEN
000218 0A13                         351+         SVC   19                            ISSUE OPEN SVC         01-OPEN
                                    352 *                                                                     00295001
00021A 9110 8030      00030         353 OPEN300  TM    DCBOFLGS,DCBOFOPN       OPEN SUCCESSFUL ?           00296001
00021E 4710 715C            00242   354          BO    OPEN355                 YES, BRANCH                     00297001
000222 94FD 501B      0001B         355          NI    DSF+1,255-DS14          NO, SET DS14 = 0                00298001
000226 18DC                         356          LR    R13,R12                 DDCARD INCORRECT OR MISSING     00299001
000228 47FC 0270            00270   357          B     FSAERR+41*4(R12)                                        00300001
                                    358 *                                                                     00301001
                                    359 OPEN30   OPEN  ((R8),(OUTIN))                                        00302001
00022C                              360+         CNOP  0,4                           ALIGN LIST TO FULLWORD 01-OPEN
00022C 4510 714E            00234   361+OPEN30   BAL   1,*+8                         LOAD REG1 W/LIST ADDR. 01-OPEN
000230 00000000                     362+         DC    A(0)                          OPT BYTE AND DCB ADDR. 01-OPEN
000234 5081 0000            00000   363+         ST    R8,0(1,0)                     STORE INTO LIST        01-OPEN
000238 9287 1000      00000         364+         MVI   0(1),135                      MOVE IN OPTION BYTE    01-OPEN
00023C 0A13                         365+         SVC   19                            ISSUE OPEN SVC         01-OPEN
                                    366 *                                                                     00303001
00023E 47F0 7134            0021A   367          B     OPEN300                 CONTINUE                        00304001
                                    368 *                                                                     00305001
000242 9111 7C52      00D38         369 OPEN355  TM    EXERFLAG,X'11'          ERROR IN DCBEXIT ?              00306001
000246 4780 71A6            0028C   370          BZ    OPEN301                                                 00307001
                                    371 *                                                                     00308001
                                    372 *        CLOSE DATASET AND FREEMAIN FOR DCB AND DECB ONLY             00309001
                                    373 *                                                                     00310001
                                    374          CLOSE ((R8),REREAD)                                         00311001
00024A 0700                         375+         CNOP  0,4                           ALIGN LIST TO FULLWORD 01-CLOSE
00024C 4510 716E            00254   376+         BAL   1,*+8                         LOAD REG1 W/LIST ADDR  01-CLOSE
000250 00000000                     377+         DC    A(0)                          OPTION AND DCB ADDRESS 01-CLOSE
000254 5081 0000            00000   378+         ST    R8,0(1,0)                     STORE DCB ADDRESS      01-CLOSE
000258 9290 1000      00000         379+         MVI   0(1),144                      MOVE IN OPTION BYTE    01-CLOSE
00025C 0A14                         380+         SVC   20                            ISSUE CLOSE SVC        01-CLOSE
                                    381 *                                                                     00312001
                                    382          FREEMAIN R,LV=DCBAREAL-JFCB_LEN,A=ADCB                      00313001
                                    383+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                       01-FREEM
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  Active USINGs: IHADCB,R8  DSTABLE,R5  IHIIORTN+X'E6',R7  IHIIORTN,R4

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                  X390 3.1.04  2012/08/17 13.21

00025E 0700                        384+      CNOP  0,4                                                      01-FREEM
000260 47F0 7182             00268 385+      B     *+8                              BRANCH AROUND LENGTH   01-FREEM
000264 00000070                    386+      DC    A(DCBAREAL-JFCB_LEN)             LENGTH                 01-FREEM
000268 5800 717E             00264 387+      L     0,*-4                            LOAD SP AND LV         01-FREEM
00026C 5810 5000             00000 388+      L     1,ADCB                           LOAD AREA ADDRESS      01-FREEM
000270 4110 1000             00000 389+      LA    1,0(0,1)                         CLEAR HI ORDER BYTE    01-FREEM
000274 0A0A                        390+      SVC   10                               ISSUE FREEMAIN SVC     01-FREEM
                                   391 *                                                                00314001
000276 18DC                        392       LR    R13,R12                                                00315001
000278 9101 7C52       00D38       393       TM    EXERFLAG,X'01'         ERROR 7 IN DCBEXIT ?            00316001
00027C 9200 7C52       00D38       394       MVI   EXERFLAG,X'00'         CLEAR FLAG                      00317001
000280 4780 71A2             00288 395       BZ    OPEN350                                                00318001
000284 47FC 01E8             001E8 396       B     FSAERR+7*4(R12)        ERROR 7                         00319001
                                   397 *                                                                00320001
000288 47FC 0260             00260 398 OPEN350  B  FSAERR+37*4(R12)       ERROR 37                        00321001
                                   399 *                                                                00322001
00028C 9680 501A       0001A       400 OPEN301 OI  DSF,DS0                                                00323001
000290 4960 7C72             00D58 401       CH    R6,=H'1'               DATASET NUMBER = 0 OR 1         00324001
000294 47D0 71B6             0029C 402       BNH   OPEN301A                                               00325001
000298 9602 5023       00023       403       OI    BL+3,DS14                                              00326001
00029C 4800 5020             00020 404 OPEN301A LH R0,BL                                                  00327001
0002A0 1A00                        405       AR    R0,R0                  DOUBLE BUFFER LENGTH            00328001
                                   406 *                                                                00329001
                                   407       GETMAIN R,LV=(0)             GET AREA FOR TWO BUFFERS        00330001
                                   408+*     OS/VS2 RELEASE 4 VERSION -- 10/21/75                         01-GETMA
0002A2 4510 71C0             002A6 409+      BAL   1,*+4                            INDICATE GETMAIN       01-GETMA
0002A6 0A0A                        410+      SVC   10                               ISSUE GETMAIN SVC      01-GETMA
                                   411 *                                                                00331001
0002A8 5010 5010             00010 412       ST    R1,BB                  BUFFER BEGIN                    00332001
0002AC 1821                        413       LR    R2,R1                                                  00333001
0002AE 4A10 5020             00020 414       AH    R1,BL                                                  00334001
0002B2 5010 500C             0000C 415       ST    R1,NBB                 ALTERNATE BUFFER BEGIN          00335001
0002B6 9102 501A       0001A       416       TM    DSF,DS6                                                00336001
0002BA 4710 7262             00348 417       BO    OPEN4                                                  00337001
0002BE 9608 501B       0001B       418 OPEN31  OI  DSF+1,DSEOD            SET MARK FOR END OF DATA        00338001
0002C2 4140 8058             00058 419       LA    R4,DECB                                                00339001
0002C6 5830 4008             00008 420       L     R3,8(,R4)                                              00340001
0002CA 1938                        421       CR    R3,R8                                                  00341001
0002CC 4770 71F8             002DE 422       BNE   OPEN311                                                00342001
                                   423 *                                                                00343001
                                   424       CHECK DECB                                                   00344001
0002D0 4110 8058             00058 425+      LA    1,DECB                           LOAD PARAMETER REG 1   02-IHBIN
0002D4 58E0 1008             00008 426+      L     14,8(0,1)                PICK UP DCB ADDR               01-CHECK
0002D8 58F0 E034             00034 427+      L     15,52(0,14)              LOAD CHECK ROUTINE ADDR        01-CHECK
0002DC 05EF                        428+      BALR  14,15                    LINK TO CHECK ROUTINE          01-CHECK
                                   429 *                                                                00345001
                                   430 OPEN311 READ DECB,SF,(R8),(R2),MF=E READ FIRST BLOCK              00346001
0002DE 4110 8058             00058 431+OPEN311 LA  1,DECB                           LOAD DECB ADDRESS      02-IHBRD
0002E2 9280 1005       00005       432+      MVI   5(1),X'80'               SET TYPE FIELD                 02-IHBRD
0002E6 5081 0008             00008 433+      ST    R8,8(1,0)                        STORE DCB ADDRESS      02-IHBRD
0002EA 5021 000C             0000C 434+      ST    R2,12(1,0)                       STORE AREA ADDRESS     02-IHBRD
0002EE 58F1 0008             00008 435+      L     15,8(1,0)            LOAD DCB ADDRESS                   02-IHBRD
0002F2 58F0 F030             00030 436+      L     15,48(0,15)                      LOAD RDWR ROUTINE ADDR 02-IHBRD
0002F6 05EF                        437+      BALR  14,15                            LINK TO RDWR ROUTINE   02-IHBRD
                                   438 *                                                                00347001
                                   439       CHECK DECB                                                   00348001
0002F8 4110 8058             00058 440+      LA    1,DECB                           LOAD PARAMETER REG 1   02-IHBIN
0002FC 58E0 1008             00008 441+      L     14,8(0,1)                PICK UP DCB ADDR               01-CHECK
000300 58F0 E034             00034 442+      L     15,52(0,14)              LOAD CHECK ROUTINE ADDR        01-CHECK
000304 05EF                        443+      BALR  14,15                    LINK TO CHECK ROUTINE          01-CHECK
                                   444 *                                                                00349001
000306 94F7 501B       0001B       445       NI    DSF+1,255-DSEOD        RESET                           00350001
00030A 4810 803E             0003E 446       LH    1,DCBBLKSI                                             00351001
00030E 5840 8044             00044 447       L     R4,DCBIOBA                                             00352001
000312 4B14 0016             00016 448       SH    1,22(R4)                                               00353001
000316 4010 5020             00020 449       STH   1,BL                                                   00354001
                                   450 *                                                                00355001
                                   451       NOTE  (R8)                                                   00356001
00031A 1818                        452+      LR    1,R8                             LOAD PARAMETER REG 1   02-IHBIN
00031C 58F0 1054             00054 453+      L     15,84(0,1)                       LOAD NOTE  RTN ADDRESS 01-NOTE
000320 05EF                        454+      BALR  14,15                            LINK TO NOTE  ROUTINE  01-NOTE
                                   455 *                                                                00357001
000322 5010 501C             0001C 456       ST    R1,NOTEADR                                             00358001
000326 5830 500C             0000C 457 OPEN41  L   R3,NBB                                                 00359001
                                   458 *                                                                00360001
                                   459       READ  DECB,SF,(R8),(R3),MF=E READ SECOND BLOCK               00361001
00032A 4110 8058             00058 460+      LA    1,DECB                           LOAD DECB ADDRESS      02-IHBRD
00032E 9280 1005       00005       461+      MVI   5(1),X'80'               SET TYPE FIELD                 02-IHBRD
000332 5081 0008             00008 462+      ST    R8,8(1,0)                        STORE DCB ADDRESS      02-IHBRD
000336 5031 000C             0000C 463+      ST    R3,12(1,0)                       STORE AREA ADDRESS     02-IHBRD
00033A 58F1 0008             00008 464+      L     15,8(1,0)            LOAD DCB ADDRESS                   02-IHBRD
00033E 58F0 F030             00030 465+      L     15,48(0,15)                      LOAD RDWR ROUTINE ADDR 02-IHBRD
000342 05EF                        466+      BALR  14,15                            LINK TO RDWR ROUTINE   02-IHBRD
                                   467 *                                                                00362001
000344 47F0 7274             0035A 468       B     OPEN5                                                  00363001
                                   469 *                                                                00364001
000348 9140 501B       0001B       470 OPEN4   TM  DSF+1,DS9                                              00365001
00034C 4780 7274             0035A 471       BZ    OPEN5                                                  00366001
000350 D200 2000 7C82 00000 00D68  472       MVC   0(1,R2),=C'1'          INSERT FIRST CONTROL CHAR       00367001
000356 4120 2001             00001 473       LA    R2,1(,R2)              PROVIDE SPACE FOR CONTROL CHAR  00368001
00035A 5020 5004             00004 474 OPEN5   ST  R2,R                                                   00369001
00035E 4A20 5016             00016 475       AH    R2,P                                                   00370001
000362 5020 5008             00008 476       ST    R2,RE                                                  00371001
000366 58D0 7C0E             00CF4 477 OPEN51  L   R13,SAVAR+4                                            00372001
                                   478 *                                                                00373001
                                   479       RETURN (14,12)                                               00374001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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00036A 98EC D00C            0000C   480+         LM    14,12,12(13)                RESTORE THE REGISTERS  01-RETUR
00036E 07FE                         481+         BR    14                          RETURN                 01-RETUR
                                    482 *                                                                   00375001
                                    483 *---------------------------------------------------------------- 00376001
                                    484 *        DCB OPEN EXIT ROUTINE                                      00377001
                                    485 *---------------------------------------------------------------- 00378001
                                    486 *                                                                   00379001
000370 9110 501B      0001B         487 IHIIORDX TM    DSF+1,DS11                                           00380001
000374 4780 7332            00418   488          BZ    EXIT3                                                00381001
                                    489 *                                                                   00382001
                                    490 *        EXIT ROUTINE FOR PRINTING ERROR MESSAGE                    00383001
                                    491 *                                                                   00384001
000378 D200 5019 7C83 00019 00D69   492          MVC   Q(1),=X'32'           RECORD IS SECTIONED Q=50       00385001
00037E D201 5016 7C7C 00016 00D62   493          MVC   P(2),=X'005A'         RECORD LENGTH P=90             00386001
                                    494 *                                    INSERT RECORD FORMAT=FBA       00387001
000384 9294 8024      00024         495          MVI   DCBRECFM,DCBRECF+DCBRECBR+DCBRECCA                    00388001
000388 9640 501B      0001B         496          OI    DSF+1,DS9             INSERT FLAG REC CONT CONTR CHAR  00389001
00038C 4840 5016            00016   497          LH    R4,P                                                 00390001
000390 4140 4001            00001   498          LA    R4,1(,R4)             P+1 TO LRECL                   00391001
000394 4040 8052            00052   499          STH   R4,DCBLRECL                                          00392001
                                    500 *                                                                   00393001
                                    501 *        EXAMINE DCB BLKSIZE                                        00394001
                                    502 *                                                                   00395001
000398 4830 803E            0003E   503          LH    R3,DCBBLKSI           LOAD DCBBLKSI INTO R3          00396001
00039C 1B22                         504          SR    R2,R2                                                00397001
00039E 1D24                         505          DR    R2,R4                                                00398001
0003A0 1233                         506          LTR   R3,R3                                                00399001
0003A2 4780 72C4            003AA   507          BZ    EXITA                 BLKSI < LRECL OR BLKSI = 0     00400001
0003A6 4630 72D6            003BC   508          BCT   R3,EXITB                                             00401001
0003AA 4040 803E            0003E   509 EXITA    STH   R4,DCBBLKSI                                          00402001
0003AE 9640 501A      0001A         510          OI    DSF,DS1                                              00403001
0003B2 D201 5020 803E 00020 0003E   511 EXITC    MVC   BL(2),DCBBLKSI                                       00404001
0003B8 47F0 73CC            004B2   512          B     RETEX                                                00405001
                                    513 *                                                                   00406001
0003BC 4133 0001            00001   514 EXITB    LA    R3,1(R3)                                             00407001
0003C0 4C30 8052            00052   515          MH    R3,DCBLRECL                                          00408001
0003C4 4030 803E            0003E   516          STH   R3,DCBBLKSI                                          00409001
0003C8 94BF 501A      0001A         517          NI    DSF,255-DS1                                          00410001
0003CC 47F0 72CC            003B2   518          B     EXITC                                                00411001
                                    519 *                                                                   00412001
                                    520 *        ALGOL USER'S EXIT ROUTINE                                  00413001
                                    521 *                                                                   00414001
0003D0 91FF 8024      00024         522 EXIT0    TM    DCBRECFM,X'FF'          RECFM PROVIDED ?           00415001
0003D4 4780 730A            003F0   523          BZ    EXIT1                   RECFM = 0                  00416001
0003D8 9184 8024      00024         524          TM    DCBRECFM,DCBRECF+DCBRECCA  RECFM = FBA OR FBA ?    00417001
0003DC 4710 732A            00410   525          BO    EXIT4                                              00418001
0003E0 91FF 5019      00019         526          TM    Q,X'FF'                 RECORDS PER SECTION PROVIDED ? 00419001
0003E4 4780 73CC            004B2   527          BZ    RETEX                   NO, BRANCH                 00420001
0003E8 9601 7C52      00D38         528          OI    EXERFLAG,X'01'          DATASET SPLIT INTO SECTIONS    00421001
0003EC 47F0 73CC            004B2   529          B     RETEX                   AND NO CTL CHARACTER ERROR NO 7 00422001
                                    530 *                                                                   00423001
0003F0 9680 8024      00024         531 EXIT1    OI    DCBRECFM,DCBRECF        SET RECFM = F              00424001
0003F4 9140 501A      0001A         532          TM    DSF,DS1                                              00425001
0003F8 4710 731A            00400   533          BO    EXIT12                                               00426001
0003FC 9610 8024      00024         534          OI    DCBRECFM,DCBRECBR       SET RECFM = BLOCKED        00427001
000400 9140 501B      0001B         535 EXIT12   TM    DSF+1,DS9                                            00428001
000404 4780 73CC            004B2   536          BZ    RETEX                                                00429001
000408 9604 8024      00024         537          OI    DCBRECFM,DCBRECCA       SET RECFM = ASA CNTL       00430001
00040C 47F0 73CC            004B2   538          B     RETEX                                                00431001
                                    539 *                                                                   00432001
000410 9640 501B      0001B         540 EXIT4    OI    DSF+1,DS9                                            00433001
000414 47F0 73CC            004B2   541          B     RETEX                                                00434001
                                    542 *                                                                   00435001
                                    543 *        EXAMINE LRECL                                              00436001
                                    544 *                                                                   00437001
000418 9640 501A      0001A         545 EXIT3    OI    DSF,DS1                                              00438001
00041C 91FF 5019      00019         546          TM    Q,X'FF'                                              00439001
000420 4780 7342            00428   547          BZ    EXIT3A                                               00440001
000424 9640 501B      0001B         548          OI    DSF+1,DS9                                            00441001
000428 4840 8052            00052   549 EXIT3A   LH    R4,DCBLRECL                                          00442001
00042C 1244                         550          LTR   R4,R4                                                00443001
00042E 4780 736A            00450   551          BZ    EXIT2                                                00444001
000432 9140 501B      0001B         552          TM    DSF+1,DS9                                            00445001
000436 4710 735C            00442   553          BO    EXIT5                   DS9=1 RECORDS CONTAIN CNTL CHAR 00446001
00043A 4040 5016            00016   554          STH   R4,P                    LRECL  TO  P                 00447001
00043E 47F0 738A            00470   555          B     EXIT6                                                00448001
                                    556 *                                                                   00449001
000442 0640                         557 EXIT5    BCTR  R4,0                                                 00450001
000444 4040 5016            00016   558          STH   R4,P                    LRECL-1 TO P                 00451001
000448 4140 4001            00001   559          LA    R4,1(,R4)                                            00452001
00044C 47F0 738A            00470   560          B     EXIT6                                                00453001
                                    561 *                                                                   00454001
000450 9140 501B      0001B         562 EXIT2    TM    DSF+1,DS9                                            00455001
000454 4710 737E            00464   563          BO    EXIT7                   DS9 = 1                      00456001
000458 4840 5016            00016   564          LH    R4,P                                                 00457001
00045C 4040 8052            00052   565          STH   R4,DCBLRECL             P TO LRECL                   00458001
000460 47F0 738A            00470   566          B     EXIT6                                                00459001
                                    567 *                                                                   00460001
000464 4840 5016            00016   568 EXIT7    LH    R4,P                                                 00461001
000468 4140 4001            00001   569          LA    R4,1(,R4)               P+1 TO LRECL                 00462001
00046C 4040 8052            00052   570          STH   R4,DCBLRECL                                          00463001
                                    571 *                                                                   00464001
                                    572 *        EXAMINE BLKSIZE                                            00465001
                                    573 *                                                                   00466001
000470 4820 803E            0003E   574 EXIT6    LH    R2,DCBBLKSI                                          00467001
000474 1222                         575          LTR   R2,R2                   BLKSIZE = 0 ?                00468001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000476 4780 73C0            004A6   576          BZ    EXIT8                 YES, BRANCH                          00469001
00047A 4940 803E            0003E   577          CH    R4,DCBBLKSI           DCBBLKSI = DCBLRECL ?                00470001
00047E 4780 73B6            0049C   578          BE    EXIT61A               YES, BRANCH                          00471001
000482 4830 803E            0003E   579          LH    R3,DCBBLKSI                                                00472001
000486 1B22                         580          SR    R2,R2                                                      00473001
000488 1D24                         581          DR    R2,R4                                                      00474001
00048A 1222                         582          LTR   R2,R2                                                      00475001
00048C 4780 73B2            00498   583          BZ    EXIT61                                                     00476001
000490 9610 7C52      00D38         584          OI    EXERFLAG,X'10'        BLOCKSIZE NOT A MULTIPLE OF          00477001
000494 47F0 73CC            004B2   585          B     RETEX                 LOGICAL RECORD LENGTH ERR NO.37      00478001
                                    586 *                                                                        00479001
000498 94BF 501A      0001A         587 EXIT61   NI    DSF,255-DS1           0 TO DS1 UNBLOCKED FORMAT NESC       00480001
00049C D201 5020 803E 00020 0003E   588 EXIT61A  MVC   BL(2),DCBBLKSI          BLKSI TO BL                          00481001
0004A2 47F0 72EA            003D0   589          B     EXIT0                                                      00482001
                                    590 *                                                                        00483001
0004A6 4040 803E            0003E   591 EXIT8    STH   R4,DCBBLKSI                                              00484001
0004AA 4040 5020            00020   592          STH   R4,BL                                                    00485001
0004AE 47F0 72EA            003D0   593          B     EXIT0                                                      00486001
                                    594 *                                                                        00487001
                                    595 RETEX    RETURN                                                         00488001
0004B2                              596+RETEX    DS    0H                                                       01-RETUR
0004B2 07FE                         597+         BR    14                              RETURN                   01-RETUR
                                    598 *                                                                        00489001
                                    599 *------------------------------------------------------------------------ 00490001
                                    600 *        NEXTREC - CHANGE TO NEXT RECORD                                 00491001
                                    601 *------------------------------------------------------------------------ 00492001
                                    602 *                                                                        00493001
                                    603 *        INPUT -                                                         00494001
                                    604 *        IN CASE OF AN IN-MODULE CALLING NEXTREC, LAST I/O               00495001
                                    605 *        OPERATION IS CHECKED FOR COMPLETION AND ONE BLOCK OR            00496001
                                    606 *        RECORD IS READ TO THE OTHER I/O BUFFER                          00497001
                                    607 *                                                                        00498001
                                    608 *        OUTPUT -                                                        00499001
                                    609 *        IN CASE OF AN OUT-MODULE CALLING NEXTREC, LAST I/O              00500001
                                    610 *        OPERATION IS CHECKED FOR COMPLETION AND ONE BLOCK OR            00501001
                                    611 *        RECORD IS WRITTEN TO THE DATASET                                00502001
                                    612 *                                                                        00503001
                                    613 *                                                                        00504001
                                    614 IHIIORNX SAVE  (14,12),,'IHIIORNX LEVEL 2.1 &SYSDATE &SYSTIME'           00505001
0004B4 47F0 F026            00026   615+IHIIORNX B     38(0,15)                        BRANCH AROUND ID         01-SAVE
0004B8 21                           616+         DC    AL1(33)                         LENGTH OF IDENTIFIER     01-SAVE
0004B9 C9C8C9C9D6D9D5E7             617+         DC    CL32'IHIIORNX LEVEL 2.1 08/17/12 13.2' IDENTIFIER        01-SAVE
0004D9 F1                           618+         DC    CL1'1'                          IDENTIFIER               01-SAVE
0004DA 90EC D00C            0000C   619+         STM   14,12,12(13)                    SAVE REGISTERS           01-SAVE
                                    620 *                                                                        00506001
0004DE 187F                         621          LR    R7,R15                                                     00507001
               R:7  004B4           622          USING IHIIORNX,R7                                                00508001
** TXA533W USING range overlaps prior USING at statement 161.
** TXA301I Record 508 in SYSD.ALGOLFRT.ASM(IHIIOR)
0004E0 50D0 7840            00CF4   623          ST    R13,SAVAR+4                                                00509001
0004E4 41D0 783C            00CF0   624          LA    R13,SAVAR                                                  00510001
0004E8 5880 5000            00000   625          L     R8,ADCB                                                    00511001
                                    626 *                                                                        00512001
                                    627 *        FLOW CHAR PROGRAM BEGIN                                         00513001
                                    628 *                                                                        00514001
0004EC 9122 501A      0001A         629          TM    DSF,DS2+DS6                                                00515001
0004F0 4780 7188            0063C   630          BZ    NXIN1                                                      00516001
0004F4 4710 706A            0051E   631          BO    NXUT1                                                      00517001
                                    632 *                                                                        00518001
                                    633 *        DS6=0 DS2=1 CURRENT BLOCK WAS READ AND SHOULD BE WRITTEN        00519001
                                    634 *        BACK                                                            00520001
                                    635 *                                                                        00521001
                                    636          CHECK DECB                                                     00522001
0004F8 4110 8058            00058   637+         LA    1,DECB                          LOAD PARAMETER REG 1     02-IHBIN
0004FC 58E0 1008            00008   638+         L     14,8(0,1)               PICK UP DCB ADDR                 01-CHECK
000500 58F0 E034            00034   639+         L     15,52(0,14)             LOAD CHECK ROUTINE ADDR          01-CHECK
000504 05EF                         640+         BALR  14,15                   LINK TO CHECK ROUTINE            01-CHECK
                                    641 *                                                                        00523001
000506 D201 5020 803E 00020 0003E   642          MVC   BL(2),DCBBLKSI                                           00524001
00050C 1818                         643          LR    R1,R8                                                      00525001
                                    644 *                                                                        00526001
                                    645          POINT (1),NOTEADR                                              00527001
00050E 4100 501C            0001C   646+         LA    0,NOTEADR                       LOAD PARAMETER REG 0     02-IHBIN
000512 58F0 1054            00054   647+         L     15,84(0,1)              LOAD POINT RTN ADDR              01-POINT
000516 45EF 0004            00004   648+         BAL   14,4(15,0)              LINK TO POINT ROUTINE            01-POINT
                                    649 *                                                                        00528001
00051A 9602 501A      0001A         650          OI    DSF,DS6                                                    00529001
                                    651 *                                                                        00530001
                                    652 *        DS6=1 DS2=1 WRITE BLOCK IF LAST RECORD                          00531001
                                    653 *                                                                        00532001
00051E 9140 501A      0001A         654 NXUT1    TM    DSF,DS1                                                    00533001
000522 4780 7154            00608   655          BZ    NXUT2                                                      00534001
                                    656 *                                                                        00535001
                                    657 *        CHANGE BUFFERS                                                  00536001
                                    658 *                                                                        00537001
000526 5820 5010            00010   659 NXUT3    L     R2,BB                                                      00538001
00052A 5840 500C            0000C   660          L     R4,NBB                                                     00539001
00052E 5040 5010            00010   661          ST    R4,BB                                                      00540001
000532 5020 500C            0000C   662          ST    R2,NBB                                                     00541001
000536 5040 5004            00004   663          ST    R4,R                                                       00542001
00053A 4A40 5016            00016   664          AH    R4,P                                                       00543001
00053E 5040 5008            00008   665          ST    R4,RE                                                      00544001
000542 94EF 501A      0001A         666          NI    DSF,255-DS3                                                00545001
000546 5840 8060            00060   667 NXUT4    L     R4,DECB+8                                                  00546001
00054A 1948                         668          CR    R4,R8                                                      00547001
00054C 4770 70AA            0055E   669          BNE   NXUT41                                                     00548001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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                                    670 *                                                                  00549001
                                    671          CHECK DECB                                                00550001
000550 4110 8058            00058   672+         LA    1,DECB                        LOAD PARAMETER REG 1  02-IHBIN
000554 58E0 1008            00008   673+         L     14,8(0,1)               PICK UP DCB ADDR            01-CHECK
000558 58F0 E034            00034   674+         L     15,52(0,14)             LOAD CHECK ROUTINE ADDR     01-CHECK
00055C 05EF                         675+         BALR  14,15                   LINK TO CHECK ROUTINE       01-CHECK
                                    676 *                                                                  00551001
                                    677 NXUT41   WRITE DECB,SF,(R8),(R2),MF=E                           00552001
00055E 4110 8058            00058   678+NXUT41   LA    1,DECB                        LOAD DECB ADDRESS     02-IHBRD
000562 9220 1005      00005         679+         MVI   5(1),X'20'              SET TYPE FIELD              02-IHBRD
000566 5081 0008            00008   680+         ST    R8,8(1,0)                     STORE DCB ADDRESS     02-IHBRD
00056A 5021 000C            0000C   681+         ST    R2,12(1,0)                    STORE AREA ADDRESS    02-IHBRD
00056E 58F1 0008            00008   682+         L     15,8(1,0)           LOAD DCB ADDRESS                02-IHBRD
000572 58F0 F030            00030   683+         L     15,48(0,15)                   LOAD RDWR ROUTINE ADDR 02-IHBRD
000576 05EF                         684+         BALR  14,15                   LINK TO RDWR ROUTINE        02-IHBRD
                                    685 *                                                                  00553001
                                    686 *        CLEAR NOTTAB IF BACKWARD REPOSITIONING HAS OCCURED        00554001
                                    687 *                                                                  00555001
000578 9104 501A      0001A         688 NXUT5    TM    DSF,DS5                                             00556001
00057C 4780 70D6            0058A   689          BZ    NXUT6                                               00557001
000580 58F0 7888            00D3C   690          L     R15,VIORCN              R15 -> IHIIORCN             00558001
000584 05EF                         691          BALR  R14,R15                 CALL IHIIORCN               00559001
000586 94FB 501A      0001A         692          NI    DSF,255-DS5                                         00560001
                                    693 *                                                                  00561001
                                    694 *        INSERT NOTTAB ENTRY IF REQUESTED                          00562001
                                    695 *                                                                  00563001
00058A 9108 501A      0001A         696 NXUT6    TM    DSF,DS4                                             00564001
00058E 4780 7102            005B6   697          BZ    NXUT7                                               00565001
                                    698 *                                                                  00566001
                                    699          CHECK DECB                                                00567001
000592 4110 8058            00058   700+         LA    1,DECB                        LOAD PARAMETER REG 1  02-IHBIN
000596 58E0 1008            00008   701+         L     14,8(0,1)               PICK UP DCB ADDR            01-CHECK
00059A 58F0 E034            00034   702+         L     15,52(0,14)             LOAD CHECK ROUTINE ADDR     01-CHECK
00059E 05EF                         703+         BALR  14,15                   LINK TO CHECK ROUTINE       01-CHECK
                                    704 *                                                                  00568001
                                    705          NOTE  (R8)                                                00569001
0005A0 1818                         706+         LR    1,R8                          LOAD PARAMETER REG 1  02-IHBIN
0005A2 58F0 1054            00054   707+         L     15,84(0,1)                    LOAD NOTE  RTN ADDRESS 01-NOTE
0005A6 05EF                         708+         BALR  14,15                   LINK TO NOTE  ROUTINE       01-NOTE
                                    709 *                                                                  00570001
0005A8 5010 501C            0001C   710          ST    R1,NOTEADR                                          00571001
0005AC 58F0 788C            00D40   711          L     R15,VIOREN              R15 -> IHIIOREN             00572001
0005B0 05EF                         712          BALR  R14,R15                 CALL IHIIOREN               00573001
0005B2 94F7 501A      0001A         713          NI    DSF,255-DS4                                         00574001
                                    714 *                                                                  00575001
                                    715 *        INSERT CONTROL CHARACTER IF SECTIONED                     00576001
                                    716 *                                                                  00577001
0005B6 9140 501B      0001B         717 NXUT7    TM    DSF+1,DS9                                           00578001
0005BA 4780 713A            005EE   718          BZ    NXRET                                               00579001
0005BE 5840 5004            00004   719          L     R4,R                                                00580001
0005C2 D500 5015 5019 00015 00019   720          CLC   S+1(1),Q                                            00581001
0005C8 4740 7126            005DA   721          BL    NXUT8                                               00582001
0005CC 1B22                         722          SR    R2,R2                                               00583001
0005CE 4020 5014            00014   723          STH   R2,S                                                00584001
0005D2 92F1 4000      00000         724          MVI   0(R4),C'1'                                          00585001
0005D6 47F0 712A            005DE   725          B     NXUT9                                               00586001
                                    726 *                                                                  00587001
0005DA 9240 4000      00000         727 NXUT8    MVI   0(R4),C' '                                          00588001
0005DE 4144 0001            00001   728 NXUT9    LA    R4,1(R4)                                            00589001
0005E2 5040 5004            00004   729          ST    R4,R                                                00590001
0005E6 4A40 5016            00016   730          AH    R4,P                                                00591001
0005EA 5040 5008            00008   731          ST    R4,RE                                               00592001
                                    732 *                                                                  00593001
                                    733 *        INCREASE RECORD POINTER AND RETURN                        00594001
                                    734 *                                                                  00595001
0005EE 5820 5014            00014   735 NXRET    L     R2,S                                                00596001
0005F2 8820 0010            00010   736          SRL   R2,16                                               00597001
0005F6 4122 0001            00001   737          LA    R2,1(R2)                                            00598001
0005FA 4020 5014            00014   738          STH   R2,S                                                00599001
0005FE 58D0 7840            00CF4   739          L     R13,SAVAR+4                                         00600001
                                    740 *                                                                  00601001
                                    741          RETURN (14,12)                                            00602001
000602 98EC D00C            0000C   742+         LM    14,12,12(13)                  RESTORE THE REGISTERS  01-RETUR
000606 07FE                         743+         BR    14                            RETURN                 01-RETUR
                                    744 *                                                                  00603001
                                    745 *        BLOCKED FORMAT                                            00604001
                                    746 *        CHECK IF LAST RECORD IND IF NOTTAB ENTRY REQUIRED         00605001
                                    747 *                                                                  00606001
000608 5820 5010            00010   748 NXUT2    L     R2,BB                                               00607001
00060C 4A20 5020            00020   749          AH    R2,BL                                               00608001
000610 5920 5008            00008   750          C     R2,RE                                               00609001
000614 4780 7072            00526   751          BE    NXUT3                                               00610001
000618 5840 5008            00008   752          L     R4,RE                                               00611001
00061C 5040 5004            00004   753          ST    R4,R                                                00612001
000620 4A40 5016            00016   754          AH    R4,P                                                00613001
000624 5040 5008            00008   755          ST    R4,RE                                               00614001
000628 9108 501A      0001A         756          TM    DSF,DS4                                             00615001
00062C 4780 7102            005B6   757          BZ    NXUT7                                               00616001
000630 94FD 501A      0001A         758          NI    DSF,255-DS6                                         00617001
000634 5820 5010            00010   759          L     R2,BB                                               00618001
000638 47F0 7092            00546   760          B     NXUT4                                               00619001
                                    761 *                                                                  00620001
                                    762 *        DS6=0 DS2=0 CHECK IF NOTTAB ENTRY REQUIRED                00621001
                                    763 *        STORE ADDR OF LAST BLOCK IN NOTEADR AND READ NEXT         00622001
                                    764 *        BLOCK                                                     00623001
                                    765 *                                                                  00624001
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Active USINGs: IHIIORTN+X'4B4',R7 IHADCB,R8 DSTABLE,R5 IHIIORTN,R4

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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00063C 9108 501A      0001A         766 NXIN1    TM    DSF,DS4                                                  00625001
000640 4780 719E            00652   767          BZ    NXIN2                                                    00626001
000644 5810 501C            0001C   768          L     R1,NOTEADR                                               00627001
000648 58F0 788C            00D40   769          L     R15,VIOREN                                               00628001
00064C 05EF                         770          BALR  R14,R15                                                  00629001
00064E 94F7 501A      0001A         771          NI    DSF,255-DS4                                              00630001
000652 9140 501A      0001A         772 NXIN2    TM    DSF,DS1                                                  00631001
000656 4780 7224            006D8   773          BZ    NXIN5                                                    00632001
                                    774 *                                                                        00633001
                                    775 NXIN3    CHECK DECB                                                     00634001
00065A 4110 8058            00058   776+NXIN3    LA    1,DECB                          LOAD PARAMETER REG 1     02-IHBIN
00065E 58E0 1008            00008   777+         L     14,8(0,1)                 PICK UP DCB ADDR               01-CHECK
000662 58F0 E034            00034   778+         L     15,52(0,14)               LOAD CHECK ROUTINE ADDR        01-CHECK
000666 05EF                         779+         BALR  14,15                     LINK TO CHECK ROUTINE          01-CHECK
                                    780 *                                                                        00635001
000668 9101 501A      0001A         781          TM    DSF,DS7                                                  00636001
00066C 4780 71CA            0067E   782          BZ    NXIN7                                                    00637001
000670 9602 501A      0001A         783          OI    DSF,DS6                                                  00638001
000674 D201 5020 803E 00020 0003E   784          MVC   BL(2),DCBBLKSI                                           00639001
00067A 47F0 7204            006B8   785          B     NXIN6                                                    00640001
                                    786 *                                                                        00641001
00067E 4810 803E            0003E   787 NXIN7    LH    1,DCBBLKSI                                               00642001
000682 5840 8044            00044   788          L     R4,DCBIOBA                                               00643001
000686 4B14 0016            00016   789          SH    1,22(R4)                                                 00644001
00068A 4010 5020            00020   790          STH   1,BL                                                     00645001
                                    791 *                                                                        00646001
                                    792          NOTE  (R8)                                                     00647001
00068E 1818                         793+         LR    1,R8                            LOAD PARAMETER REG 1     02-IHBIN
000690 58F0 1054            00054   794+         L     15,84(0,1)                      LOAD NOTE  RTN ADDRESS   01-NOTE
000694 05EF                         795+         BALR  14,15                           LINK TO NOTE  ROUTINE    01-NOTE
                                    796 *                                                                        00648001
000696 5010 501C            0001C   797          ST    R1,NOTEADR                                               00649001
00069A 5820 5010            00010   798          L     R2,BB                                                    00650001
                                    799 *                                                                        00651001
                                    800          READ  DECB,SF,(R8),(R2),MF=E                                   00652001
00069E 4110 8058            00058   801+         LA    1,DECB                          LOAD DECB ADDRESS        02-IHBRD
0006A2 9280 1005      00005         802+         MVI   5(1),X'80'              SET TYPE FIELD                   02-IHBRD
0006A6 5081 0008            00008   803+         ST    R8,8(1,0)                       STORE DCB ADDRESS        02-IHBRD
0006AA 5021 000C            0000C   804+         ST    R2,12(1,0)                      STORE AREA ADDRESS       02-IHBRD
0006AE 58F1 0008            00008   805+         L     15,8(1,0)           LOAD DCB ADDRESS                     02-IHBRD
0006B2 58F0 F030            00030   806+         L     15,48(0,15)                     LOAD RDWR ROUTINE ADDR   02-IHBRD
0006B6 05EF                         807+         BALR  14,15                           LINK TO RDWR ROUTINE     02-IHBRD
                                    808 *                                                                        00653001
                                    809 *        CHANGE BUFFERS                                                  00654001
                                    810 *                                                                        00655001
0006B8 5820 5010            00010   811 NXIN6    L     R2,BB                                                    00656001
0006BC 5840 500C            0000C   812          L     R4,NBB                                                   00657001
0006C0 5040 5010            00010   813          ST    R4,BB                                                    00658001
0006C4 5040 5004            00004   814          ST    R4,R                                                     00659001
0006C8 4A40 5016            00016   815          AH    R4,P                                                     00660001
0006CC 5040 5008            00008   816          ST    R4,RE                                                    00661001
0006D0 5020 500C            0000C   817          ST    R2,NBB                                                   00662001
0006D4 47F0 713A            005EE   818          B     NXRET                                                    00663001
                                    819 *                                                                        00664001
                                    820 *        BLOCKED FORMAT                                                  00665001
                                    821 *                                                                        00666001
0006D8 5820 5010            00010   822 NXIN5    L     R2,BB                                                    00667001
0006DC 4A20 5020            00020   823          AH    R2,BL                                                    00668001
0006E0 5920 5008            00008   824          C     R2,RE                                                    00669001
0006E4 4780 71A6            0065A   825          BE    NXIN3                                                    00670001
0006E8 5840 5008            00008   826          L     R4,RE                                                    00671001
0006EC 5040 5004            00004   827          ST    R4,R                                                     00672001
0006F0 4A40 5016            00016   828          AH    R4,P                                                     00673001
0006F4 5040 5008            00008   829          ST    R4,RE                                                    00674001
0006F8 47F0 713A            005EE   830          B     NXRET                                                    00675001
                                    831 *                                                                        00676001
                                    832 *------------------------------------------------------------------- 00677001
                                    833 *        CLOSE DATASET                                                   00678001
                                    834 *------------------------------------------------------------------- 00679001
                                    835 *                                                                        00680001
                                    836 *        FUNCTION/OPERATION -                                            00681001
                                    837 *        CLOSE A DATASET, RELEASE STORAGE FOR I/O BUFFERS AND DCB        00682001
                                    838 *        CALL FOR ROUTINE CLEAR NOTTAB                                   00683001
                                    839 *                                                                        00684001
                                    840 *        OUTPUT -                                                        00685001
                                    841 *        IN CASE OF OUTPUT WRITE LAST BLOCK TO DATASET                   00686001
                                    842 *                                                                        00687001
                                    843 IHIIORCL SAVE  (14,12),,'IHIIORCL LEVEL 2.1 &SYSDATE &SYSTIME'           00688001
0006FC 47F0 F026            00026   844+IHIIORCL B     38(0,15)                        BRANCH AROUND ID         01-SAVE
000700 21                           845+         DC    AL1(33)                         LENGTH OF IDENTIFIER     01-SAVE
000701 C9C8C9C9D6D9C3D3             846+         DC    CL32'IHIIORCL LEVEL 2.1 08/17/12 13.2' IDENTIFIER      01-SAVE
000721 F1                           847+         DC    CL1'1'                          IDENTIFIER               01-SAVE
000722 90EC D00C            0000C   848+         STM   14,12,12(13)                    SAVE REGISTERS           01-SAVE
                                    849 *                                                                        00689001
000726 187F                         850          LR    R7,R15                                                   00690001
               R:7  006FC           851          USING IHIIORCL,R7                                              00691001
** TXA533W USING range overlaps prior USING at statement 161.
** TXA301I Record 691 in SYSD.ALGOLFRT.ASM(IHIIOR)
000728 50D0 75F8            00CF4   852          ST    R13,SAVAR+4               SAVE REGISTER                  00692001
00072C 41D0 75F4            00CF0   853          LA    R13,SAVAR                                                00693001
000730 5880 5000            00000   854          L     R8,ADCB                                                  00694001
                                    855 *                                                                        00695001
                                    856 *        DATASET 1 IS TO BE CLOSED ONLY IF DS15=1                        00696001
                                    857 *                                                                        00697001
                                    858 *        IF DS15 = 0 FILL CURRENT BLOCK WITH BLANKS AND BRANCH           00698001
                                    859 *        TO ROUTINE IHIIORNX TO WRITE THE BLOCK AND RETURN               00699001
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                                    860 *                                                                  00700001
000734 4960 765C            00D58   861          CH    R6,=H'1'                                            00701001
000738 4770 7084            00780   862          BNE   CLOSE01                                             00702001
00073C 9101 501B      0001B         863          TM    DSF+1,DS15                                          00703001
000740 4710 7084            00780   864          BO    CLOSE01                                             00704001
000744 9622 501A      0001A         865          OI    DSF,DS2+DS6                                         00705001
000748 947F 501A      0001A         866          NI    DSF,255-DS0           SET DS0=0                     00706001
00074C 4820 5020            00020   867          LH    R2,BL                                               00707001
000750 5A20 5010            00010   868          A     R2,BB                                               00708001
000754 5830 5004            00004   869          L     R3,R                                                00709001
000758 5020 5004            00004   870          ST    R2,R                                                00710001
00075C 1B23                         871          SR    R2,R3                                               00711001
00075E 4780 7072            0076E   872          BZ    CLOSE02                                             00712001
000762 9240 3000      00000         873 CLOSE03  MVI   0(R3),C' '                                           00713001
000766 4133 0001            00001   874          LA    R3,1(R3)                                            00714001
00076A 4620 7066            00762   875          BCT   R2,CLOSE03                                          00715001
00076E 9400 5014      00014         876 CLOSE02  NI    S,X'00'                                             00716001
000772 D200 5015 5019 00015 00019   877          MVC   S+1(1),Q                                            00717001
000778 5870 7648            00D44   878          L     R7,VIORNX             R15 -> IHIIORNX               00718001
00077C 47F0 700E            0000E   879          B     14(,R7)               CALL IHIIORNX                 00719001
                                    880 *                                                                  00720001
000780 9101 501A      0001A         881 CLOSE01  TM    DSF,DS7                                             00721001
000784 4710 712C            00828   882          BO    CLOSE1                END OF DATA REACHED           00722001
000788 9104 501B      0001B         883          TM    DSF+1,DSIOERR         I/O ERROR ?                   00723001
00078C 4710 712C            00828   884          BO    CLOSE1                YES, GO CLOSE DCB             00724001
000790 4140 8058            00058   885          LA    R4,DECB               TEST IF READ OR WRITE BEFORE  00725001
000794 5820 4008            00008   886          L     R2,8(,R4)             PICK UP DCB ADDR              00726001
000798 1928                         887          CR    R2,R8                                               00727001
00079A 4770 70B4            007B0   888          BNE   CLOSE2                                              00728001
00079E 9680 501B      0001B         889          OI    DSF+1,DS8             SET DS8=1 FOR END OF DATA     00729001
                                    890 *                                                                  00730001
                                    891 CLOSE0   CHECK DECB                  LAST I/O FINISHED             00731001
0007A2 4110 8058            00058   892+CLOSE0   LA    1,DECB                      LOAD PARAMETER REG 1   02-IHBIN
0007A6 58E0 1008            00008   893+         L     14,8(0,1)            PICK UP DCB ADDR              01-CHECK
0007AA 58F0 E034            00034   894+         L     15,52(0,14)          LOAD CHECK ROUTINE ADDR       01-CHECK
0007AE 05EF                         895+         BALR  14,15                LINK TO CHECK ROUTINE         01-CHECK
                                    896 *                                                                  00732001
0007B0 9120 501A      0001A         897 CLOSE2   TM    DSF,DS2               LAST I/O OUTPUT ?             00733001
0007B4 4780 712C            00828   898          BZ    CLOSE1                                              00734001
0007B8 9102 501A      0001A         899          TM    DSF,DS6               BLOCK BEEN READ ?             00735001
0007BC 4710 70D6            007D2   900          BO    WRITE2                                              00736001
0007C0 1818                         901          LR    R1,R8                 OUTPUT OCCUR WRITE BACK RECORD 00737001
                                    902 *                                                                  00738001
                                    903          POINT (1),NOTEADR           NO BLANKS                     00739001
0007C2 4100 501C            0001C   904+         LA    0,NOTEADR                   LOAD PARAMETER REG 0   02-IHBIN
0007C6 58F0 1054            00054   905+         L     15,84(0,1)           LOAD POINT RTN ADDR           01-POINT
0007CA 45EF 0004            00004   906+         BAL   14,4(15,0)           LINK TO POINT ROUTINE         01-POINT
                                    907 *                                                                  00740001
0007CE 47F0 70DE            007DA   908          B     WRITE1                                              00741001
                                    909 *                                                                  00742001
0007D2 9110 501A      0001A         910 WRITE2   TM    DSF,DS3               OUTPUT IN BLOCK               00743001
0007D6 4780 712C            00828   911          BZ    CLOSE1                NO CLOSE                      00744001
                                    912 *                                                                  00745001
                                    913 *        OUTPUT HAS OCCURED, FILL BUFFER WITH BLANKS AND WRITE     00746001
                                    914 *                                                                  00747001
0007DA 4820 5020            00020   915 WRITE1   LH    R2,BL                                               00748001
0007DE 5830 5004            00004   916          L     R3,R                                                00749001
0007E2 5B20 5004            00004   917          S     R2,R                                                00750001
0007E6 5A20 5010            00010   918          A     R2,BB                                               00751001
0007EA 4780 70FE            007FA   919          BZ    CLOSE21                                             00752001
0007EE 9240 3000      00000         920 CLOSE22  MVI   0(R3),C' '                                           00753001
0007F2 4130 3001            00001   921          LA    R3,1(,R3)                                           00754001
0007F6 4620 70F2            007EE   922          BCT   R2,CLOSE22                                          00755001
                                    923 *                                                                  00756001
                                    924 *        WRITE BUFFER                                              00757001
                                    925 *                                                                  00758001
0007FA 5820 5010            00010   926 CLOSE21  L     R2,BB                                               00759001
                                    927 *                                                                  00760001
                                    928 CLOSE211 WRITE DECB,SF,(R8),(R2),MF=E                              00761001
0007FE 4110 8058            00058   929+CLOSE211 LA    1,DECB                      LOAD DECB ADDRESS      02-IHBRD
000802 9220 1005      00005         930+         MVI   5(1),X'20'           SET TYPE FIELD                02-IHBRD
000806 5081 0008            00008   931+         ST    R8,8(1,0)                   STORE DCB ADDRESS      02-IHBRD
00080A 5021 000C            0000C   932+         ST    R2,12(1,0)                  STORE AREA ADDRESS     02-IHBRD
00080E 58F1 0008            00008   933+         L     15,8(1,0)           LOAD DCB ADDRESS              02-IHBRD
000812 58F0 F030            00030   934+         L     15,48(0,15)                 LOAD RDWR ROUTINE ADDR 02-IHBRD
000816 05EF                         935+         BALR  14,15                       LINK TO RDWR ROUTINE   02-IHBRD
                                    936 *                                                                  00762001
                                    937          CHECK DECB                                                00763001
000818 4110 8058            00058   938+         LA    1,DECB                      LOAD PARAMETER REG 1   02-IHBIN
00081C 58E0 1008            00008   939+         L     14,8(0,1)            PICK UP DCB ADDR              01-CHECK
000820 58F0 E034            00034   940+         L     15,52(0,14)          LOAD CHECK ROUTINE ADDR       01-CHECK
000824 05EF                         941+         BALR  14,15                LINK TO CHECK ROUTINE         01-CHECK
                                    942 *                                                                  00764001
                                    943 *        CLOSE DATASET                                             00765001
                                    944 *                                                                  00766001
                                    945 CLOSE1   CLOSE ((R8),REREAD)                                       00767001
000826 0700                         946+         CNOP  0,4                         ALIGN LIST TO FULLWORD 01-CLOSE
000828 4510 7134            00830   947+CLOSE1   BAL   1,*+8                       LOAD REG1 W/LIST ADDR  01-CLOSE
00082C 00000000                     948+         DC    A(0)                        OPTION AND DCB ADDRESS 01-CLOSE
000830 5081 0000            00000   949+         ST    R8,0(1,0)                   STORE DCB ADDRESS      01-CLOSE
000834 9290 1000      00000         950+         MVI   0(1),144                    MOVE IN OPTION BYTE    01-CLOSE
000838 0A14                         951+         SVC   20                          ISSUE CLOSE SVC        01-CLOSE
                                    952 *                                                                  00768001
00083A 5810 5010            00010   953          L     R1,BB                                               00769001
00083E 5910 500C            0000C   954          C     R1,NBB                                              00770001
000842 4740 714E            0084A   955          BL    *+8                   THE LOWEST ADDR TO R1         00771001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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000846 5810 500C            0000C   956          L     R1,NBB                                                  00772001
00084A 4800 5020            00020   957          LH    R0,BL                   BUFFER LEN TO R0                00773001
00084E 8B00 0001            00001   958          SLA   R0,1                                                    00774001
                                    959 *                                                                      00775001
                                    960 *        FREEMAIN FOR RECORD BUFFERS                                   00776001
                                    961 *                                                                      00777001
                                    962          FREEMAIN  R,LV=(0),A=(1)                                      00778001
                                    963+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                         01-FREEM
000852 4110 1000            00000   964+         LA    1,0(0,1)                  CLEAR HI ORDER BYTE           01-FREEM
000856 0A0A                         965+         SVC   10                        ISSUE FREEMAIN SVC            01-FREEM
                                    966 *                                                                      00779001
                                    967 *        FREEMAIN FOR DCB AND DECB                                     00780001
                                    968 *                                                                      00781001
                                    969          FREEMAIN R,LV=DCBAREAL-JFCB_LEN,A=ADCB                        00782001
                                    970+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                         01-FREEM
000858                              971+         CNOP  0,4                                                     01-FREEM
000858 47F0 7164            00860   972+         B     *+8                       BRANCH AROUND LENGTH          01-FREEM
00085C 00000070                     973+         DC    A(DCBAREAL-JFCB_LEN)      LENGTH                        01-FREEM
000860 5800 7160            0085C   974+         L     0,*-4                     LOAD SP AND LV                01-FREEM
000864 5810 5000            00000   975+         L     1,ADCB                    LOAD AREA ADDRESS             01-FREEM
000868 4110 1000            00000   976+         LA    1,0(0,1)                  CLEAR HI ORDER BYTE           01-FREEM
00086C 0A0A                         977+         SVC   10                        ISSUE FREEMAIN SVC            01-FREEM
                                    978 *                                                                      00783001
00086E 1B22                         979          SR    R2,R2                                                   00784001
000870 4120 2001            00001   980          LA    R2,1(,R2)                                               00785001
000874 4020 5014            00014   981          STH   R2,S                                                    00786001
000878 4120 2001            00001   982          LA    R2,1(,R2)                                               00787001
00087C D201 5016 7668 00016 00D64   983          MVC   P(2),=H'80'             P=80                            00788001
000882 1226                         984          LTR   R2,R6                                                   00789001
000884 4780 719A            00896   985          BZ    CLOSE3                                                  00790001
000888 4620 7194            00890   986          BCT   R2,CLOSE4                                               00791001
00088C 47F0 719A            00896   987          B     CLOSE3                                                  00792001
                                    988 *                                                                      00793001
000890 58F0 7640            00D3C   989 CLOSE4   L     R15,VIORCN                                              00794001
000894 05EF                         990          BALR  R14,R15                 CLEAR NOTTAB FOR DATASET        00795001
000896 D201 501A 5022 0001A 00022   991 CLOSE3   MVC   DSF,BL+2                 RESTORE DATASET FLAGS           00796001
00089C 58D0 75F8            00CF4   992          L     R13,SAVAR+4                                             00797001
                                    993 *                                                                      00798001
                                    994          RETURN (14,12)                                                00799001
0008A0 98EC D00C            0000C   995+         LM    14,12,12(13)              RESTORE THE REGISTERS         01-RETUR
0008A4 07FE                         996+         BR    14                        RETURN                        01-RETUR
                                    997 *                                                                      00800001
                                    998 *--------------------------------------------------------------------- 00801001
                                    999 *        CLOSE ALL DATASETS                                            00802001
                                   1000 *--------------------------------------------------------------------- 00803001
                                   1001 *                                                                      00804001
                                   1002 *        FUNCTION/OPERATION -                                          00805001
                                   1003 *        CALL ROUTINE CLOSE FOR ALL OPEN DATASETS AND ROUTINE          00806001
                                   1004 *        CLOSEGP IN IHIGPR MODULE                                      00807001
                                   1005 *                                                                      00808001
                                   1006 *        THIS ROUTINE IS CALLED FROM IHIFSA AND IHIERR. IN BOTH        00809001
                                   1007 *        CASES R5 CONTAINS THE ADDR OF THE ENTRY IN DSTABLE            00810001
                                   1008 *        FOR DATASET ONE IE DSTABLE+40                                 00811001
                                   1009 *                                                                      00812001
                                   1010 IHIIORCP SAVE  (14,12),,'IHIIORCP LEVEL 2.1 &SYSDATE &SYSTIME'       00813001
0008A6 47F0 F026            00026  1011+IHIIORCP B     38(0,15)                  BRANCH AROUND ID              01-SAVE
0008AA 21                          1012+         DC    AL1(33)                   LENGTH OF IDENTIFIER          01-SAVE
0008AB C9C8C9C9D6D9C3D7            1013+         DC    CL32'IHIIORCP LEVEL 2.1 08/17/12 13.2' IDENTIFIER       01-SAVE
0008CB F1                          1014+         DC    CL1'1'                    IDENTIFIER                    01-SAVE
0008CC 90EC D00C            0000C  1015+         STM   14,12,12(13)              SAVE REGISTERS                01-SAVE
                                   1016 *                                                                      00814001
0008D0 187F                        1017          LR    R7,R15                                                  00815001
                 R:7  008A6        1018          USING IHIIORCP,R7             SAVE REGISTER                   00816001
** TXA533W USING range overlaps prior USING at statement 161.
** TXA301I Record 816 in SYSD.ALGOLFRT.ASM(IHIIOR)
0008D2 50D0 70BA            00960  1019          ST    R13,SAVCLO+4                                            00817001
0008D6 41D0 70B6            0095C  1020          LA    R13,SAVCLO                                              00818001
0008DA 1B66                        1021          SR    R6,R6                                                   00819001
0008DC 4B50 74C0            00D66  1022          SH    R5,=H'40'               DSN TO DSTABLE START            00820001
0008E0 BF2F 5000            00000  1023          ICM   R2,B'1111',0(R5)        TEST APGCF                      00821001
0008E4 4720 7086            0092C  1024          BP    CLOSEPE4                PUT/GET ENTRY IN DSTABLE        00822001
0008E8 4120 2000            00000  1025          LA    R2,0(,R2)                                               00823001
0008EC 4150 5004            00004  1026          LA    R5,4(,R5)               R5 -> FIRST DSTABLE ENTRY       00824001
0008F0 1925                        1027 CLOSEPE2 CR    R2,R5                                                   00825001
0008F2 4780 7098            0093E  1028          BE    CLOSEPE3                ALL DATASETS ARE CLOSED         00826001
0008F6 94FD 5023      00023        1029          NI    BL+3,255-DS6                                            00827001
0008FA 4960 74B2            00D58  1030          CH    R6,=H'1'                                                00828001
0008FE 4780 707A            00920  1031          BE    CLOSEPE5                                                00829001
000902 9180 501A      0001A        1032 CLOSEPE7 TM    DSF,DS0                                                 00830001
000906 4780 706E            00914  1033          BZ    CLOSEPE1                                                00831001
                                   1034 *                                                                      00832001
                                   1035 *        CALL FOR ROUTINE CLOSE                                        00833001
                                   1036 *                                                                      00834001
00090A 5880 5000            00000  1037 CLOSEPE6 L     R8,ADCB                                                 00835001
00090E 58F0 70FE            009A4  1038          L     R15,ACLOSE                                              00836001
000912 05EF                        1039          BALR  R14,R15                                                 00837001
000914 4150 5024            00024  1040 CLOSEPE1 LA    R5,DSTABLEL(,R5)        NEXT ENTRY IN DSTAB             00838001
000918 4160 6001            00001  1041          LA    R6,1(,R6)               INCREASE DATASET NUMBER         00839001
00091C 47F0 704A            008F0  1042          B     CLOSEPE2                                                00840001
                                   1043 *                                                                      00841001
000920 9102 501B      0001B        1044 CLOSEPE5 TM    DSF+1,DS14              DATASET OPENED ?                00842001
000924 4780 705C            00902  1045          BZ    CLOSEPE7                                                00843001
000928 47F0 7064            0090A  1046          B     CLOSEPE6                                                00844001
                                   1047 *                                                                      00845001
00092C 9180 201B      0001B        1048 CLOSEPE4 TM    27(R2),X'80'            PUT/GET DATASET OPEN ?          00846001
000930 4780 7046            008EC  1049          BZ    CLOSEPE2-4              DATASET CLOSED                  00847001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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000934 58F0 7102            009A8  1050          L     R15,IHIIORGP                                          00848001
000938 05EF                        1051          BALR  R14,R15                CLOSE PUT/GET DATASET     00849001
00093A 47F0 7046            008EC  1052          B     CLOSEPE2-4                                          00850001
                                   1053 *                                                                   00851001
                                   1054 *        ALL DATASETS ARE CLOSED                                    00852001
                                   1055 *                                                                   00853001
00093E 581C 00B0            000B0  1056 CLOSEPE3 L     R1,ANOTTAB(R12)                                     00854001
000942 1211                        1057          LTR   R1,R1                                               00855001
000944 4780 70AC            00952  1058          BZ    RETCLOSP                                            00856001
                                   1059 *                                                                   00857001
                                   1060          FREEMAIN R,LV=1024,A=(1)       FREE NOTTAB              00858001
                                   1061+*        OS/VS2 RELEASE 3 VERSION  -- 10/25/74                    01-FREEM
000948 4100 0400            00400  1062+         LA    0,1024(0,0)                LOAD LENGTH              01-FREEM
00094C 4110 1000            00000  1063+         LA    1,0(0,1)                   CLEAR HI ORDER BYTE      01-FREEM
000950 0A0A                        1064+         SVC   10                         ISSUE FREEMAIN SVC       01-FREEM
                                   1065 *                                                                   00859001
000952 58D0 70BA            00960  1066 RETCLOSP L     R13,SAVCLO+4                                        00860001
                                   1067 *                                                                   00861001
                                   1068          RETURN (14,12)                                            00862001
000956 98EC D00C            0000C  1069+         LM    14,12,12(13)               RESTORE THE REGISTERS    01-RETUR
00095A 07FE                        1070+         BR    14                         RETURN                   01-RETUR
                                   1071 *                                                                   00863001
00095C 0000000000000000            1072 SAVCLO   DC    18F'0'                                              00864001
                                   1073 *                                                                   00865001
                                   1074 *        EXTERNAL ADDR                                              00866001
                                   1075 *                                                                   00867001
0009A4 000006FC                    1076 ACLOSE   DC    A(IHIIORCL)                                         00868001
                                   1077 *                                                                   00869001
0009A8 00000000                    1078 IHIIORGP DC    A(0)                                                00870001
                                   1079 *                                                                   00871001
                                   1080 *---------------------------------------------------------------- 00872001
                                   1081 *        CLEAR NOTTAB                                               00873001
                                   1082 *---------------------------------------------------------------- 00874001
                                   1083 *                                                                   00875001
                                   1084 *        FUNCTION/OPERATION -                                       00876001
                                   1085 *        ALL ENTRIES IN NOTTAB FOR RECORDS EQUAL OR GREATER THAN    00877001
                                   1086 *        ACTUAL RECORD COUNTERS ARE CLEARED BY INSERTING INVALID    00878001
                                   1087 *        FLAG                                                       00879001
                                   1088 *                                                                   00880001
                                   1089 IHIIORCN SAVE  (14,12),,'IHIIORCN LEVEL 2.1 &SYSDATE &SYSTIME'     00881001
0009AC 47F0 F026            00026  1090+IHIIORCN B     38(0,15)                   BRANCH AROUND ID         01-SAVE
0009B0 21                          1091+         DC    AL1(33)                    LENGTH OF IDENTIFIER     01-SAVE
0009B1 C9C8C9C9D6D9C3D5            1092+         DC    CL32'IHIIORCN LEVEL 2.1 08/17/12 13.2' IDENTIFIER  01-SAVE
0009D1 F1                          1093+         DC    CL1'1'                     IDENTIFIER               01-SAVE
0009D2 90EC D00C            0000C  1094+         STM   14,12,12(13)               SAVE REGISTERS           01-SAVE
                                   1095 *                                                                   00882001
0009D6 187F                        1096          LR    R7,R15                     DEFINE BASE REGISTER      00883001
                 R:7  009AC        1097          USING IHIIORCN,R7                                          00884001
** TXA533W USING range overlaps prior USING at statement 161.
** TXA301I Record 884 in SYSD.ALGOLFRT.ASM(IHIIOR)
0009D8 589C 00B0            000B0  1098          L     R9,ANOTTAB(R12)                                     00885001
0009DC 1849                        1099          LR    R4,R9                                               00886001
0009DE 4140 4008            00008  1100 CLNOTB1  LA    R4,8(,R4)                  START ENTRY ADDR TO R4   00887001
0009E2 5940 9000            00000  1101          C     R4,0(,R9)                                           00888001
0009E6 4780 705A            00A06  1102          BE    RETCLEAR                   NOTTAB CLEARED           00889001
0009EA 1826                        1103          LR    R2,R6                      DATASET NUMBER TO R2     00890001
0009EC 4920 4000            00000  1104          CH    R2,0(,R4)                                           00891001
0009F0 4770 7032            009DE  1105          BNE   CLNOTB1                    CURRENT DSN NOT EQUAL    00892001
0009F4 D501 5014 4002 00014 00002  1106          CLC   S(2),2(R4)                                          00893001
0009FA 4720 7032            009DE  1107          BH    CLNOTB1                                             00894001
0009FE 9280 4000      00000        1108          MVI   0(R4),X'80'                INSERT INVALID FLAG IN NOTTAB 00895001
000A02 47F0 7032            009DE  1109          B     CLNOTB1                                             00896001
                                   1110 *                                                                   00897001
                                   1111 RETCLEAR RETURN (14,12)                                             00898001
000A06                             1112+RETCLEAR DS    0H                                                  01-RETUR
000A06 98EC D00C            0000C  1113+         LM    14,12,12(13)               RESTORE THE REGISTERS    01-RETUR
000A0A 07FE                        1114+         BR    14                         RETURN                   01-RETUR
                                   1115 *                                                                   00899001
                                   1116 *---------------------------------------------------------------- 00900001
                                   1117 *        CLEAR NOTTAB                                               00901001
                                   1118 *---------------------------------------------------------------- 00902001
                                   1119 *                                                                   00903001
                                   1120 *        FUNCTION/OPERATION -                                       00904001
                                   1121 *        AN ENTRY FOR RECORD JUST HANDLED IS MADE IN NOTTAB         00905001
                                   1122 *                                                                   00906001
                                   1123 *        NOTES - ON ENTRY R1 = NOTEADR FROM DSTABLE                 00907001
                                   1124 *                                                                   00908001
                                   1125 *                                                                   00909001
                                   1126 IHIIOREN SAVE  (14,12),,'IHIIOREN LEVEL 2.1 &SYSDATE &SYSTIME'     00910001
000A0C 47F0 F026            00026  1127+IHIIOREN B     38(0,15)                   BRANCH AROUND ID         01-SAVE
000A10 21                          1128+         DC    AL1(33)                    LENGTH OF IDENTIFIER     01-SAVE
000A11 C9C8C9C9D6D9C5D5            1129+         DC    CL32'IHIIOREN LEVEL 2.1 08/17/12 13.2' IDENTIFIER  01-SAVE
000A31 F1                          1130+         DC    CL1'1'                     IDENTIFIER               01-SAVE
000A32 90EC D00C            0000C  1131+         STM   14,12,12(13)               SAVE REGISTERS           01-SAVE
                                   1132 *                                                                   00911001
000A36 187F                        1133          LR    R7,R15                                              00912001
                 R:7  00A0C        1134          USING IHIIOREN,R7                                          00913001
** TXA533W USING range overlaps prior USING at statement 161.
** TXA301I Record 913 in SYSD.ALGOLFRT.ASM(IHIIOR)
000A38 589C 00B0            000B0  1135          L     R9,ANOTTAB(R12)                                     00914001
000A3C 1849                        1136          LR    R4,R9                                               00915001
000A3E 4140 4008            00008  1137 ENNOTB1  LA    R4,8(,R4)                  START ENTRY ADDR         00916001
000A42 5940 9000            00000  1138          C     R4,0(,R9)                                           00917001
000A46 4770 706C            00A78  1139          BNE   ENNOTB3                                             00918001
000A4A 5820 9000            00000  1140          L     R2,0(,R9)                  NXE TO R2                00919001
000A4E 4120 2008            00008  1141          LA    R2,8(,R2)                  INCREASE NXE BY EIGHT    00920001
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Active USINGs: IHIIORTN+X'A0C',R7 IHADCB,R8 DSTABLE,R5 IHIIORTN,R4

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000A52 5020 9000            00000  1142          ST    R2,0(,R9)                                                00921001
000A56 5920 9004            00004  1143          C     R2,4(,R9)                                                00922001
000A5A 4780 7078            00A84  1144          BE    ENNERR4                 OVERFLOW NOTTAB                  00923001
000A5E 1826                        1145 ENNOTB2  LR    R2,R6                                                    00924001
000A60 8B20 0010            00010  1146          SLA   R2,16                                                    00925001
000A64 5020 4000            00000  1147          ST    R2,0(,R4)               NEW ENTRY DSN AND S TO NOTTAB    00926001
000A68 D201 4002 5014 00002 00014  1148          MVC   2(2,R4),S                                                00927001
000A6E 5010 4004            00004  1149          ST    R1,4(,R4)               NOTEADR                          00928001
                                   1150 *                                                                       00929001
                                   1151          RETURN (14,12)                                                 00930001
000A72 98EC D00C            0000C  1152+         LM    14,12,12(13)                    RESTORE THE REGISTERS    01-RETUR
000A76 07FE                        1153+         BR    14                              RETURN                   01-RETUR
                                   1154 *                                                                       00931001
000A78 9180 4000      00000        1155 ENNOTB3  TM    0(R4),X'80'             NOTTAB ENTRY INVALID ?           00932001
000A7C 4710 7052            00A5E  1156          BO    ENNOTB2                                                  00933001
000A80 47F0 7032            00A3E  1157          B     ENNOTB1                                                  00934001
                                   1158 *                                                                       00935001
000A84 18DC                        1159 ENNERR4  LR    13,R12                  OVERFLOW OF RECORD IDENT AREA    00936001
000A86 47FC 01DC            001DC  1160          B     FSAERR+4*4(R12)                                          00937001
                                   1161 *                                                                       00938001
                                   1162 *---------------------------------------------------------------------- 00939001
                                   1163 *        EVALUATE DATASET NUMBER                                        00940001
                                   1164 *---------------------------------------------------------------------- 00941001
                                   1165 *                                                                       00942001
                                   1166 *        FUNCTION/OPERATION -                                           00943001
                                   1167 *        ADDR OF DSTABLE IN GENERATED OBJECT MODULE IS PICKED UP        00944001
                                   1168 *        FROM FSA                                                       00945001
                                   1169 *        L R4,ADSTAB(R12)                                               00946001
                                   1170 *        ACTUAL DATASET NUMBER LOADED IN BINARY FORM TO R6,             00947001
                                   1171 *        ADDR OF ACTUAL ENTRY IN DSTABLE TO R5, THESE REGISTERS         00948001
                                   1172 *        ARE KEPT THROUGH ALL I/O MODULES IN ORDER TO ADDR              00949001
                                   1173 *        POINTERS AND FLAGS IN DSTAB                                    00950001
                                   1174 *                                                                       00951001
                                   1175 *        ENTRY POINT -                                                  00952001
                                   1176 *        DATA IS PASSED VIA NAME                                        00953001
                                   1177 *        LA   R1,PARMLIST                                               00954001
                                   1178 *        BALR R14,R15                                                   00955001
                                   1179 *                                                                       00956001
                                   1180 *                                                                       00957001
                                   1181 *                                                                       00958001
                                   1182 IHIIOREV SAVE  (14,12),,'IHIIOREV LEVEL 2.1 &SYSDATE &SYSTIME'          00959001
000A8A 47F0 F026            00026  1183+IHIIOREV B     38(0,15)                        BRANCH AROUND ID         01-SAVE
000A8E 21                          1184+         DC    AL1(33)                         LENGTH OF IDENTIFIER     01-SAVE
000A8F C9C8C9C9D6D9C5E5            1185+         DC    CL32'IHIIOREV LEVEL 2.1 08/17/12 13.2' IDENTIFIER        01-SAVE
000AAF F1                          1186+         DC    CL1'1'                          IDENTIFIER               01-SAVE
000AB0 90EC D00C            0000C  1187+         STM   14,12,12(13)                    SAVE REGISTERS           01-SAVE
                                   1188 *                                                                       00960001
000AB4 187F                        1189          LR    R7,R15                                                   00961001
                 R:7  00A8A        1190          USING IHIIOREV,R7                                              00962001
** TXA533W USING range overlaps prior USING at statement 161.
** TXA301I Record 962 in SYSD.ALGOLFRT.ASM(IHIIOR)
000AB6 50D0 726A            00CF4  1191          ST    R13,SAVAR+4                                              00963001
000ABA 41D0 7266            00CF0  1192          LA    R13,SAVAR                                                00964001
                                   1193 *                                                                       00965001
                                   1194 *        PARAMETER LIST ADDR IN R1                                      00966001
                                   1195 *                                                                       00967001
000ABE BF5F 1000            00000  1196          ICM   R5,B'1111',0(R1)                                         00968001
000AC2 4720 705A            00AE4  1197          BP    DSNINT                                                   00969001
000AC6 9120 C0C2      000C2        1198          TM    OPTSW(R12),X'20'        LONG OR SHORT PRECISION ?        00970001
000ACA 4710 704C            00AD6  1199          BO    EVD1                    SHORT                            00971001
000ACE 6800 5000            00000  1200          LD    FPR0,0(,R5)             LONG                             00972001
000AD2 47F0 7050            00ADA  1201          B     EVD1+4                                                   00973001
                                   1202 *                                                                       00974001
000AD6 7800 5000            00000  1203 EVD1     LE    FPR0,0(,R5)             SHORT                            00975001
000ADA 58F0 7092            00B1C  1204          L     R15,VIORCI              R15 -> IHIIORCI                  00976001
000ADE 05EF                        1205          BALR  R14,R15                 CALL IHIIORCI                    00977001
000AE0 47F0 705E            00AE8  1206          B     DSNINTA                                                  00978001
                                   1207 *                                                                       00979001
000AE4 5800 5000            00000  1208 DSNINT   L     R0,0(,R5)               DATASET NUMBER IN R0             00980001
000AE8 1850                        1209 DSNINTA  LR    R5,R0                                                    00981001
000AEA 5400 708E            00B18  1210          N     R0,RANGEDSN             DATASET NUMBER OUT OF RANGE      00982001
000AEE 4740 7086            00B10  1211          BM    EVDERR0                                                  00983001
000AF2 1865                        1212          LR    R6,R5                                                    00984001
000AF4 4100 0024            00024  1213          LA    R0,DSTABLEL             L'DSTABLE ENTRY                  00985001
000AF8 1C40                        1214          MR    R4,R0                                                    00986001
000AFA 584C 00AC            000AC  1215          L     R4,ADSTAB(R12)                                           00987001
000AFE 4155 4004            00004  1216          LA    R5,4(R5,R4)             ENTRY TO DSTABLE IN R5           00988001
000B02 58D0 726A            00CF4  1217          L     R13,SAVAR+4                                              00989001
000B06 98E4 D00C            0000C  1218          LM    R14,R4,12(R13)                                           00990001
000B0A 987C D030            00030  1219          LM    R7,R12,48(R13)          KEEP R5 AND R6                   00991001
000B0E 07FE                        1220          BR    R14                                                      00992001
                                   1221 *                                                                       00993001
000B10 18DC                        1222 EVDERR0  LR    R13,R12                 DATASET NUMBER OUT OF RANGE      00994001
000B12 47FC 01CC            001CC  1223          B     FSAERR(R12)                                              00995001
                                   1224 *                                                                       00996001
000B16 0000
000B18 FFFFFFF0                    1225 RANGEDSN DC    F'-16'                  SCOPE OUTSIDE RANGE OF DSN       00997001
                                   1226 *                                                                       00998001
000B1C 00000000                    1227 VIORCI   DC    V(IHIIORCI)             ADDR OF CONVERSION ROUTINE       00999001
                                   1228 *                                                                       01000001
                                   1229 *---------------------------------------------------------------------- 01001001
                                   1230 *        DCB END OF DATA EXIT                                           01002001
                                   1231 *---------------------------------------------------------------------- 01003001
                                   1232 *                                                                       01004001
                                   1233 *        FUNCTION/OPERATION - INVOKED VIA CHECK MACRO                   01005001
                                   1234 *                                                                       01006001
```

Active USINGs: IHIIORTN+X'A8A',R7 IHADCB,R8 DSTABLE,R5 IHIIORTN,R4

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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                                    1235 *        EXITS - NORMAL - CHECK FROM SYSACT4 OR CLOSE RELOAD            01007001
                                    1236 *                         REGISTERS AND RETURN TO CALLING PROGRAM       01008001
                                    1237 *                         VIA BR14                                      01009001
                                    1238 *                 - CHECK FROM NEXTREC - BLOCKED FORMAT SET FLAG DS7 IN 01010001
                                    1239 *                         DSTABLE AND BRANCH TO END OF NEXTREC          01011001
                                    1240 *                 - UNBLOCKED FORMAT OUTPUT - RETURN TO NEXTREC TO WRITE 01012001
                                    1241 *                         BACK CURRENT RECORD                           01013001
                                    1242 *                 - UNBLOCKED FORMAT INPUT - SET FLAG DS7 IN DSTABLE AND 01014001
                                    1243 *                         RETURN TO NEXTREC TO UPDATE PTR IN DSTABLE    01015001
                                    1244 *                 - ERROR -  CHECK FROM OPEN                            01016001
                                    1245 *                         INPUT REQUEST BEYOND END OF DATASET           01017001
                                    1246 *                                                                       01018001
                                    1247 *                                                                       01019001
                                    1248 IHIIORED SAVE  (14,12),,'IHIIORED LEVEL 2.1 &SYSDATE &SYSTIME'          01020001
000B20 47F0 F026            00026   1249+IHIIORED B     38(0,15)                        BRANCH AROUND ID          01-SAVE
000B24 21                           1250+         DC    AL1(33)                         LENGTH OF IDENTIFIER      01-SAVE
000B25 C9C8C9C9D6D9C5C4             1251+         DC    CL32'IHIIORED LEVEL 2.1 08/17/12 13.2' IDENTIFIER       01-SAVE
000B45 F1                           1252+         DC    CL1'1'                          IDENTIFIER                01-SAVE
000B46 90EC D00C            0000C   1253+         STM   14,12,12(13)                    SAVE REGISTERS            01-SAVE
                                    1254 *                                                                       01021001
000B4A 0570                         1255          BALR  R7,0                                                     01022001
               R:7  00B4C           1256          USING *,R7                                                     01023001
** TXA533W USING range overlaps prior USING at statement 161.
** TXA301I Record 1023 in SYSD.ALGOLFRT.ASM(IHIIOR)
000B4C 50D0 7068            00BB4   1257          ST    R13,SAVEOD+4                                             01024001
000B50 41D0 7064            00BB0   1258          LA    R13,SAVEOD                                               01025001
000B54 5880 5000            00000   1259          L     R8,ADCB                                                  01026001
000B58 9108 501B      0001B         1260          TM    DSF+1,DSEOD             CHECK FROM OPEN ?                01027001
000B5C 4780 7020            00B6C   1261          BZ    END00                                                    01028001
000B60 94CD 501A      0001A         1262          NI    DSF,255-(DS2+DS3+DS6)   SET FLAGS FOR A CORRECT CLOSE    01029001
000B64 18DC                         1263          LR    R13,R12                                                  01030001
000B66 47FC 01E0            001E0   1264          B     FSAERR+5*4(R12)         INPUT REQUEST BEYOND END         01031001
                                    1265 *                                                                       01032001
                                    1266 END00    CLOSE ((R8),LEAVE),TYPE=T                                      01033001
000B6A 0700                         1267+         CNOP  0,4                       ALIGN LIST TO FULLWORD    01-CLOSE
000B6C 4510 7028            00B74   1268+END00    BAL   1,*+8                     LOAD REG1 W/LIST ADDR     01-CLOSE
000B70 00000000                     1269+         DC    A(0)                      OPTION AND DCB ADDRESS    01-CLOSE
000B74 5081 0000            00000   1270+         ST    R8,0(1,0)                 STORE DCB ADDRESS         01-CLOSE
000B78 92B0 1000      00000         1271+         MVI   0(1),176                  MOVE IN OPTION BYTE       01-CLOSE
000B7C 0A17                         1272+         SVC   23                        ISSUE TCLOSE SVC          01-CLOSE
                                    1273 *                                                                       01034001
000B7E 9180 501B      0001B         1274          TM    DSF+1,DS8               CHECK FROM CLOSE OR SYSACT4 ?    01035001
000B82 4780 7044            00B90   1275          BZ    END02                                                    01036001
000B86 58D0 7068            00BB4   1276 END11    L     R13,SAVEOD+4                                             01037001
000B8A 98EC D00C            0000C   1277          LM    R14,R12,12(R13)                                          01038001
000B8E 07FE                         1278          BR    R14                     RETURN TO CALLING SYSACT4 OR     01039001
                                    1279 *                                      CLOSE ROUTINE                    01040001
000B90 9120 501A      0001A         1280 END02    TM    DSF,DS2                                                  01041001
000B94 4780 7050            00B9C   1281          BZ    END03                                                    01042001
000B98 47F0 703A            00B86   1282          B     END11                                                    01043001
                                    1283 *                                                                       01044001
000B9C 9601 501A      0001A         1284 END03    OI    DSF,DS7                                                  01045001
000BA0 92FF 8060      00060         1285          MVI   DECB+8,X'FF'            FLAG DCB ADDR IN DECB            01046001
000BA4 58D0 7068            00BB4   1286          L     R13,SAVEOD+4            RETURN TO CALLING NEXTREC        01047001
000BA8 98EC D00C            0000C   1287          LM    R14,R12,12(R13)                                          01048001
000BAC 07FE                         1288          BR    R14                     RETURN TO CALLING NEXTREC        01049001
                                    1289 *                                                                       01050001
                                    1290 *        INTERNAL ADDRESSES                                             01051001
                                    1291 *                                                                       01052001
000BAE 0000
000BB0 0000000000000000             1292 SAVEOD   DC    18F'0'                                                   01053001
                                    1293 *                                                                       01054001
                                    1294 *-------------------------------------------------------------------- 01055001
                                    1295 *        CONVERSION TO INTEGER                                          01056001
                                    1296 *-------------------------------------------------------------------- 01057001
                                    1297 *                                                                       01058001
                                    1298 *        FUNCTION/OPERATION - CONVERT REAL LONG OR SHORT TO INTEGER      01059001
                                    1299 *                                                                       01060001
                                    1300 *        NOTES - CALLED BY BALR 14,15                                   01061001
                                    1301 *        DATA PASSED BY VALUE IN FPR0                                   01062001
                                    1302 *        RESULT IN R0                                                   01063001
                                    1303 *                                                                       01064001
000BF8 9120 C0C2      000C2         1304 IHIIORCI TM    OPTSW(R12),X'20'        LONG OR SHORT PRECISION ?        01065001
               R:F  00BF8           1305          USING IHIIORCI,R15                                             01066001
** TXA533W USING range overlaps prior USING at statement 1256.
** TXA533W USING range overlaps prior USING at statement 161.
** TXA301I Record 1066 in SYSD.ALGOLFRT.ASM(IHIIOR)
000BFC 4780 F010            00C08   1306          BZ    LONG                                                     01067001
000C00 7000 F068            00C60   1307          STE   FPR0,BUFF3                                               01068001
000C04 6800 F068            00C60   1308          LD    FPR0,BUFF3                                               01069001
                                    1309 *                                                                       01070001
000C08 6A00 F058            00C50   1310 LONG     AD    FPR0,CONST2                                              01071001
000C0C 6000 F078            00C70   1311          STD   FPR0,BUFF4                                               01072001
000C10 7900 F080            00C78   1312          CE    FPR0,CONST3                                              01073001
000C14 47B0 F04A            00C42   1313          BNL   ERROR1                                                   01074001
000C18 6E00 F050            00C48   1314          AW    FPR0,CONST1                                              01075001
000C1C 4720 F032            00C2A   1315          BP    LABEL                                                    01076001
000C20 D507 F078 F070 00C70 00C68   1316          CLC   BUFF4(8),CONST4                                          01077001
000C26 4720 F04A            00C42   1317          BH    ERROR1                                                   01078001
000C2A 6000 F060            00C58   1318 LABEL    STD   FPR0,BUFF2                                               01079001
000C2E 5800 F064            00C5C   1319          L     R0,BUFF2+4                                               01080001
000C32 5700 F054            00C4C   1320          X     R0,CONST1+4                                              01081001
000C36 6B00 F050            00C48   1321          SD    FPR0,CONST1                                              01082001
000C3A 6900 F078            00C70   1322          CD    FPR0,BUFF4                                               01083001
000C3E 07DE                         1323          BNHR  R14                                                      01084001
000C40 060E                         1324          BCTR  R0,R14                                                   01085001
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  Active USINGs: IHIIORTN+X'BF8',R15  IHIIORTN+X'B4C',R7  IHADCB,R8  DSTABLE,R5  IHIIORTN,R4

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000C42 18DC                       1325 ERROR1   LR    R13,R12                                                    01086001
000C44 47FC 01D0            001D0 1326          B     FSAERR+1*4(R12)                                            01087001
                                  1327 *                                                                         01088001
                                  1328 *        INTERNAL CONSTANTS AND STORAGE                                   01089001
                                  1329 *                                                                         01090001
000C48                            1330          DC    0D'0'                                                      01091001
000C48 4E00000080000000           1331 CONST1   DC    X'4E00000080000000'                                        01092001
000C50 4080000000000000           1332 CONST2   DC    X'4080000000000000'                                        01093001
000C58 0000000000000000           1333 BUFF2    DC    D'0'                                                       01094001
000C60 0000000000000000           1334 BUFF3    DC    D'0'                                                       01095001
000C68 C880000000000000           1335 CONST4   DC    X'C880000000000000'                                        01096001
000C70 0000000000000000           1336 BUFF4    DC    D'0'                                                       01097001
000C78 48800000                   1337 CONST3   DC    X'48800000'                                                01098001
                                  1338 *                                                                         01099001
                                  1339 *        DCB SYNAD EXIT                                                   01100001
                                  1340 *                                                                         01101001
                                  1341 *        EXIT - NORMAL - BRANCH ERROR UNRECOVERABLE I/O ERROR             01102001
                                  1342 *                                                                         01103001
000C7C 187F                       1343 IHIIORER LR    R7,R15                                                     01104001
               R:7  00C7C         1344          USING IHIIORER,R7                                                01105001
** TXA533W USING range overlaps prior USING at statement 1305.
** TXA533W USING range overlaps prior USING at statement 161.
** TXA301I Record 1105 in SYSD.ALGOLFRT.ASM(IHIIOR)
000C7E 9604 501B      0001B       1345          OI    DSF+1,DSIOERR           SET MARK FOR CORRECT CLOSE         01106001
000C82 18DC                       1346          LR    R13,R12                                                    01107001
000C84 47FC 024C            0024C 1347          B     FSAERR+32*4(R12)        I/O ERROR                          01108001
                                  1348 *                                                                         01109001
                                  1349 *                                                                         01110001
                                  1350 DCBMODEL DCB   DSORG=PS,MACRF=(RP,WP),DDNAME=ALGLDD,NCP=1,              X01111001
                                                      EODAD=IHIIORED,                                            X01112001
                                                      EXLST=ADCBEXIT,                                            X01113001
                                                      SYNAD=IHIIORER                                             01114001


                                  1352+*                      DATA CONTROL BLOCK                             01-DCB
                                  1353+*                                                                         01-DCB
000C88                            1354+DCBMODEL DC    0F'0'                   ORIGIN ON WORD BOUNDARY            01-DCB

                                  1356+*                      DIRECT ACCESS DEVICE INTERFACE                 01-DCB

000C88 0000000000000000           1358+         DC    BL16'0'                  FDAD,DVTBL                        01-DCB
000C98 00000000                   1359+         DC    A(0)                     KEYLE,DEVT,TRBAL                  01-DCB

                                  1361+*                      COMMON ACCESS METHOD INTERFACE                 01-DCB

000C9C 00                         1363+         DC    AL1(0)                  BUFNO                              01-DCB
000C9D 000001                     1364+         DC    AL3(1)                  BUFCB                              01-DCB
000CA0 0000                       1365+         DC    AL2(0)            BUFL                                     01-DCB
000CA2 4000                       1366+         DC    BL2'0100000000000000'          DSORG                       01-DCB
000CA4 00000001                   1367+         DC    A(1)                     IOBAD                             01-DCB

                                  1369+*                      FOUNDATION EXTENSION                           01-DCB

000CA8 00                         1371+         DC    BL1'00000000'                  BFTEK,BFLN,HIARCHY          01-DCB
000CA9 000B20                     1372+         DC    AL3(IHIIORED)           EODAD                              01-DCB
000CAC 00                         1373+         DC    BL1'00000000'           RECFM                              01-DCB
000CAD 000CE0                     1374+         DC    AL3(ADCBEXIT)           EXLST                              01-DCB

                                  1376+*                      FOUNDATION BLOCK                               01-DCB

000CB0 C1D3C7D3C4C44040           1378+         DC    CL8'ALGLDD'             DDNAME                             01-DCB
000CB8 02                         1379+         DC    BL1'00000010'           OFLGS                              01-DCB
000CB9 00                         1380+         DC    BL1'00000000'                        IFLG                  01-DCB
000CBA 2424                       1381+         DC    BL2'0010010000100100'   MACR                               01-DCB

                                  1383+*                      BSAM-BPAM-QSAM INTERFACE                       01-DCB

000CBC 00                         1385+         DC    BL1'00000000'                                      RER1 01-DCB
000CBD 000001                     1386+         DC    AL3(1)                  CHECK, GERR, PERR                  01-DCB
000CC0 00000C7C                   1387+         DC    A(IHIIORER)             SYNAD                              01-DCB
000CC4 0000                       1388+         DC    H'0'                    CIND1, CIND2                       01-DCB
000CC6 0000                       1389+         DC    AL2(0)                  BLKSIZE                            01-DCB
000CC8 00000000                   1390+         DC    F'0'                    WCPO, WCPL, OFFSR, OFFSW           01-DCB
000CCC 00000001                   1391+         DC    A(1)                    IOBA                               01-DCB
000CD0 01                         1392+         DC    AL1(1)                  NCP                                01-DCB
000CD1 000001                     1393+         DC    AL3(1)                  EOBR, EOBAD                        01-DCB

                                  1395+*                    BSAM-BPAM INTERFACE                              01-DCB

000CD4 00000001                   1397+         DC    A(1)                    EOBW                               01-DCB
000CD8 0000                       1398+         DC    H'0'                    DIRCT                              01-DCB
000CDA 0000                       1399+         DC    AL2(0)          LRECL                                    01-DCB
000CDC 00000001                   1400+         DC    A(1)                    CNTRL, NOTE, POINT                 01-DCB
                                  1401 *                                                                         01115001
                        00058     1402 DCBMODLN EQU   *-DCBMODEL              LENGTH OF DCBMODEL FOR MVC         01116001
                                  1403 *                                                                         01117001
000CE0                            1404          DC    0F'0'                                                      01118001
000CE0 05                         1405 ADCBEXIT DC    X'05'                   DCB OPEN EXIT REQUESTED            01119001
000CE1 000370                     1406          DC    AL3(IHIIORDX)           OPEN EXIT ROUTINE ADDR             01120001
000CE4 87000000                   1407          DC    X'87',AL3(0)            JFCB ADDR UPDATED WHEN GETMAINED   01121001
                                  1408 *                                                                         01122001
000CE8 0000000000000000           1409 DWORD    DC    D'0'                    WORK AREA FOR DSN                  01123001
000CF0 0000000000000000           1410 SAVAR    DC    18F'0'                                                     01124001
000D38 00                         1411 EXERFLAG DC    X'00'                                                      01125001
                                  1412 *                                                                         01126001
                                  1413 *        INTERNAL ADDRS                                                   01127001
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                   X390 3.1.04  2012/08/17 13.21

                                   1414 *                                                                         01128001
000D39 000000
000D3C 000009AC                    1415 VIORCN   DC    A(IHIIORCN)                                                01129001
000D40 00000A0C                    1416 VIOREN   DC    A(IHIIOREN)                                                01130001
000D44 000004B4                    1417 VIORNX   DC    A(IHIIORNX)                                                01131001
                                   1418 *                                                                         01132001
000D48                             1419          LTORG                                                            01133001
000D48 E2E8E2C9D5404040            1420                =CL8'SYSIN   '
000D50 E2E8E2D7D9C9D5E3            1421                =CL8'SYSPRINT'
000D58 0001                        1422                =H'1'
000D5A 2000                        1423                =AL1(DCBMRRD,0)
000D5C 0020                        1424                =AL1(0,DCBMRWRT)
000D5E F0F1                        1425                =CL2'01'
000D60 2424                        1426                =AL1(DCBMRRD+DCBMRPT1,DCBMRWRT+DCBMRPT2)
000D62 005A                        1427                =X'005A'
000D64 0050                        1428                =H'80'
000D66 0028                        1429                =H'40'
000D68 F1                          1430                =C'1'
000D69 32                          1431                =X'32'
                                   1432 *                                                                         01134001
                                   1433 *        SEE GC28-6615 ALGOL LANGUAGE P82 FOR A DETAILED DESCRIPTION      01135001
                                   1434 *        OF THE DSTABLE FIELDS MAINTAINED FOR EACH DATASET                01136001
                                   1435 *                                                                         01137001
                                   1436          DSTABLE  DSECT=YES                                               01138001
000000                00000 00024  1437+DSTABLE  DSECT                                                            01-DSTAB
                                   1438+*                                                                         01-DSTAB
000000 00000000                    1439+ADCB     DC    F'0'                     -> DCB                            01-DSTAB
000004 00000000                    1440+R        DC    F'0'                     CHARACTER POINTER                 01-DSTAB
000008 00000000                    1441+RE       DC    F'0'                                                       01-DSTAB
00000C 00000000                    1442+NBB      DC    F'0'                                                       01-DSTAB
000010 00000000                    1443+BB       DC    F'0'                                                       01-DSTAB
000014 0001                        1444+S        DC    H'1'                     RECORD POINTER                    01-DSTAB
000016 0050                        1445+P        DC    H'80'                    RECORD LENGTH                     01-DSTAB
000018 02                          1446+K        DC    X'02'                    NUMBER OF BLANK DELIM CHARS       01-DSTAB
000019 00                          1447+Q        DC    X'00'                    NO OF RECORDS PER SECTION         01-DSTAB
00001A 0000                        1448+DSF      DC    H'00'                    DATASET FLAGS                     01-DSTAB
                                   1449+*                                                                         01-DSTAB
                                   1450+*        DATASET FLAGS - DSF                                              01-DSTAB
                                   1451+*                                                                         01-DSTAB
                      00080        1452+DS0      EQU   X'80'                    DATASET OPEN                      01-DSTAB
                      00040        1453+DS1      EQU   X'40'                                                      01-DSTAB
                      00020        1454+DS2      EQU   X'20'                    LAST I/O OUTPUT                   01-DSTAB
                      00010        1455+DS3      EQU   X'10'                                                      01-DSTAB
                      00008        1456+DS4      EQU   X'08'                                                      01-DSTAB
                      00004        1457+DS5      EQU   X'04'                                                      01-DSTAB
                      00002        1458+DS6      EQU   X'02'                    OPEN FOR OUTPUT                   01-DSTAB
                      00001        1459+DS7      EQU   X'01'                    END OF FILE                       01-DSTAB
                                   1460+*                                                                         01-DSTAB
                                   1461+*        DATASET FLAGS - DSF+1                                            01-DSTAB
                                   1462+*                                                                         01-DSTAB
                      00080        1463+DS8      EQU   X'80'                    END OF DATA                       01-DSTAB
                      00040        1464+DS9      EQU   X'40'                                                      01-DSTAB
                      00020        1465+DS10     EQU   X'20'                    OPENED BY SYSACT 12               01-DSTAB
                      00010        1466+DS11     EQU   X'10'                    INDICATE IHIERR-ROUT              01-DSTAB
                      00008        1467+DSEOD    EQU   X'08'                                                      01-DSTAB
                      00004        1468+DSIOERR  EQU   X'04'                    I/O ERROR                         01-DSTAB
                      00002        1469+DS14     EQU   X'02'                    DATASET OPENED                    01-DSTAB
                      00001        1470+DS15     EQU   X'01'                    CLOSE FROM IHIERR                 01-DSTAB
                                   1471+*                                                                         01-DSTAB
00001C 00000000                    1472+NOTEADR  DC    F'0'                                                       01-DSTAB
000020 0000                        1473+BL       DC    H'0'                     LRECL+ TWO ARB                    01-DSTAB
000022 0000                        1474+         DC    H'0'                                                       01-DSTAB
                                   1475+*                                                                         01-DSTAB
                      00024        1476+DSTABLEL EQU   *-DSTABLE                L'DSTABLE ENTRY                   01-DSTAB
                                   1477+*                                                                         01-DSTAB
                                   1478 *                                                                         01139001
                                   1479 *        SYMBOLIC NAMES FOR DCB                                           01140001
                                   1480 *                                                                         01141001
                                   1481          PRINT NOGEN                                                      01142001
                                   1482 *                                                                         01143001
                                   1483          DCBD  DSORG=BS,DEVD=DA                                           01144001
                                   1990 *                                                                         01145001
                                   1991          PRINT GEN                                                        01146001
                                   1992 *                                                                         01147001
                                   1993 *        DECB                                                             01148001
                                   1994 *                                                                         01149001
                                   1995          READ  DECB,SF,MF=L                                               01150001
000058 00000000                    1996+DECB     DC    F'0'                               EVENT CONTROL BLOCK     02-IHBRD
00005C 00                          1997+         DC    X'00'                              TYPE FIELD              02-IHBRD
00005D 80                          1998+         DC    X'80'                              TYPE FIELD              02-IHBRD
00005E 0000                        1999+         DC    AL2(0)                             LENGTH                  02-IHBRD
000060 00000000                    2000+         DC    A(0)                               DCB ADDRESS             02-IHBRD
000064 00000000                    2001+         DC    A(0)                               AREA ADDRESS            02-IHBRD
000068 00000000                    2002+         DC    A(0)                               RECORD POINTER WORD     02-IHBRD
                                   2003 *                                                                         01151001
000070                             2004 JFCB     DS    22D                                                        01152001
000120                00120 00070  2005          ORG   JFCB                                                       01153001
                                   2006 *                                                                         01154001
                                   2007          IEFJFCBN ,                     MAP THE JFCB                      01155001
                                   2008+*%JFCBL1 : ;                                                              01-IEFJF
                                   2009+*                                                                         01-IEFJF
                                   2010+*/* ***************************************************************** */ 01-IEFJF
                                   2011+*/*                                                                   */ 01-IEFJF
                                   2012+*/*                JOB FILE CONTROL BLOCK                             */ 01-IEFJF
                                   2013+*/*                                                                   */ 01-IEFJF
                                   2014+*/*  OS/VS2 038 PTF                                             @YA05186*/ 01-IEFJF
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D-Loc  Object Code      Addr1 Addr2  Stmt   Source Statement                                    X390 3.1.04  2012/08/17 13.21

                                     2015+*/*                                                            */ 01-IEFJF
                                     2016+*/*  METHOD OF ACCESS                                          */ 01-IEFJF
                                     2017+*/*      BAL  - A DSECT CARD SHOULD PRECEDE MACRO CALL.  USING ON    */ 01-IEFJF
                                     2018+*/*             INFMJFCB GIVES ADDRESSABILITY FOR ALL SYMBOLS.      */ 01-IEFJF
                                     2019+*/*      PL/S - DCL JFCBPTR PTR                                    */ 01-IEFJF
                                     2020+*/*                                                            */ 01-IEFJF
                                     2021+*/*  F.E.'S                                                    */ 01-IEFJF
                                     2022+*/*      MICROFICHE LISTING - IEFJFCBN                             */ 01-IEFJF
                                     2023+*/*                                                            */ 01-IEFJF
                                     2024+*/*  DEVELOPERS                                                */ 01-IEFJF
                                     2025+*/*      BAL LISTING  - SPECIFY LIST=YES ON MACRO CALL.            */ 01-IEFJF
                                     2026+*/*      PL/S LISTING - SPECIFY %IHALIST='YES' BEFORE INCLUDE.     */ 01-IEFJF
                                     2027+*/*                                                            */ 01-IEFJF
                                     2028+*/*      FOR INTEGRATION A LISTING SHOULD NOT BE REQUESTED.        */ 01-IEFJF
                                     2029+*/*                                                            */ 01-IEFJF
                                     2030+*/*  CHANGE ACTIVITY = YA05186                             @YA05186*/ 01-IEFJF
                                     2031+*/*                                                            */ 01-IEFJF
                                     2032+*/* A - DECLARED STRUCTURE TO THE JFCAMPTR FIELD.  THE     @YA05186*/ 01-IEFJF
                                     2033+*/*     STRUCTURE SHOWS THE PLACEMENT OF THE SVA WITHIN    @YA05186*/ 01-IEFJF
                                     2034+*/*     THE 4 CHARACTER FIELD.                             @YA05186*/ 01-IEFJF
                                     2035+*/* *************************************************************** */ 01-IEFJF
                                     2036+*%GOTO JFCBL2;  /*                                                  01-IEFJF
                                     2037+         PUSH  PRINT                                                01-IEFJF
                                     2038+         PRINT OFF                                                  01-IEFJF
                                     2627 *                                                                   01156001
                      000B0          2628 JFCB_LEN EQU   *-JFCB                                               01157001
                                     2629 *                                                                   01158001
                                     2630 *        CALCULATE TOTAL GETMAINED AREA FOR DCBAREA WITH DECB AND JFCB  01159001
                                     2631 *                                                                   01160001
                      00120          2632 DCBAREAL EQU   *-IHADCB                                             01161001
                                     2633 *                                                                   01162001
                                     2634 *        REGISTER EQUATES                                           01163001
                                     2635 *                                                                   01164001
                                     2636          IEZREGS                                                    01165001
                      00000          2637+R0       EQU   0                                                    01-IEZRE
                      00001          2638+R1       EQU   1                                                    01-IEZRE
                      00002          2639+R2       EQU   2                                                    01-IEZRE
                      00003          2640+R3       EQU   3                                                    01-IEZRE
                      00004          2641+R4       EQU   4                                                    01-IEZRE
                      00005          2642+R5       EQU   5                                                    01-IEZRE
                      00006          2643+R6       EQU   6                                                    01-IEZRE
                      00007          2644+R7       EQU   7                                                    01-IEZRE
                      00008          2645+R8       EQU   8                                                    01-IEZRE
                      00009          2646+R9       EQU   9                                                    01-IEZRE
                      0000A          2647+R10      EQU   10                                                   01-IEZRE
                      0000B          2648+R11      EQU   11                                                   01-IEZRE
                      0000C          2649+R12      EQU   12                                                   01-IEZRE
                      0000D          2650+R13      EQU   13                                                   01-IEZRE
                      0000E          2651+R14      EQU   14                                                   01-IEZRE
                      0000F          2652+R15      EQU   15                                                   01-IEZRE
                                     2653 *                                                                   01166001
                      00000          2654 FPR0     EQU   0                                                    01167001
                                     2655 *                                                                   01168001
                                     2656          END                                                        01169001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
=AL1(DCBMRRD+DCBMRPT1,DCBMRWRT+DCBMRPT2)
                1 00000D60 00000001  R A              1426   325
=AL1(DCBMRRD,0)
                1 00000D5A 00000001  R A              1423   217   291
=AL1(0,DCBMRWRT)
                1 00000D5C 00000001  R A              1424   220   313
=C'1'           1 00000D68 00000001  C C              1430   472
=CL2'01'        2 00000D5E 00000001  C C              1425   308
=CL8'SYSIN   '
                8 00000D48 00000001  C C              1420   290
=CL8'SYSPRINT'
                8 00000D50 00000001  C C              1421   312
=H'1'           2 00000D58 00000001  H H              1422   167   253   278   401   861  1030
=H'40'          2 00000D66 00000001  H H              1429  1022
=H'80'          2 00000D64 00000001  H H              1428   983
=X'005A'        2 00000D62 00000001  X X              1427   493
=X'32'          1 00000D69 00000001  X X              1431   492
ACLOSE          4 000009A4 00000001  A A              1076  1038
ADCB            4 00000000 FFFFFFFF  F F              1439   187M  275M  388   625   854   975  1037  1259
ADCBEXIT        1 00000CE0 00000001  X X              1405   200M 1374
ADSTAB          1 000000AC           U                 118  1215
ANOTTAB         1 000000B0           U                 119   326   335M 1056  1098  1135
BB              4 00000010 FFFFFFFF  F F              1443   412M  659   661M  748   759   798   811   813M  822   868
                                                             918   926   953
BL              2 00000020 FFFFFFFF  H H              1473   403M  404   414   449M  511M  588M  592M  642M  749   784M
                                                             790M  823   867   915   957   991  1029M
BUFF2           8 00000C58 00000001  D D              1333  1318M 1319
BUFF3           8 00000C60 00000001  D D              1334  1307M 1308
BUFF4           8 00000C70 00000001  D D              1336  1311M 1316  1322
CLNOTB1         4 000009DE 00000001  I                1100  1105B 1107B 1109B
CLOSEPE1        4 00000914 00000001  I                1040  1033B
CLOSEPE2        2 000008F0 00000001  I                1027  1042B 1049B 1052B
CLOSEPE3        4 0000093E 00000001  I                1056  1028B
CLOSEPE4        4 0000092C 00000001  I                1048  1024B
CLOSEPE5        4 00000920 00000001  I                1044  1031B
CLOSEPE6        4 0000090A 00000001  I                1037  1046B
CLOSEPE7        4 00000902 00000001  I                1032  1045B
CLOSE01         4 00000780 00000001  I                 881   862B  864B
CLOSE02         4 0000076E 00000001  I                 876   872B
CLOSE03         4 00000762 00000001  I                 873   875B
CLOSE1          4 00000828 00000001  I                 947   882B  884B  898B  911B
CLOSE2          4 000007B0 00000001  I                 897   888B
CLOSE21         4 000007FA 00000001  I                 926   919B
CLOSE22         4 000007EE 00000001  I                 920   922B
CLOSE3          6 00000896 00000001  I                 991   985B  987B
CLOSE4          4 00000890 00000001  I                 989   986B
CONST1          8 00000C48 00000001  X X              1331  1314  1320  1321
CONST2          8 00000C50 00000001  X X              1332  1310
CONST3          4 00000C78 00000001  X X              1337  1312
CONST4          8 00000C68 00000001  X X              1335  1316
DCBAREAL        1 00000120           U                2632   183   271   386   973
DCBBIT0         1 00000080           U                1505  1591  1599  1611  1634  1661  1663  1664  1666  1689  1692
                                                             1712  1716  1731  1768  1823  1847  1886  1890  1903
DCBBIT1         1 00000040           U                1506  1592  1600  1613  1635  1636  1645  1661  1663  1665  1666
                                                             1694  1712  1714  1716  1734  1735  1736  1771  1772  1823
                                                             1849  1892  1894  1906  1950
DCBBIT2         1 00000020           U                1507  1593  1601  1614  1615  1616  1635  1636  1640  1646  1661
                                                             1662  1667  1696  1717  1718  1739  1740  1741  1775  1776
                                                             1824  1854  1895  1911  1953  1956
DCBBIT3         1 00000010           U                1508  1594  1614  1616  1617  1635  1648  1668  1699  1717  1720
                                                             1743  1744  1745  1779  1780  1824  1856  1859  1861  1897
                                                             1912  1953  1957
DCBBIT4         1 00000008           U                1509  1602  1649  1669  1700  1722  1727  1728  1748  1749  1783
                                                             1784  1786  1787  1825  1864  1913  1953  1958
DCBBIT5         1 00000004           U                1510  1603  1650  1672  1673  1702  1722  1724  1725  1728  1752
                                                             1754  1755  1756  1790  1791  1792  1793  1825  1866  1869
                                                             1899  1915  1948
DCBBIT6         1 00000002           U                1511  1595  1651  1652  1655  1672  1674  1703  1759  1760  1761
                                                             1762  1796  1797  1798  1799  1826  1872  1917  1959
DCBBIT7         1 00000001           U                1512  1596  1651  1653  1655  1676  1707  1764  1765  1802  1803
                                                             1805  1806  1875  1901  1918  1961
DCBBLKSI        2 0000003E FFFFFFFE  H H              1920   446   503   509M  511   516M  574   577   579   588   591M
                                                             642   784   787
DCBDDNAM        8 00000028 FFFFFFFE  C C              1686   198M  287M  290M  308M  312M
DCBFDAD         8 00000005 FFFFFFFE  C C              1532  1535
DCBIOBA         4 00000044 FFFFFFFE  A A              1928   447   788
DCBLRECL        2 00000052 FFFFFFFE  H H              1985   499M  515   549   565M  570M
DCBMACR         2 00000032 FFFFFFFE  B B              1729   291M  313M  325M
DCBMACRF        2 0000002A FFFFFFFE  B B              1818   217M  220M
DCBMODEL        4 00000C88 00000001  F F              1354   190   277  1402
DCBMODLN        1 00000058           U                1402   190   277
DCBMRPT1        1 00000004           U                1754  1426
DCBMRPT2        1 00000004           U                1791  1426
DCBMRRD         1 00000020           U                1740  1423  1426
DCBMRWRT        1 00000020           U                1775  1424  1426
DCBOFLGS        1 00000030 FFFFFFFE  B B              1688   353
DCBOFOPN        1 00000010           U                1699   353
DCBRECBR        1 00000010           U                1668   495   534
DCBRECCA        1 00000004           U                1673   495   524   537
DCBRECF         1 00000080           U                1664   495   524   531
DCBRECFM        1 00000024 FFFFFFFE  B B              1660   495M  522   524   531M  534M  537M
DECB            4 00000058 FFFFFFFE  F F              1996   419   425   431   440   460   637   667   672   678   700
                                                             776   801   885   892   929   938  1285M
DSEOD           1 00000008           U                1467   418   445  1260
DSF             2 0000001A FFFFFFFF  H H              1448   169M  170   221M  226M  260   262M  306   309M  342   355M
                                                             400M  416   418M  445M  470   487   496M  510M  517M  532
                                                             535   540M  545M  548M  552   562   587M  629   650M  654
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                                                        666M  688   692M  696   713M  717   756   758M  766   771M
                                                        772   781   783M  863   865M  866M  881   883   889M  897
                                                        899   910   991M 1032  1044  1260  1262M 1274  1280  1284M
                                                       1345M
DSIN            6 00000172 00000001  I                 290   279B
DSIOERR         1 00000004           U                1468   883  1345
DSNINT          4 00000AE4 00000001  I                1208  1197B
DSNINTA         2 00000AE8 00000001  I                1209  1206B
DSPRINT         4 00000196 00000001  I                 306   280B
DSPR2           6 000001AC 00000001  I                 312   307B
DSPR2A          6 000001B2 00000001  I                 313   310B
DSTABLE         1 00000000 FFFFFFFF  J                1437   166U 1476
DSTABLEL        1 00000024           U                1476  1040  1213
DS0             1 00000080           U                1452   262   400   866  1032
DS1             1 00000040           U                1453   510   517   532   545   587   654   772
DS11            1 00000010           U                1466   306   487
DS14            1 00000002           U                1469   170   260   309   355   403  1044
DS15            1 00000001           U                1470   863
DS2             1 00000020           U                1454   629   865   897  1262  1280
DS3             1 00000010           U                1455   666   910  1262
DS4             1 00000008           U                1456   696   713   756   766   771
DS5             1 00000004           U                1457   688   692
DS6             1 00000002           U                1458   169   221   226   342   416   629   650   758   783   865
                                                        899  1029  1262
DS7             1 00000001           U                1459   781   881  1284
DS8             1 00000080           U                1463   889  1274
DS9             1 00000040           U                1464   470   496   535   540   548   552   562   717
DWORD           8 00000CE8 00000001  D D              1409   195M  196M  197M  198   284M  285M  286M  287
END00           4 00000B6C 00000001  I                1268  1261B
END02           4 00000B90 00000001  I                1280  1275B
END03           4 00000B9C 00000001  I                1284  1281B
END11           4 00000B86 00000001  I                1276  1282B
ENNERR4         2 00000A84 00000001  I                1159  1144B
ENNOTB1         4 00000A3E 00000001  I                1137  1157B
ENNOTB2         2 00000A5E 00000001  I                1145  1156B
ENNOTB3         4 00000A78 00000001  I                1155  1139B
ERROR1          2 00000C42 00000001  I                1325  1313B 1317B
EVDERR0         2 00000B10 00000001  I                1222  1211B
EVD1            4 00000AD6 00000001  I                1203  1199B 1201B
EXERFLAG        1 00000D38 00000001  X X              1411   369   393   394M  528M  584M
EXITA           4 000003AA 00000001  I                 509   507B
EXITB           4 000003BC 00000001  I                 514   508B
EXITC           6 000003B2 00000001  I                 511   518B
EXIT0           4 000003D0 00000001  I                 522   589B  593B
EXIT1           4 000003F0 00000001  I                 531   523B
EXIT12          4 00000400 00000001  I                 535   533B
EXIT2           4 00000450 00000001  I                 562   551B
EXIT3           4 00000418 00000001  I                 545   488B
EXIT3A          4 00000428 00000001  I                 549   547B
EXIT4           4 00000410 00000001  I                 540   525B
EXIT5           2 00000442 00000001  I                 557   553B
EXIT6           4 00000470 00000001  I                 574   555B  560B  566B
EXIT61          4 00000498 00000001  I                 587   583B
EXIT61A         6 0000049C 00000001  I                 588   578B
EXIT7           4 00000464 00000001  I                 568   563B
EXIT8           4 000004A6 00000001  I                 591   576B
FPR0            1 00000000           U                2654  1200M 1203M 1307  1308M 1310M 1311  1312  1314M 1318  1321M
                                                       1322
FSAERR          1 000001CC           U                 121   357B  396B  398B 1160B 1223B 1264B 1326B 1347B
IHADCB          1 00000000 FFFFFFFE  J                1488   189U 1573  1620  1685  1814  1829  1842  1938  1944  1971
                                                       2632
IHIIORCI        4 00000BF8 00000001  I                1304   113  1227  1305U
IHIIORCL        4 000006FC 00000001  I                 844   106   851U 1076
IHIIORCN        4 000009AC 00000001  I                1090   109  1097U 1415
IHIIORCP        4 000008A6 00000001  I                1011   107  1018U
IHIIORDX        4 00000370 00000001  I                 487  1406
IHIIORED        4 00000B20 00000001  I                1249   112  1372
IHIIOREN        4 00000A0C 00000001  I                1127   110  1134U 1416
IHIIORER        2 00000C7C 00000001  I                1343   114  1344U 1387
IHIIOREV        4 00000A8A 00000001  I                1183   111  1190U
IHIIORGP        4 000009A8 00000001  A A              1078   108  1050
IHIIORNX        4 000004B4 00000001  I                 615   105   622U 1417
IHIIOROP        4 000000E6 00000001  I                 244   103   162   163U
IHIIOROQ        4 00000000 00000001  I                 154   104   161U
JFCB            8 00000070 FFFFFFFE  D D              2004   199   227  2005  2628
JFCB_LEN        1 000000B0           U                2628   236   271   386   973
JFCBIND2        1 000000C7 FFFFFFFE  B B              2203   215   224
JFCBTSDM        1 000000A4 FFFFFFFE  B B              2050   210
JFCMOD          1 00000080           U                2206   215   224
JFCRESRV        4 000000DC FFFFFFFE  B B              2490  2515
JFCSDS          1 00000020           U                2053   210
LABEL           4 00000C2A 00000001  I                1318  1315B
LONG            4 00000C08 00000001  I                1310  1306B
NBB             4 0000000C FFFFFFFF  F F              1442   415M  457   660   662M  812   817M  954   956
NOTEADR         4 0000001C FFFFFFFF  F F              1472   456M  646   710M  768   797M  904
NXIN1           4 0000063C 00000001  I                 766   630B
NXIN2           4 00000652 00000001  I                 772   767B
NXIN3           4 0000065A 00000001  I                 776   825B
NXIN5           4 000006D8 00000001  I                 822   773B
NXIN6           4 000006B8 00000001  I                 811   785B
NXIN7           4 0000067E 00000001  I                 787   782B
NXRET           4 000005EE 00000001  I                 735   718B  818B  830B
NXUT1           4 0000051E 00000001  I                 654   631B
NXUT2           4 00000608 00000001  I                 748   655B
NXUT3           4 00000526 00000001  I                 659   751B
NXUT4           4 00000546 00000001  I                 667   760B
NXUT41          4 0000055E 00000001  I                 678   669B
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Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

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NXUT6           4 0000058A 00000001  I                 696   689B
NXUT7           4 000005B6 00000001  I                 717   697B  757B
NXUT8           4 000005DA 00000001  I                 727   721B
NXUT9           4 000005DE 00000001  I                 728   725B
OPEN00          4 0000011A 00000001  I                 253   168B  171B
OPEN01          4 00000134 00000001  I                 270   254B  261B
OPEN2           6 000001CE 00000001  I                 325   288B
OPEN20          4 000001D4 00000001  I                 326   241B
OPEN3           4 000001FE 00000001  I                 342   327B
OPEN30          4 0000022C 00000001  I                 361   343B
OPEN300         4 0000021A 00000001  I                 353   301B  323B  367B
OPEN301         4 0000028C 00000001  I                 400   370B
OPEN301A        4 0000029C 00000001  I                 404   402B
OPEN311         4 000002DE 00000001  I                 431   422B
OPEN350         4 00000288 00000001  I                 398   395B
OPEN355         4 00000242 00000001  I                 369   354B
OPEN4           4 00000348 00000001  I                 470   417B
OPEN5           4 0000035A 00000001  I                 474   468B  471B
OPEN51          4 00000366 00000001  I                 477   263B
OPTSW           1 000000C2           U                 120  1198  1304
P               2 00000016 FFFFFFFF  H H              1445   475   493M  497   554M  558M  564   568   664   730   754
                                                             815   828   983M
Q               1 00000019 FFFFFFFF  X X              1447   492M  526   546   720   877
R               4 00000004 FFFFFFFF  F F              1440   474M  663M  719   729M  753M  814M  827M  869   870M  916
                                                             917
RANGEDSN        4 00000B18 00000001  F F              1225  1210
RE              4 00000008 FFFFFFFF  F F              1441   476M  665M  731M  750   752   755M  816M  824   826   829M
RETCLEAR        2 00000A06 00000001  H H              1112  1102B
RETCLOSP        4 00000952 00000001  I                1066  1058B
RETEX           2 000004B2 00000001  H H               596   512B  527B  529B  536B  538B  541B  585B
ROQA            4 000000BE 00000001  I                 224   211B
ROQB            6 000000B0 00000001  I                 220   216B
ROQD            4 000000CA 00000001  I                 227   218B  222B  225B
R0              1 00000000           U                2637   404M  405M  957M  958M 1208M 1209  1210M 1213M 1214  1319M
                                                            1320M 1324M
R1              1 00000001           U                2638   187   188   227M  275   276   335   336   412   413   414M
                                                             415   456   643M  710   768M  797   901M  953M  954   956M
                                                            1056M 1057M 1149  1196
R12             1 0000000C           U                2649   326   335   356   357   392   396   398  1056  1098  1135
                                                            1159  1160  1198  1215  1219M 1222  1223  1263  1264  1277M
                                                            1287M 1304  1325  1326  1346  1347
R13             1 0000000D           U                2650   164   165M  251   252M  356M  392M  477M  623   624M  739M
                                                             852   853M  992M 1019  1020M 1066M 1191  1192M 1217M 1218
                                                            1219  1222M 1257  1258M 1263M 1276M 1277  1286M 1287  1325M
                                                            1346M
R14             1 0000000E           U                2651   691M  712M  770M  990M 1039M 1051M 1205M 1218M 1220B 1277M
                                                            1278B 1287M 1288B 1323B 1324B
R15             1 0000000F           U                2652   160   250   621   690M  691B  711M  712B  769M  770B  850
                                                             989M  990B 1017  1038M 1039B 1050M 1051B 1096  1133  1189
                                                            1204M 1205B 1305U 1343
R2              1 00000002           U                2639   326M  336M  337   339   341   413M  434   472   473M  474
                                                             475M  476   504M  505M  574M  575M  580M  581M  582M  659M
                                                             662   681   722M  723   735M  736M  737M  738   748M  749M
                                                             750   759M  798M  804   811M  817   822M  823M  824   867M
                                                             868M  870   871M  875M  886M  887   915M  917M  918M  922M
                                                             926M  932   979M  980M  981   982M  984M  986M 1023M 1025M
                                                            1027  1048  1103M 1104  1140M 1141M 1142  1143  1145M 1146M
                                                            1147
R3              1 00000003           U                2640   199M  200   337M  338M  339   340M  341   420M  421   457M
                                                             463   503M  506M  508M  514M  515M  516   579M  869M  871
                                                             873   874M  916M  920   921M
R4              1 00000004           U                2641   160M  161U  419M  420   447M  448   497M  498M  499   505
                                                             509   549M  550M  554   557M  558   559M  564M  565   568M
                                                             569M  570   577   581   591   592   660M  661   663   664M
                                                             665   667M  668   719M  724   727   728M  729   730M  731
                                                             752M  753   754M  755   788M  789   812M  813   814   815M
                                                             816   826M  827   828M  829   885M  886  1099M 1100M 1101
                                                            1104  1106  1108  1136M 1137M 1138  1147  1148  1149  1155
                                                            1214M 1215M 1216  1218M
R5              1 00000005           U                2642   166U 1022M 1023  1026M 1027  1040M 1196M 1200  1203  1208
                                                            1209M 1212  1216M
R6              1 00000006           U                2643   167   195   253   278   284   401   861   984  1021M 1030
                                                            1041M 1103  1145  1212M
R7              1 00000007           U                2644   162M  163U  250M  621M  622U  850M  851U  878M  879  1017M
                                                            1018U 1096M 1097U 1133M 1134U 1189M 1190U 1219M 1255M 1256U
                                                            1343M 1344U
R8              1 00000008           U                2645   188M  189U  190   206   276M  277   297   319   349   363
                                                             378   421   433   452   462   625M  643   668   680   706
                                                             793   803   854M  887   901   931   949  1037M 1259M 1270
R9              1 00000009           U                2646  1098M 1099  1101  1135M 1136  1138  1140  1142  1143
S               2 00000014 FFFFFFFF  H H              1444   720   723M  735   738M  876M  877M  981M 1106  1148
SAVAR           4 00000CF0 00000001  F F              1410   164M  165   251M  252   477   623M  624   739   852M  853
                                                             992  1191M 1192  1217
SAVCLO          4 0000095C 00000001  F F              1072  1019M 1020  1066
SAVEOD          4 00000BB0 00000001  F F              1292  1257M 1258  1276  1286
VIORCI          4 00000B1C 00000001  V V              1227  1204
VIORCN          4 00000D3C 00000001  A A              1415   690   989
VIOREN          4 00000D40 00000001  A A              1416   711   769
VIORNX          4 00000D44 00000001  A A              1417   878
WRITE1          4 000007DA 00000001  I                 915   908B
WRITE2          4 000007D2 00000001  I                 910   900B
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   158   184M  237M  248   272M  331M  387M  404M  405M  480M  619   646M  742M  848   904M  957M  958M  974M
           995M 1015  1062M 1069M 1094  1113M 1131  1152M 1187  1208M 1209  1210M 1213M 1214  1218M 1253  1277M 1287M
          1319M 1320M 1324M
    1(1)   158   182M  184   187   188   204M  206N  207   227M  238M  248   270M  272   275   276   295M  297N  298
           317M  319N  320   332M  335   336   347M  349N  350   361M  363N  364   376M  378N  379   388M  389M  409M
           412   413   414M  415   425M  426   431M  432   433N  434N  435N  440M  441   446M  448M  449   452M  453
           456   460M  461   462N  463N  464N  480M  619   637M  638   643M  647   672M  673   678M  679   680N  681N
           682N  700M  701   706M  707   710   742M  768M  776M  777   787M  789M  790   793M  794   797   801M  802
           803N  804N  805N  848   892M  893   901M  905   929M  930   931N  932N  933N  938M  939   947M  949N  950
           953M  954   956M  964M  975M  976M  995M 1015  1056M 1057M 1063M 1069M 1094  1113M 1131  1149  1152M 1187
          1196  1218M 1253  1268M 1270N 1271  1277M 1287M
    2(2)   158   248   326M  336M  337   339   341   413M  434   472   473M  474   475M  476   480M  504M  505M  574M
           575M  580M  581M  582M  619   659M  662   681   722M  723   735M  736M  737M  737N  738   742M  748M  749M
           750   759M  798M  804   811M  817   822M  823M  824   848   867M  868M  870   871M  875M  886M  887   915M
           917M  918M  922M  926M  932   979M  980M  981   982M  984M  986M  995M 1015  1023M 1025M 1027  1048  1069M
          1094  1103M 1104  1113M 1131  1140M 1141M 1142  1143  1145M 1146M 1147  1152M 1187  1218M 1253  1277M 1287M
    3(3)   158   199M  200   248   337M  338M  339   340M  341   420M  421   457M  463   480M  503M  505M  506M  508M
           514M  514N  515M  516   579M  581M  619   742M  848   869M  871   873   874M  874N  916M  920   921M  995M
          1015  1069M 1094  1113M 1131  1152M 1187  1218M 1253  1277M 1287M
    4(4)   158   160M  161U  248   419M  420   447M  448N  480M  497M  498M  499   505   509   549M  550M  554   557M
           558   559M  564M  565   568M  569M  570   577   581   591   592   619   660M  661   663   664M  665   667M
           668   719M  724   727   728M  728N  729   730M  731   742M  752M  753   754M  755   788M  789N  812M  813
           814   815M  816   826M  827   828M  829   848   885M  886   995M 1015  1069M 1094  1099M 1100M 1101  1104
          1106  1108  1113M 1131  1136M 1137M 1138  1147  1148  1149  1152M 1155  1187  1214M 1215M 1216  1218M 1253
          1277M 1287M
    5(5)   158   166U  248   480M  619   742M  848   995M 1015  1022M 1023  1026M 1027  1040M 1069M 1094  1113M 1131
          1152M 1187  1196M 1200  1203  1208  1209M 1212  1214M 1216M 1216N 1253  1277M 1287M
    6(6)   158   167   195   248   253   278   284   401   480M  619   742M  848   861   984   995M 1015  1021M 1030
          1041M 1069M 1094  1103  1113M 1131  1145  1152M 1187  1212M 1253  1277M 1287M
    7(7)   158   162M  163U  248   250M  480M  619   621M  622U  742M  848   850M  851U  878M  879B  995M 1015  1017M
          1018U 1069M 1094  1096M 1097U 1113M 1131  1133M 1134U 1152M 1187  1189M 1190U 1219M 1253  1255M 1256U 1277M
          1287M 1343M 1344U
    8(8)   158   188M  189U  190   206   248   276M  277   297   319   349   363   378   421   433   452   462   480M
           619   625M  643   668   680   706   742M  793   803   848   854M  887   901   931   949   995M 1015  1037M
          1069M 1094  1113M 1131  1152M 1187  1219M 1253  1259M 1270  1277M 1287M
    9(9)   158   248   480M  619   742M  848   995M 1015  1069M 1094  1098M 1099  1101  1113M 1131  1135M 1136  1138
          1140  1142  1143  1152M 1187  1219M 1253  1277M 1287M
   10(A)   158   248   480M  619   742M  848   995M 1015  1069M 1094  1113M 1131  1152M 1187  1219M 1253  1277M 1287M
   11(B)   158   248   480M  619   742M  848   995M 1015  1069M 1094  1113M 1131  1152M 1187  1219M 1253  1277M 1287M
   12(C)   158   248   326   335N  356   357N  392   396N  398N  480M  619   742M  848   995M 1015  1056N 1069M 1094
          1098N 1113M 1131  1135N 1152M 1159  1160N 1187  1198  1215N 1219M 1222  1223N 1253  1263  1264N 1277M 1287M
          1304  1325  1326N 1346  1347N
   13(D)   158   164   165M  248   251   252M  356M  392M  477M  480   619   623   624M  739M  742   848   852   853M
           992M  995  1015  1019  1020M 1066M 1069  1094  1113  1131  1152  1159M 1187  1191  1192M 1217M 1218  1219
          1222M 1253  1257  1258M 1263M 1276M 1277  1286M 1287  1325M 1346M
   14(E)   158   248   426M  427   428M  437M  441M  442   443M  454M  466M  480M  481B  597B  619   638M  639   640M
           648M  673M  674   675M  684M  691M  701M  702   703M  708M  712M  742M  743B  770M  777M  778   779M  795M
           807M  848   893M  894   895M  906M  935M  939M  940   941M  990M  995M  996B 1015  1039M 1051M 1069M 1070B
          1094  1113M 1114B 1131  1152M 1153B 1187  1205M 1218M 1220B 1253  1277M 1278B 1287M 1288B 1323B 1324B
   15(F)   154B  158   160   244B  248   250   427M  428B  435M  436M  437B  442M  443B  453M  454B  464M  465M  466B
           480M  615B  619   621   639M  640B  647M  648N  674M  675B  682M  683M  684B  690M  691B  702M  703B  707M
           708B  711M  712B  742M  769M  770B  778M  779B  794M  795B  805M  806M  807B  844B  848   850   894M  895B
           905M  906N  933M  934M  935B  940M  941B  989M  990B  995M 1011B 1015  1017  1038M 1039B 1050M 1051B 1069M
          1090B 1094  1096  1113M 1127B 1131  1133  1152M 1183B 1187  1189  1204M 1205B 1218M 1249B 1253  1277M 1287M
          1305U 1343
```

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

Dsect	Length	Id	Defn	Con	Member
DSTABLE	00000024	FFFFFFFF	1437	4	DSTABLE
IHADCB	00000120	FFFFFFFE	1488	1	DCBD

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               CHECK    CLOSE    DCB      DCBD     FREEMAIN GETMAIN  IEZREGS  IHBINNRA IHBRDWRS IHB01    NOTE
               OPEN     POINT    RDJFCB   READ     RETURN   SAVE     WRITE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE
  5 SYS1.AMODGEN
               IEFJFCBN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04 2012/08/17 13.21
161		USING	Ordinary	00000001	00000000	00001000	4	000E6	237	IHIIOROQ,R4	
163		USING	Ordinary	00000001	000000E6	00001000	7	00C83	593	IHIIOROP,R7	
166		USING	Ordinary	FFFFFFFF	00000000	00001000	5	00023	1345	DSTABLE,R5	
189		USING	Ordinary	FFFFFFFE	00000000	00001000	8	000C7	1285	IHADCB,R8	
622		USING	Ordinary	00000001	000004B4	00001000	7	0088C	830	IHIIORNX,R7	
851		USING	Ordinary	00000001	000006FC	00001000	7	00668	992	IHIIORCL,R7	
1018		USING	Ordinary	00000001	000008A6	00001000	7	004C0	1066	IHIIORCP,R7	
1097		USING	Ordinary	00000001	000009AC	00001000	7	0005A	1109	IHIIORCN,R7	
1134		USING	Ordinary	00000001	00000A0C	00001000	7	00078	1157	IHIIOREN,R7	
1190		USING	Ordinary	00000001	00000A8A	00001000	7	0026A	1217	IHIIOREV,R7	
1256		USING	Ordinary	00000001	00000B4C	00001000	7	00068	1286	*,R7	
1305		USING	Ordinary	00000001	00000BF8	00001000	15	00080	1322	IHIIORCI,R15	
1344		USING	Ordinary	00000001	00000C7C	00001000	7			IHIIORER,R7	

The following statements were flagged -

SYSD.ALGOLFRT.ASM(IHIIOR)
163(158), 622(508), 851(691), 1018(816), 1097(884), 1134(913), 1190(962), 1256(1023), 1305(1066), 1344(1105)

10 statements flagged in this assembly, 4 was the highest severity code.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIIOR PROCSTEP: X390

Primary input: lines 1 to 1169 of SYSD.ALGOLFRT.ASM(IHIIOR)

SYSLIB library records read: 6531

SYSUT1 work file size: 175394 bytes

SYSUT2 work file size: 622416 bytes

SYSUT3 work file size: 93520 bytes

SYSLIN file records written: 69

TXA000I Return code 4, elapsed time 2.38 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIIORTN	000D6A	6

IHIISY

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIISY)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0158
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    2 *                                                                          00002001
                                    3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                    4 *                                                                          00004001
                                    5 *        STATUS - LEVEL 2.1                                                00005001
                                    6 *                                                                          00006001
                                    7 *        FUNCTION/OPERATION -                                              00007001
                                    8 *        COMPARE ONE CHARACTER FROM AN INPUT BUFFER WITH AN                 00008001
                                    9 *        INTERNAL STRING AND ASSIGN WHEN CORRESPONDENCE POSITION           00009001
                                   10 *        NUMBER IN STRING TO THIRD ACTUAL PARAMETER                        00010001
                                   11 *                                                                          00011001
                                   12 *        ENTRY POINT - IHIISYMB - FROM GENERATED OBJECT MODULE             00012001
                                   13 *                      LA   R1,PARMLIST                                   00013001
                                   14 *                      BALR R14,R15                                       00014001
                                   15 *                      DATA PASSED BY NAME                                00015001
                                   16 *                                                                          00016001
                                   17 *        INPUT - N/A                                                       00017001
                                   18 *                                                                          00018001
                                   19 *        OUTPUT - N/A                                                      00019001
                                   20 *                                                                          00020001
                                   21 *        EXTERNAL ROUTINES -                                               00021001
                                   22 *        IHIIOR - EVALUATE DATASET NUMBER                                  00022001
                                   23 *               - OPEN DATASET                                             00023001
                                   24 *               - CHANGE TO NEXT INPUT RECORD                              00024001
                                   25 *                                                                          00025001
                                   26 *        EXITS - NORMAL - RELOAD REGISTERS AND RETURN VIA R14              00026001
                                   27 *              - ERROR  - INPUT REQUEST BEYOND END OF DATASET NO 5         00027001
                                   28 *                         BRANCH TO FSA                                    00028001
                                   29 *                         LA   R13,IHIFSA                                  00029001
                                   30 *                         B    FSAERR+XX*4(R13) XX ERROR NUMBER            00030001
                                   31 *                                                                          00031001
                                   32 *        TABLES/WORK AREAS - N/A                                           00032001
                                   33 *                                                                          00033001
000000                  00000 00150   34 IHIISYMB CSECT                                                         00034001
                                   35 *                                                                          00035001
                                   36 *        GENERAL REGISTER USAGE                                            00036001
                                   37 *                                                                          00037001
                                   38 *        R5                              -> DSTABLE ENTRY                  00038001
                                   39 *        R6                              DATASET NUMBER                    00039001
                                   40 *        R3                              -> DESTINATION                    00040001
                                   41 *        R4                              -> STRING SYMBOL                  00041001
                                   42 *        R9                              -> END OF STRING                  00042001
                                   43 *        R10                             CHARACTER POINTER                 00043001
                                   44 *        R8                              INCREMENT FOR LOOP                00044001
                                   45 *        R12                             -> FSA                            00045001
                                   46 *                                                                          00046001
                                   47 *        DISPLACEMENTS IN ADRLST IN IHIFSA                                 00047001
                                   48 *                                                                          00048001
                        00000      49 CI       EQU   0                         IHIIORCI                          00049001
                        00004      50 CL       EQU   4                         IHIIORCL                          00050001
                        00008      51 EV       EQU   8                         IHIIOREV                          00051001
                        0000C      52 NX       EQU   12                        IHIIORNX                          00052001
                        00010      53 OP       EQU   16                        IHIIOROP                          00053001
                        00014      54 OQ       EQU   20                        IHIIOROQ                          00054001
                                   55 *                                                                          00055001
                                   56          SAVE  (14,12),,'IHIISYMB LEVEL 2.1 &SYSDATE &SYSTIME'             00056001
000000 47F0 F026            00026  57+         B     38(0,15)                  BRANCH AROUND ID                  01-SAVE
000004 21                          58+         DC    AL1(33)                   LENGTH OF IDENTIFIER              01-SAVE
000005 C9C8C9C9E2E8D4C2            59+         DC    CL32'IHIISYMB LEVEL 2.1 08/17/12 13.2' IDENTIFIER         01-SAVE
000025 F1                          60+         DC    CL1'1'                    IDENTIFIER                        01-SAVE
000026 90EC D00C            0000C  61+         STM   14,12,12(13)              SAVE REGISTERS                    01-SAVE
00002A 187F                        62          LR    R7,R15                                                    00057001
                 R:7  00000        63          USING IHIISYMB,R7                                               00058001
00002C 18CD                        64          LR    R12,R13                   R12 -> FSA                      00059001
00002E 41D0 7104            00104  65          LA    R13,SAVEAREA              CHAIN SAVE AREAS                00060001
000032 50C0 7108            00108  66          ST    R12,SAVEAREA+4                                            00061001
000036 50D0 C008            00008  67          ST    R13,8(,R12)                                               00062001
                                   68 *                                                                          00063001
                                   69 *        EVALUATE DATASET NUMBER (EVDSN)                                   00064001
                                   70 *                                                                          00065001
00003A 58F0 C11C            0011C  71          L     R15,IORLST(,R12)                                          00066001
00003E 58F0 F008            00008  72          L     R15,EV(,R15)                                              00067001
000042 05EF                        73          BALR  R14,R15                   CALL IHIIOREV                     00068001
000044 5840 1004            00004  74          L     R4,4(,R1)                 R4 - STRING                       00069001
000048 5830 1008            00008  75          L     R3,8(,R1)                 R3 -> DESTINATION                 00070001
00004C 4180 0001            00001  76          LA    R8,1                      INCREMENT                         00071001
                                   77 *                                                                          00072001
                                   78 *        TEST IF DATASET IS OPEN                                           00073001
                                   79 *                                                                          00074001
                 R:5  00000        80          USING DSTABLE,R5                                                00075001
000050 94DF 501B      0001B        81          NI    DSF+1,255-DS10            SET DS10 = 0                    00076001
000054 9500 5019      00019        82          CLI   Q,0                       DATASET SECTIONED ?             00077001
000058 4770 70F0            000F0  83          BNE   ERROR2                    INCOMPATIBLE ACTION             00078001
00005C 18A6                        84          LR    R10,R6                    DATASET NO = 1 ?                00079001
00005E 46A0 7066            00066  85          BCT   R10,SYMBBB                NO, BRANCH                      00080001
000062 47F0 70F0            000F0  86          B     ERROR2                    INCOMPATIBLE ACTION             00081001
                                   87 *                                                                          00082001
000066 9180 501A      0001A        88 SYMBBB   TM    DSF,DS0                   DATASET OPEN ?                  00083001
00006A 4780 708E            0008E  89          BZ    SYMBDD                    NO, BRANCH                      00084001
                                   90 *                                       DATASET IS OPEN                 00085001
00006E 9120 501A      0001A        91 SYMBCC   TM    DSF,DS2                   LAST I/O OUTPUT ?               00086001
000072 4780 707A            0007A  92          BZ    SYMBEE                                                    00087001
000076 47F0 70F6            000F6  93          B     ERROR3                    INPUT BEYOND LAST OUTPUT        00088001
                                   94 *                                                                          00089001
00007A 9102 501A      0001A        95 SYMBEE   TM    DSF,DS6                   OPEN FOR OUTPUT OR EOD ?        00090001
00007E 4780 709C            0009C  96          BZ    EVSYMB                                                    00091001
000082 9101 501A      0001A        97          TM    DSF,DS7                   END OF DATA BEEN REACHED ?      00092001
```

Active USINGs: DSTABLE,R5 IHIISYMB,R7

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000086 4710 70FC            000FC    98          BO    ERROR5                INPUT RQUEST BEYOND END OF DATA  00093001
00008A 47F0 70F0            000F0    99          B     ERROR2                                                 00094001
                                     100 *                                                                   00095001
00008E 94FD 501A      0001A         101 SYMBDD    NI    DSF,255-DS6           SET DS6 = 0                      00096001
000092 58F0 C11C            0011C   102           L     R15,IORLST(,R12)                                       00097001
000096 58F0 F010            00010   103           L     R15,OP(,R15)          R15 -> IHIIOROP                  00098001
00009A 05EF                         104           BALR  R14,R15               CALL IHIIOROP TO OPEN DATASET    00099001
                                    105 *                                                                    00100001
00009C 4890 4000            00000   106 EVSYMB    LH    R9,0(,R4)             LENGTH OF STRING                 00101001
0000A0 0690                         107           BCTR  R9,0                                                 00102001
0000A2 1A94                         108           AR    R9,R4                 STRING-END LESS 1                00103001
0000A4 4140 4002            00002   109           LA    R4,2(,R4)             -> STRING-SYMBOL                 00104001
0000A8 58A0 5004            00004   110           L     R10,R                 CHARACTER POINTER                00105001
0000AC D500 A000 4000 00000 00000   111 SYMBLOOP  CLC   0(1,R10),0(R4)                                        00106001
0000B2 4780 70C0            000C0   112           BE    TERMINBB                                             00107001
0000B6 8748 70AC            000AC   113           BXLE  R4,R8,SYMBLOOP                                       00108001
0000BA 1B44                         114           SR    R4,R4                 ZERO INSERTED R4                 00109001
0000BC 47F0 70C6            000C6   115           B     TERMINAA                                             00110001
                                    116 *                                                                    00111001
0000C0 5B40 1004            00004   117 TERMINBB  S     R4,4(,R1)                                            00112001
0000C4 0640                         118           BCTR  R4,0                                                 00113001
0000C6 5040 3000            00000   119 TERMINAA  ST    R4,0(,R3)             NUMBER OF SYMBOL INSERTED        00114001
                                    120 *                                     DESTINATION                      00115001
0000CA 41A0 A001            00001   121 TERMIN    LA    R10,1(,R10)                                          00116001
0000CE 59A0 5008            00008   122           C     R10,RE                                               00117001
0000D2 47B0 70E2            000E2   123           BNL   NEXTREC                                              00118001
0000D6 50A0 5004            00004   124           ST    R10,R                                                00119001
0000DA 18DC                         125 TERMINCC  LR    R13,R12                                              00120001
                                    126 *                                                                    00121001
                                    127           RETURN (14,12)              RESTORE CALLERS REGS AND RETURN  00122001
0000DC 98EC D00C            0000C   128+          LM    14,12,12(13)                  RESTORE THE REGISTERS  01-RETUR
0000E0 07FE                         129+          BR    14                            RETURN                 01-RETUR
                                    130 *                                                                    00123001
0000E2 58F0 C11C            0011C   131 NEXTREC  L     R15,IORLST(,R12)                                     00124001
0000E6 58F0 F00C            0000C   132           L     R15,NX(,R15)          R15 -> IHIIORNX                  00125001
0000EA 05EF                         133           BALR  R14,R15               GET NEXT RECORD                  00126001
0000EC 47F0 70DA            000DA   134           B     TERMINCC                                             00127001
                                    135 *                                                                    00128001
0000F0 18DC                         136 ERROR2    LR    R13,R12                                              00129001
0000F2 47FC 01D4            001D4   137           B     FSAERR+2*4(R12)       INCOMPATIBLE ACTION ON DATASET   00130001
                                    138 *                                                                    00131001
0000F6 18DC                         139 ERROR3    LR    R13,R12                                              00132001
0000F8 47FC 01D8            001D8   140           B     FSAERR+3*4(R12)       INPUT BEYOND LAST OUTPUT         00133001
                                    141 *                                                                    00134001
0000FC 18DC                         142 ERROR5    LR    R13,R12                                              00135001
0000FE 47FC 01E0            001E0   143           B     FSAERR+5*4(R12)       INPUT REQUEST BEYOND END OF DATA 00136001
                                    144 *                                                                    00137001
000102 0000
000104 0000000000000000             145 SAVEAREA  DC    18F'0'                SAVE AREA                        00138001
                                    146 *                                                                    00139001
000150                              147           LTORG                                                      00140001
                                    148 *                                                                    00141001
                                    149           DSTABLE DSECT=YES                                          00142001
000000                00000 00024   150+DSTABLE   DSECT                                                    01-DSTAB
                                    151+*                                                                  01-DSTAB
000000 00000000                     152+ADCB      DC    F'0'                    -> DCB                     01-DSTAB
000004 00000000                     153+R         DC    F'0'                    CHARACTER POINTER          01-DSTAB
000008 00000000                     154+RE        DC    F'0'                                               01-DSTAB
00000C 00000000                     155+NBB       DC    F'0'                                               01-DSTAB
000010 00000000                     156+BB        DC    F'0'                                               01-DSTAB
000014 0001                         157+S         DC    H'1'                    RECORD POINTER             01-DSTAB
000016 0050                         158+P         DC    H'80'                   RECORD LENGTH              01-DSTAB
000018 02                           159+K         DC    X'02'                   NUMBER OF BLANK DELIM CHARS  01-DSTAB
000019 00                           160+Q         DC    X'00'                   NO OF RECORDS PER SECTION  01-DSTAB
00001A 0000                         161+DSF       DC    H'00'                   DATASET FLAGS              01-DSTAB
                                    162+*                                                                  01-DSTAB
                                    163+*         DATASET FLAGS - DSF                                      01-DSTAB
                                    164+*                                                                  01-DSTAB
                      00080         165+DS0       EQU   X'80'                   DATASET OPEN               01-DSTAB
                      00040         166+DS1       EQU   X'40'                                              01-DSTAB
                      00020         167+DS2       EQU   X'20'                   LAST I/O OUTPUT            01-DSTAB
                      00010         168+DS3       EQU   X'10'                                              01-DSTAB
                      00008         169+DS4       EQU   X'08'                                              01-DSTAB
                      00004         170+DS5       EQU   X'04'                                              01-DSTAB
                      00002         171+DS6       EQU   X'02'                   OPEN FOR OUTPUT            01-DSTAB
                      00001         172+DS7       EQU   X'01'                   END OF FILE                01-DSTAB
                                    173+*                                                                  01-DSTAB
                                    174+*         DATASET FLAGS - DSF+1                                    01-DSTAB
                                    175+*                                                                  01-DSTAB
                      00080         176+DS8       EQU   X'80'                   END OF DATA                01-DSTAB
                      00040         177+DS9       EQU   X'40'                                              01-DSTAB
                      00020         178+DS10      EQU   X'20'                   OPENED BY SYSACT 12        01-DSTAB
                      00010         179+DS11      EQU   X'10'                   INDICATE IHIERR-ROUT       01-DSTAB
                      00008         180+DSEOD     EQU   X'08'                                              01-DSTAB
                      00004         181+DSIOERR   EQU   X'04'                   I/O ERROR                  01-DSTAB
                      00002         182+DS14      EQU   X'02'                   DATASET OPENED             01-DSTAB
                      00001         183+DS15      EQU   X'01'                   CLOSE FROM IHIERR          01-DSTAB
                                    184+*                                                                  01-DSTAB
00001C 00000000                     185+NOTEADR   DC    F'0'                                               01-DSTAB
000020 0000                         186+BL        DC    H'0'                    LRECL+ TWO ARB             01-DSTAB
000022 0000                         187+          DC    H'0'                                               01-DSTAB
                                    188+*                                                                  01-DSTAB
                      00024         189+DSTABLEL  EQU   *-DSTABLE               L'DSTABLE ENTRY            01-DSTAB
                                    190+*                                                                  01-DSTAB
                                    191 *                                                                    00143001
000000                00000 00120   192 FAS       DSECT                                                    00144001
```

```
D-Loc  Object Code      Addr1 Addr2  Stmt   Source Statement                                      X390 3.1.04  2012/08/17 13.21

                                      193 *                                                                      00145001
                                      194          COPY  FSAREA                                                  00146001
                                      195=*                                                                      00001001
                                      196=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                    00002001
                                      197=*                                                                      00003001
                                      198=*        STATUS - LEVEL 2.1                                            00004001
                                      199=*                                                                      00005001
                                      200=*********************************************************************** 00006001
                                      201=*                                                                      00007001
                                      202=*        COMMON DATA AREA                                              00008001
                                      203=*                                                                      00009001
                                      204=*        FSAREA                                                        00010001
                                      205=*                                                                      00011001
                                      206=*********************************************************************** 00012001
                                      207=*                                                                      00013001
                                      208=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                    00014001
                                      209=*        MODULES DURING THE EXECUTION                                  00015001
                                      210=*                                                                      00016001
                                      211=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY                 00017001
                                      212=*        SUBROUTINES) BY R12                                           00018001
                                      213=*                                                                      00019001
                      00000           214=FSAREA   EQU   *                                                       00020001
                                      215=*                                                                      00021001
                                      216=*        SAVE AREAS                                                    00022001
                                      217=*                                                                      00023001
000000                                218=         DS    18F                    STANDARD SAVE AREA               00024001
                      00048           219=ASAVE    EQU   *-FSAREA               ALTERNATE SAVE AREA USED BY      00025001
000048                                220=         DS    18F                    CERTAIN SUBROUTINES              00026001
                                      221=*                                                                      00027001
                                      222=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                        00028001
                                      223=*                                                                      00029001
                      00090           224=FCTVALST EQU   *-FSAREA               TEMPORARY STORAGE FOR            00030001
000090                                225=         DS    D                      FUNCTION VALUES                  00031001
                      00098           226=ASTLOC   EQU   *-FSAREA               DISPL FOR ADDR OF STAND LOCTN    00032001
000098 00000090                       227=         DC    A(FSAREA+FCTVALST)                                      00033001
                      0009C           228=BRRST    EQU   *-FSAREA               TEMPORARY SAVE REG BRR           00034001
                      0009C           229=HW       EQU   BRRST                  TEMPORARY HALFWORD STORAGE       00035001
00009C                                230=         DS    F                                                       00036001
                      000A0           231=PROLREG  EQU   *-FSAREA               STORAGE FOR PBT AND LAT WHEN     00037001
0000A0                                232=         DS    2A                     A PROCEDURE IS FORMAL PARAM      00038001
                                      233=*                                                                      00039001
                                      234=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE        00040001
                                      235=*                                                                      00041001
0000A8                                236=         DS    0H                                                      00042001
0000A8 00                             237=         DC    X'00'                                                   00043001
                      000A9           238=PROLPBN  EQU   *-FSAREA               STORAGE FOR CALLED PBN           00044001
0000A9 00                             239=         DC    X'00'                                                   00045001
                      000AA           240=EIGHT    EQU   *-FSAREA               CONST FOR REDUCING RAS           00046001
0000AA 0008                           241=         DC    H'8'                                                    00047001
                                      242=*                                                                      00048001
0000AC                                243=         DS    0F                                                      00049001
                      000AC           244=ADSTAB   EQU   *-FSAREA               ADDR OF DSTABLE                  00050001
0000AC                                245=         DS    A                      IN THE OBJECT PROGRAM            00051001
                      000B0           246=ANOTTAB  EQU   *-FSAREA               ADDR OF NOTE TABLE               00052001
0000B0                                247=         DS    A                      (INSERTED BY THE OPEN ROUTINE)   00053001
                                      248=*                                                                      00054001
                      000B4           249=IHIFSAST EQU   *                                                       00055001
                      000B4           250=PGOPSW   EQU   *-FSAREA               PROGRAM CHECK OLD PSW            00056001
0000B4                                251=         DS    2F                                                      00057001
                      000BC           252=FSAPICA  EQU   *-FSAREA               OLD PICA ADDR                    00058001
0000BC 00000000                       253=         DC    F'0'                                                    00059001
                      000C0           254=SCRCS    EQU   *-FSAREA               SEMICOLON NUMBER                 00060001
0000C0                                255=         DS    H                                                       00061001
                      000C2           256=DTSW     EQU   *-FSAREA               OPTION SWITCHES                  00062001
                      000C2           257=OPTSW    EQU   DTSW                                                    00063001
0000C2 00                             258=         DC    X'00'                  DUMP-80, TRACE-40, SHORT-20      00064001
                      000C3           259=FSAERCOD EQU   *-FSAREA               ERROR CODE FOR ERROR ROUTINE     00065001
0000C3                                260=         DS    C                                                       00066001
                                      261=*                                                                      00067001
                                      262=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER             00068001
                                      263=*                                                                      00069001
0000C4                                264=         DS    0F                                                      00070001
                      000C4           265=IHIFSARS EQU   *                                                       00071001
                      000C4           266=RASSTART EQU   *-FSAREA               ADDR OF FIRST ENTRY IN RAS-8     00072001
0000C4                                267=         DS    F                                                       00073001
                      000C8           268=RASPT    EQU   *-FSAREA               RAS POINTER FROM TOP             00074001
0000C8                                269=         DS    F                                                       00075001
                      000CC           270=RASEND   EQU   *-FSAREA               ADDR OF LAST  ENTRY IN RAS+8     00076001
0000CC                                271=         DS    F                                                       00077001
                      000D0           272=RASPB    EQU   *-FSAREA               RAS POINTER FROM BOTTOM          00078001
0000D0                                273=         DS    F                                                       00079001
                                      274=*                                                                      00080001
                                      275=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES      00081001
                                      276=*                                                                      00082001
0000D4                                277=BRLIST   DS    0F                                                      00083001
                      000D4           278=CAP1     EQU   *-FSAREA               FIRST PART CAPS                  00084001
0000D4 4700 0000            00000     279=         NOP   0                                                       00085001
                      000D8           280=CAP2     EQU   *-FSAREA               SECOND PART CAPS                 00086001
0000D8 4700 0000            00000     281=         NOP   0                                                       00087001
                      000DC           282=PROLOGP  EQU   *-FSAREA               PROLOGUE FORMAL PARAMETER ENTRY  00088001
                      000DC           283=PROLOGFP EQU   PROLOGP                                                 00089001
0000DC 4700 0000            00000     284=         NOP   0                                                       00090001
                      000E0           285=PROLOG   EQU   *-FSAREA               PROLOGUE PROGRAM USUAL ENTRY     00091001
0000E0 4700 0000            00000     286=         NOP   0                                                       00092001
                      000E4           287=RETPROG  EQU   *-FSAREA               DISPLACEMENT RETURN PROGRAM      00093001
0000E4 4700 0000            00000     288=         NOP   0                                                       00094001
```

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.21

                      000E8         289=EPILOGP  EQU   *-FSAREA              EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000            00000   290=         NOP   0                                                      00096001
                      000EC         291=EPILOGB  EQU   *-FSAREA              EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000            00000   292=         NOP   0                                                      00098001
                      000F0         293=EPILPR3  EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3         00099001
0000F0 4700 0000            00000   294=         NOP   0                                                      00100001
                      000F4         295=CSWE1    EQU   *-FSAREA              FIRST PART CSWES                 00101001
0000F4 4700 0000            00000   296=         NOP   0                                                      00102001
                      000F8         297=CSWE2    EQU   *-FSAREA              SECOND PART CSWES                00103001
0000F8 4700 0000            00000   298=         NOP   0                                                      00104001
                      000FC         299=LOADPP   EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE    00105001
0000FC 4700 0000            00000   300=         NOP   0                                                      00106001
                      00100         301=TRACE    EQU   *-FSAREA                                               00107001
000100 D200 0000 0000 00000 00000   302=         MVC   0(0),0                                                 00108001
000106 4700 0000            00000   303=         NOP   0                                                      00109001
00010A 4700 0000            00000   304=         NOP   0                                                      00110001
                      0010E         305=TERMNTE  EQU   *-FSAREA              NORMAL TERMINATION EXIT          00111001
00010E 4700 0000            00000   306=         NOP   0                                                      00112001
                      00112         307=BCR      EQU   *-FSAREA                                               00113001
000112 0700                         308=         BCR   0,0                   VARIABLE CONDITIONAL BRANCH      00114001
                      00114         309=GETMSTO  EQU   *-FSAREA                                               00115001
000114 4700 0000            00000   310=         NOP   0                                                      00116001
                                    311=*                                                                    00117001
                      00118         312=VALUCALL EQU   *-FSAREA                                               00118001
000118 4700 0000            00000   313=         NOP   0                                                      00119001
                      0011C         314=IORLST   EQU   *-FSAREA                                               00120001
00011C 4700 0000            00000   315=         NOP   0                                                      00121001
                                    316=*                                                                    00122001
                      001CC         317=FSAERR   EQU   X'1CC'                DISPL  FOR ERROR LIST            00123001
                                    318=*                                                                    00124001
                                    319=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                00125001
                                    320=*                                                                    00126001
                      0020C         321=OUTOFB   EQU   FSAERR+4*16                                           00127001
                      00218         322=NUMBIND  EQU   FSAERR+4*19                                           00128001
                      00208         323=ARRAYBD  EQU   FSAERR+4*15                                           00129001
                      0026C         324=ERROR40  EQU   FSAERR+4*40                                           00130001
                      00224         325=OERR22   EQU   FSAERR+4*22                                           00131001
                      00210         326=ENDLESL  EQU   FSAERR+4*17                                           00132001
                      00220         327=OERR21   EQU   FSAERR+4*21                                           00133001
                                    328=*                                                                    00134001
                                    329 *                                                                    00147001
                                    330 *        REGISTER EQUATES                                            00148001
                                    331 *                                                                    00149001
                                    332          IEZREGS                                                     00150001
                      00000         333+R0       EQU   0                                                     01-IEZRE
                      00001         334+R1       EQU   1                                                     01-IEZRE
                      00002         335+R2       EQU   2                                                     01-IEZRE
                      00003         336+R3       EQU   3                                                     01-IEZRE
                      00004         337+R4       EQU   4                                                     01-IEZRE
                      00005         338+R5       EQU   5                                                     01-IEZRE
                      00006         339+R6       EQU   6                                                     01-IEZRE
                      00007         340+R7       EQU   7                                                     01-IEZRE
                      00008         341+R8       EQU   8                                                     01-IEZRE
                      00009         342+R9       EQU   9                                                     01-IEZRE
                      0000A         343+R10      EQU   10                                                    01-IEZRE
                      0000B         344+R11      EQU   11                                                    01-IEZRE
                      0000C         345+R12      EQU   12                                                    01-IEZRE
                      0000D         346+R13      EQU   13                                                    01-IEZRE
                      0000E         347+R14      EQU   14                                                    01-IEZRE
                      0000F         348+R15      EQU   15                                                    01-IEZRE
                                    349 *                                                                    00151001
                                    350          END                                                         00152001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
BRRST           1 0000009C           U                 228  229
DSF             2 0000001A FFFFFFFF  H H               161   81M  88   91   95   97  101M
DSTABLE         1 00000000 FFFFFFFF  J                 150   80U 189
DS0             1 00000080           U                 165   88
DS10            1 00000020           U                 178   81
DS2             1 00000020           U                 167   91
DS6             1 00000002           U                 171   95  101
DS7             1 00000001           U                 172   97
DTSW            1 000000C2           U                 256  257
ERROR2          2 000000F0 00000001  I                 136   83B  86B  99B
ERROR3          2 000000F6 00000001  I                 139   93B
ERROR5          2 000000FC 00000001  I                 142   98B
EV              1 00000008           U                  51   72
EVSYMB          4 0000009C 00000001  I                 106   96B
FCTVALST        1 00000090           U                 224  227
FSAERR          1 000001CC           U                 317  137B 140B 143B 321  322  323  324  325  326  327
FSAREA          1 00000000 FFFFFFFE  U                 214  219  224  226  227  228  231  238  240  244  246  250  252
                                                           254  256  259  266  268  270  272  278  280  282  285  287
                                                           289  291  293  295  297  299  301  305  307  309  312  314
IHIISYMB        1 00000000 00000001  J                  34   63U
IORLST          1 0000011C           U                 314   71  102  131
NEXTREC         4 000000E2 00000001  I                 131  123B
NX              1 0000000C           U                  52  132
OP              1 00000010           U                  53  103
PROLOGP         1 000000DC           U                 282  283
Q               1 00000019 FFFFFFFF  X X               160   82
R               4 00000004 FFFFFFFF  F F               153  110  124M
RE              4 00000008 FFFFFFFF  F F               154  122
R1              1 00000001           U                 334   74   75  117
R10             1 0000000A           U                 343   84M  85M 110M 111  121M 122  124
R12             1 0000000C           U                 345   64M  66   67   71  102  125  131  136  137  139  140  142
                                                          143
R13             1 0000000D           U                 346   64   65M  67  125M 136M 139M 142M
R14             1 0000000E           U                 347   73M 104M 133M
R15             1 0000000F           U                 348   62   71M  72M  73B 102M 103M 104B 131M 132M 133B
R3              1 00000003           U                 336   75M 119
R4              1 00000004           U                 337   74M 106  108  109M 111  113M 114M 117M 118M 119
R5              1 00000005           U                 338   80U
R6              1 00000006           U                 339   84
R7              1 00000007           U                 340   62M  63U
R8              1 00000008           U                 341   76M 113
R9              1 00000009           U                 342  106M 107M 108M
SAVEAREA        4 00000104 00000001  F F               145   65   66M
SYMBBB          4 00000066 00000001  I                  88   85B
SYMBDD          4 0000008E 00000001  I                 101   89B
SYMBEE          4 0000007A 00000001  I                  95   92B
SYMBLOOP        6 000000AC 00000001  I                 111  113B
TERMINAA        4 000000C6 00000001  I                 119  115B
TERMINBB        4 000000C0 00000001  I                 117  112B
TERMINCC        2 000000DA 00000001  I                 125  134B
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   61  128M
    1(1)   61   74   75  117  128M
    2(2)   61  128M
    3(3)   61   75M 119  128M
    4(4)   61   74M 106  108  109M 111  113M 114M 117M 118M 119  128M
    5(5)   61   80U 128M
    6(6)   61   84  128M
    7(7)   61   62M  63U 128M
    8(8)   61   76M 113  128M
    9(9)   61  106M 107M 108M 113  128M
   10(A)   61   84M  85M 110M 111  121M 122  124  128M
   11(B)   61  128M
   12(C)   61   64M  66   67   71  102  125  128M 131  136  137N 139  140N 142  143N
   13(D)   61   64   65M  67  125M 128  136M 139M 142M
   14(E)   61   73M 104M 128M 129B 133M
   15(F)   57B  61   62   71M  72M  73B 102M 103M 104B 128M 131M 132M 133B
```

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

```
DSTABLE   00000024  FFFFFFFF    150    4  DSTABLE
FAS       00000120  FFFFFFFE    192       PRIMARY INPUT
```

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
63		USING	Ordinary	00000001	00000000	00001000	7	00108	134	IHIISYMB,R7
80		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001B	124	DSTABLE,R5

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIISY PROCSTEP: X390

Primary input: lines 1 to 152 of SYSD.ALGOLFRT.ASM(IHIISY)

SYSLIB library records read: 362

SYSUT1 work file size: 32008 bytes

SYSUT2 work file size: 17960 bytes

SYSUT3 work file size: 12160 bytes

SYSLIN file records written: 8

TXA000I Return code 0, elapsed time 0.23 seconds.

Csect	Rel Addr(hex)	Length(dec)
IHIISYMB	00014C	4

IHILAT

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHILAT)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0162
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     2 *                                                                          00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                     4 *                                                                          00004001
                                     5 *        STATUS - LEVEL 2.1                                                00005001
                                     6 *                                                                          00006001
                                     7 *        FUNCTION/OPERATION-                                               00007001
                                     8 *        1. REDUCE THE CASE TO THE 1ST OCTANT BY USING                     00008001
                                     9 *           ATAN(-X) = -ATAN(X), ATAN(1/X) = PI/2-ATAN(X)                  00009001
                                    10 *        2. REDUCE FURTHER TO THE CASE /X/ LESS THAN TAN(PI/2) BY          00010001
                                    11 *           ATAN(X)=PI/6+ATAN((X*SQRT3-1)/(X+SQRT3)                        00011001
                                    12 *        3. FOR THE BASIC RANGE (X LESS THAN TAN(PI/12)),                  00012001
                                    13 *           USE A FRACTIONAL APPROXIMATION                                 00013001
                                    14 *                                                                          00014001
                                    15 *        ENTRY POINT -                                                     00015001
                                    16 *        IHILAT - ATAN FUNCTION, LONG                                      00016001
                                    17 *                 LA   R1,PARMLIST                                         00017001
                                    18 *                 BALR R14,R15                                             00018001
                                    19 *                 DATA PASSED BY NAME                                      00019001
                                    20 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00020001
                                    21 *                                                                          00021001
                                    22 *        INPUT - N/A                                                       00022001
                                    23 *                                                                          00023001
                                    24 *        OUTPUT - N/A                                                      00024001
                                    25 *                                                                          00025001
                                    26 *        EXTERNAL ROUTINES - N/A                                           00026001
                                    27 *                                                                          00027001
                                    28 *        EXIT - NORMAL -                                                   00028001
                                    29 *        RETURN VIA R14, RESULT IN FPR0                                    00029001
                                    30 *                                                                          00030001
                                    31 *        EXIT - ERROR - N/A                                                00031001
                                    32 *                                                                          00032001
                                    33 *        TABLES/WORKAREAS - N/A                                            00033001
                                    34 *                                                                          00034001
000000                00000 00158   35 IHILATAN CSECT                                                           00035001
                                    36 *                                                                          00036001
                                    37          ENTRY IHILAT                                                      00037001
                                    38 *                                                                          00038001
                      00000         39 FPR0     EQU   0                     RESULT REGISTER                       00039001
                      00002         40 FPR2     EQU   2                     SCRATCH REGISTERS                     00040001
                      00004         41 FPR4     EQU   4                                                           00041001
                      00006         42 FPR6     EQU   6                                                           00042001
                                    43 *                                                                          00043001
                                    44 IHILAT   SAVE  (14,12),,'IHILATAN LEVEL 2.1 &SYSDATE &SYSTIME'             00044001
000000 47F0 F026            00026   45+IHILAT   B     38(0,15)                        BRANCH AROUND ID        01-SAVE
000004 21                           46+         DC    AL1(33)                         LENGTH OF IDENTIFIER    01-SAVE
000005 C9C8C9D3C1E3C1D5             47+         DC    CL32'IHILATAN LEVEL 2.1 08/17/12 13.2' IDENTIFIER       01-SAVE
000025 F1                           48+         DC    CL1'1'                          IDENTIFIER              01-SAVE
000026 90EC D00C            0000C   49+         STM   14,12,12(13)                    SAVE REGISTERS          01-SAVE
                                    50 *                                                                          00045001
                 R:F  00000         51          USING IHILATAN,R15                                                00046001
00002A 5810 1000            00000   52          L     R1,0(,R1)                                                   00047001
00002E 6800 1000            00000   53          LD    FPR0,0(,R1)               OBTAIN ARGUMENT                   00048001
000032 7000 F0C8            000C8   54          STE   FPR0,SIGN                 SAVE ARG FOR SIGN CONTROL         00049001
000036 3000                         55          LPER  FPR0,FPR0                 SET SIGN POSITIVE                 00050001
000038 1B11                         56          SR    R1,R1                     R1 FOR DISTINGUISHING CASES       00051001
00003A 7900 F140            00140   57          CE    FPR0,ONE                                                    00052001
00003E 4740 F04E            0004E   58          BL    SKIP1                                                       00053001
000042 6820 F140            00140   59          LD    FPR2,ONE                  IF X > 1, TAKE INVERSE            00054001
000046 2D20                         60          DDR   FPR2,FPR0                                                   00055001
000048 2802                         61          LDR   FPR0,FPR2                                                   00056001
00004A 4110 0010            00010   62          LA    R1,16                     INCR R1 BY 16                     00057001
00004E 7900 F150            00150   63 SKIP1    CE    FPR0,TAN15                                                  00058001
000052 47D0 F070            00070   64          BNH   SKIP2                                                       00059001
000056 2820                         65          LDR   FPR2,FPR0                 IF X >TAN(PI/12),                 00060001
000058 6C00 F0D0            000D0   66          MD    FPR0,RT3M1                REDUCE X TO (X*SQRT3-1)/(X+SQRT3) 00061001
00005C 6B00 F148            00148   67          SD    FPR0,HALF                                                   00062001
000060 6B00 F148            00148   68          SD    FPR0,HALF                 COMPUTE X*SQRT3-1 AS              00063001
000064 2A02                         69          ADR   FPR0,FPR2                 X*(SQRT3-1)-0.5-0.5+X             00064001
000066 6A20 F0D8            000D8   70          AD    FPR2,RT3                  TO GAIN ACCURACY                  00065001
00006A 2D02                         71          DDR   FPR0,FPR2                                                   00066001
00006C 4110 1008            00008   72          LA    R1,8(,R1)                 INCR R1 BY 8                      00067001
000070 2860                         73 SKIP2    LDR   FPR6,FPR0                 COMPUTE ATAN OF REDUCED           00068001
000072 2C00                         74          MDR   FPR0,FPR0                 ARGUMENT BY                       00069001
000074 2820                         75          LDR   FPR2,FPR0                 ATAN(X) = X(1+F*XSQ)              00070001
000076 6A20 F118            00118   76          AD    FPR2,BETA4                                                  00071001
00007A 6840 F110            00110   77          LD    FPR4,ALPHA4               F = A1/(B1+XSQ+A2/(B2+XSQ+A3      00072001
00007E 2D42                         78          DDR   FPR4,FPR2                       /(B3+XSQ+A4/(B4+XSQ))..)    00073001
000080 2A40                         79          ADR   FPR4,FPR0                                                   00074001
000082 6A40 F108            00108   80          AD    FPR4,BETA3                                                  00075001
000086 6820 F100            00100   81          LD    FPR2,ALPHA3                                                 00076001
00008A 2D24                         82          DDR   FPR2,FPR4                                                   00077001
00008C 2A20                         83          ADR   FPR2,FPR0                                                   00078001
00008E 6A20 F0F8            000F8   84          AD    FPR2,BETA2                                                  00079001
000092 6840 F0F0            000F0   85          LD    FPR4,ALPHA2                                                 00080001
000096 2D42                         86          DDR   FPR4,FPR2                                                   00081001
000098 2A40                         87          ADR   FPR4,FPR0                                                   00082001
00009A 6A40 F0E8            000E8   88          AD    FPR4,BETA1                                                  00083001
00009E 6820 F0E0            000E0   89          LD    FPR2,ALPHA1                                                 00084001
0000A2 2D24                         90          DDR   FPR2,FPR4                                                   00085001
0000A4 2C02                         91          MDR   FPR0,FPR2                                                   00086001
0000A6 2C06                         92          MDR   FPR0,FPR6                                                   00087001
0000A8 2A06                         93          ADR   FPR0,FPR6                                                   00088001
0000AA 5910 F154            00154   94          C     R1,KF16                   DEPENDING ON THE CASE EITHER ADD  00089001
0000AE 4740 F0B8            000B8   95          BL    SKIP3                     0 OR PI/6 OR SUBTRACT FROM PI/3   00090001
0000B2 3300                         96          LCER  FPR0,FPR0                 OR PI/2.  DO LATTER IN 2 STEPS    00091001
0000B4 6A01 F110            00110   97          AD    FPR0,PO2M1-16(R1)                                           00092001
```

Active USINGs: IHILATAN,R15

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

0000B8 6A01 F130            00130    98 SKIP3    AD    FPR0,ZERO(R1)                                          00093001
0000BC 9180 F0C8      000C8          99          TM    SIGN,X'80'              SIGN NEGATIVE ?                00094001
0000C0 4780 F0C6            000C6   100          BZ    SKIP4                   YES, ANSWER IS NEGATIVE        00095001
0000C4 3300                         101          LCER  FPR0,FPR0                                              00096001
0000C6 07FE                         102 SKIP4    BR    R14                     RETURN                         00097001
                                    103 *                                                                      00098001
0000C8 00000000                     104 SIGN     DC    F'0'                                                   00099001
0000CC 00000000
0000D0                              105          DC    0D'0'                                                  00100001
0000D0 40BB67AE8584CAA8             106 RT3M1    DC    X'40BB67AE8584CAA8'      SQRT(3)-1                     00101001
0000D8 411BB67AE8584CAB             107 RT3      DC    X'411BB67AE8584CAB'      SQRT(3)                       00102001
0000E0 C0D5F788DF6CB457             108 ALPHA1   DC    X'C0D5F788DF6CB457'       -0.8358083291502266          00103001
0000E8 414D42F041242098             109 BETA1    DC    X'414D42F041242098'       4.828842405755528           00104001
0000F0 C1DD6E91F2AD24DF             110 ALPHA2   DC    X'C1DD6E91F2AD24DF'      -13.839494655565710          00105001
0000F8 4168C2DCB9C0437F             111 BETA2    DC    X'4168C2DCB9C0437F'       6.547573781576119           00106001
000100 C1138256FCDD5CB6             112 ALPHA3   DC    X'C1138256FCDD5CB6'       -1.219321239235610          00107001
000108 41224D09A3EFF7AC             113 BETA3    DC    X'41224D09A3EFF7AC'       2.143808021908152           00108001
000110 C0145A9C5C07FB43             114 ALPHA4   DC    X'C0145A9C5C07FB43'       -0.07950761076788829        00109001
000118 4114451896975D03             115 BETA4    DC    X'4114451896975D03'       1.266869152304765           00110001
000120 40921FB54442D184             116 PO2M1    DC    X'40921FB54442D184'       90 DEGREES MINUS ONE        00111001
000128 408C152382D73658             117          DC    X'408C152382D73658'       60 DEGREES MINUS HALF       00112001
000130 0000000000000000             118 ZERO     DC    D'0'                     0                            00113001
000138 40860A91C16B9B2D             119          DC    X'40860A91C16B9B2D'      30 DEGREES                    00114001
000140 4110000000000000             120 ONE      DC    X'4110000000000000'                                    00115001
000148 4080000000000000             121 HALF     DC    X'4080000000000000'                                    00116001
000150 40449851                     122 TAN15    DC    X'40449851'                                            00117001
000154 00000010                     123 KF16     DC    F'16'                                                  00118001
                                    124 *                                                                      00119001
                                    125 *        REGISTER EQUATES                                              00120001
                                    126 *                                                                      00121001
                                    127          IEZREGS                                                       00122001
                      00000         128+R0       EQU   0                                                       01-IEZRE
                      00001         129+R1       EQU   1                                                       01-IEZRE
                      00002         130+R2       EQU   2                                                       01-IEZRE
                      00003         131+R3       EQU   3                                                       01-IEZRE
                      00004         132+R4       EQU   4                                                       01-IEZRE
                      00005         133+R5       EQU   5                                                       01-IEZRE
                      00006         134+R6       EQU   6                                                       01-IEZRE
                      00007         135+R7       EQU   7                                                       01-IEZRE
                      00008         136+R8       EQU   8                                                       01-IEZRE
                      00009         137+R9       EQU   9                                                       01-IEZRE
                      0000A         138+R10      EQU   10                                                      01-IEZRE
                      0000B         139+R11      EQU   11                                                      01-IEZRE
                      0000C         140+R12      EQU   12                                                      01-IEZRE
                      0000D         141+R13      EQU   13                                                      01-IEZRE
                      0000E         142+R14      EQU   14                                                      01-IEZRE
                      0000F         143+R15      EQU   15                                                      01-IEZRE
                                    144 *                                                                      00123001
                                    145          END                                                           00124001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
ALPHA1          8 000000E0 00000001  X X               108   89
ALPHA2          8 000000F0 00000001  X X               110   85
ALPHA3          8 00000100 00000001  X X               112   81
ALPHA4          8 00000110 00000001  X X               114   77
BETA1           8 000000E8 00000001  X X               109   88
BETA2           8 000000F8 00000001  X X               111   84
BETA3           8 00000108 00000001  X X               113   80
BETA4           8 00000118 00000001  X X               115   76
FPR0            1 00000000           U                  39   53M  54   55M  57   60   61M  63   65   66M  67M  68M  69M
                                                             71M  73   74M  75   79   83   87   91M  92M  93M  96M  97M
                                                             98M 101M
FPR2            1 00000002           U                  40   59M  60M  61   65M  69   70M  71   75M  76M  78   81M  82M
                                                             83M  84M  86   89M  90M  91
FPR4            1 00000004           U                  41   77M  78M  79M  80M  82   85M  86M  87M  88M  90
FPR6            1 00000006           U                  42   73M  92   93
HALF            8 00000148 00000001  X X               121   67   68
IHILAT          4 00000000 00000001  I                  45   37
IHILATAN        1 00000000 00000001  J                  35   51U
KF16            4 00000154 00000001  F F               123   94
ONE             8 00000140 00000001  X X               120   57   59
PO2M1           8 00000120 00000001  X X               116   97
RT3             8 000000D8 00000001  X X               107   70
RT3M1           8 000000D0 00000001  X X               106   66
R1              1 00000001           U                  129   52M  53   56M  62M  72M  94   97   98
R14             1 0000000E           U                  142  102B
R15             1 0000000F           U                  143   51U
SIGN            4 000000C8 00000001  F F               104   54M  99
SKIP1           4 0000004E 00000001  I                   63   58B
SKIP2           2 00000070 00000001  I                   73   64B
SKIP3           4 000000B8 00000001  I                   98   95B
SKIP4           2 000000C6 00000001  I                  102  100B
TAN15           4 00000150 00000001  X X               122   63
ZERO            8 00000130 00000001  D D               118   98
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   49
    1(1)   49   52M  53   56M  62M  72M  94   97N  98N
    2(2)   49
    3(3)   49
    4(4)   49
    5(5)   49
    6(6)   49
    7(7)   49
    8(8)   49
    9(9)   49
   10(A)   49
   11(B)   49
   12(C)   49
   13(D)   49
   14(E)   49  102B
   15(F)   45B  49   51U
```

Con Source Members X390 3.1.04 2012/08/17 13.21

1 SYS1.MACLIB
IEZREGS SAVE
2 SYSD.TOOLS.MACLIB
3 SYSD.ALGOLFRT.ASM
4 SYSD.ALGOLFRT.MACLIB
5 SYS1.AMODGEN

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04	2012/08/17 13.21
51		USING	Ordinary	00000001	00000000	00001000	15	00154	100	IHILATAN,R15		

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHILAT PROCSTEP: X390

Primary input: lines 1 to 124 of SYSD.ALGOLFRT.ASM(IHILAT)

SYSLIB library records read: 116

SYSUT1 work file size: 14513 bytes

SYSUT2 work file size: 9634 bytes

SYSUT3 work file size: 9920 bytes

SYSLIN file records written: 9

TXA000I Return code 0, elapsed time 0.13 seconds.

Csect   Rel Addr(hex) Length(dec)

 No uninitialized areas found

IHILEX

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHILEX)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0166
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    2 *                                                                          00002001
                                    3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                    4 *                                                                          00004001
                                    5 *        STATUS - LEVEL 2.1                                                00005001
                                    6 *                                                                          00006001
                                    7 *        FUNCTION/OPERATION -                                              00007001
                                    8 *        Y = X*LOG2(E) = 4A-B-C/16-D                                       00008001
                                    9 *        WHERE A, B, AND C ARE INTEGERS                                    00009001
                                   10 *        B BETWEEN 0 AND 3                                                 00010001
                                   11 *        C BETWEEN 0 AND 15                                                00011001
                                   12 *        D IS A FRACTION BETWEEN 0 AND 1/16                                00012001
                                   13 *         THEN                                                             00013001
                                   14 *        E**X = 2**Y = (16**A)(2**-B)N2**-C/16)(2**-D)                     00014001
                                   15 *                                                                          00015001
                                   16 *        ENTRY POINT -                                                     00016001
                                   17 *        IHILEX - EXP FUNCTION, LONG                                       00017001
                                   18 *                 LA   R1,PARMLIST                                        00018001
                                   19 *                 BALR R14,R15                                            00019001
                                   20 *        DATA PASSED BY NAME                                               00020001
                                   21 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00021001
                                   22 *                                                                          00022001
                                   23 *        INPUT - N/A                                                       00023001
                                   24 *                                                                          00024001
                                   25 *        OUTPUT - N/A                                                      00025001
                                   26 *                                                                          00026001
                                   27 *        EXTERNAL ROUTINES - N/A                                           00027001
                                   28 *                                                                          00028001
                                   29 *        EXIT - NORMAL -                                                   00029001
                                   30 *        RETURN VIA R14, RESULT IN FPR0                                    00030001
                                   31 *                                                                          00031001
                                   32 *        EXIT - ERROR -                                                    00032001
                                   33 *        IF ARGUMENT GREATER THAN 174673 GOTO ERROR ROUTINE VIA            00033001
                                   34 *        B FSAERR+24*4(R13)                                                00034001
                                   35 *                                                                          00035001
                                   36 *        TABLES/WORKAREAS - N/A                                            00036001
                                   37 *                                                                          00037001
000000                  00000 001DC  38 IHILEXPT CSECT                                                         00038001
                                   39 *                                                                          00039001
                                   40         ENTRY IHILEX                                                      00040001
                                   41 *                                                                          00041001
                        00000      42 FPR0     EQU   0                     RESULT REGISTER                   00042001
                        00002      43 FPR2     EQU   2                     SCRATCH REGISTER                  00043001
                                   44 *                                                                          00044001
                                   45 IHILEX   SAVE  (14,12),,'IHILEXPT LEVEL 2.1 &SYSDATE &SYSTIME'          00045001
000000 47F0 F026           00026   46+IHILEX   B     38(0,15)                      BRANCH AROUND ID      01-SAVE
000004 21                          47+         DC    AL1(33)                       LENGTH OF IDENTIFIER  01-SAVE
000005 C9C8C9D3C5E7D7E3            48+         DC    CL32'IHILEXPT LEVEL 2.1 08/17/12 13.2' IDENTIFIER   01-SAVE
000025 F1                          49+         DC    CL1'1'                        IDENTIFIER            01-SAVE
000026 90EC D00C           0000C   50+         STM   14,12,12(13)                  SAVE REGISTERS        01-SAVE
                                   51 *                                                                          00046001
               R:F  00000          52          USING IHILEXPT,R15                                              00047001
00002A 5810 1000           00000   53          L     R1,0(,R1)               OBTAIN ARGUMENT                   00048001
00002E 6800 1000           00000   54          LD    FPR0,0(,R1)                                               00049001
000032 7900 F1D4           001D4   55          CE    FPR0,MAX                MAX = 63*LOG16 = 174.67309        00050001
000036 4720 F0FC           000FC   56          BH    ERROR                   ARG > MAX, ERROR                  00051001
00003A 7900 F1D8           001D8   57          CE    FPR0,MIN                MIN = -65*LOG16 = -180.21867      00052001
00003E 47D0 F0F6           000F6   58          BNH   SMALL                   ARG < MIN, GIVE ANS=0             00053001
000042 6D00 F110           00110   59          DD    FPR0,LOGE2              Y = X*LOG2(E) BY ACCURATE DIVIDE  00054001
000046 7000 F108           00108   60          STE   FPR0,SIGN               SAVE SIGN OF Y                    00055001
00004A 3820                        61          LER   FPR2,FPR0               DECOMPOSE Y = (-4A'-B'-C'/16)-D'  00056001
00004C 7E20 F1D0           001D0   62          AU    FPR2,SCALER             BY FORCING CHARACTISTIC OF X'45'  00057001
000050 7020 F10C           0010C   63          STE   FPR2,FIELDS             -4A'-B'-C'/16 IN FIELDS,          00058001
000054 2B22                        64          SDR   FPR2,FPR2               UNNORMALIZED                      00059001
000056 7A20 F10C           0010C   65          AE    FPR2,FIELDS             NORMALIZE THIS AND SUBTRACT IT    00060001
00005A 2B02                        66          SDR   FPR0,FPR2               FROM Y TO OBTAIN -D' IN FPR0      00061001
00005C 5820 F10C           0010C   67          L     R2,FIELDS                                                 00062001
000060 9180 F108      00108        68          TM    SIGN,X'80'              Y NEGATIVE ?                      00063001
000064 4710 F072           00072   69          BO    READY                   YES, BRANCH                       00064001
                                   70 *                                       Y NON-NEGATIVE,                   00065001
000068 6B00 F118           00118   71          SD    FPR0,ONO16              -D = /D'/-1/16                    00066001
00006C 4120 2001           00001   72          LA    R2,1(,R2)              -4A-B-C/16 = -(-4A'-B'-(C'+1)/16)  00067001
000070 1322                        73          LCR   R2,R2                   NOW IN ANY CASE, B, C,            00068001
000072 1B33                        74 READY    SR    R3,R3                   AND D ARE POSITIVE                00069001
000074 8C20 0004           00004   75          SRDL  R2,4                    C IN HIGH R3                      00070001
000078 8830 0019           00019   76          SRL   R3,25                                                     00071001
00007C 8C20 0002           00002   77          SRDL  R2,2                    B IN HIGH R3, C IN LOW R3         00072001
000080 8920 0018           00018   78          SLL   R2,24                                                     00073001
000084 1302                        79          LCR   R0,R2                   A (IN SCALE B7) IN R0,            00074001
000086 1B22                        80          SR    R2,R2                   CHAR MODIFIER                     00075001
000088 8D20 0002           00002   81          SLDL  R2,2                    B IN R2, 8*C IN R3                00076001
00008C 2820                        82          LDR   FPR2,FPR0               COMPUTE 2**-D BY USE OF           00077001
00008E 7C00 F124           00124   83          ME    FPR0,C6                 CHEBYSHEV INTERPOLATION           00078001
000092 6A00 F128           00128   84          AD    FPR0,C5                 POLYNOMIAL OF DEGREE 6            00079001
000096 2C02                        85          MDR   FPR0,FPR2                                                 00080001
000098 6A00 F130           00130   86          AD    FPR0,C4                                                   00081001
00009C 2C02                        87          MDR   FPR0,FPR2                                                 00082001
00009E 6A00 F138           00138   88          AD    FPR0,C3                                                   00083001
0000A2 2C02                        89          MDR   FPR0,FPR2                                                 00084001
0000A4 6A00 F140           00140   90          AD    FPR0,C2                                                   00085001
0000A8 2C02                        91          MDR   FPR0,FPR2                                                 00086001
0000AA 6A00 F148           00148   92          AD    FPR0,C1                                                   00087001
0000AE 2C02                        93          MDR   FPR0,FPR2                                                 00088001
0000B0 6A00 F150           00150   94          AD    FPR0,C0A                ADD C0 = 1. IN 2 STEPS            00089001
0000B4 6A00 F150           00150   95          AD    FPR0,C0A                TO PROTECT LAST DIGIT             00090001
0000B8 1233                        96          LTR   R3,R3                   MULTIPLY 2**(-C/16)               00091001
0000BA 4780 F0D2           000D2   97          BZ    SKIP2                   IN DOING SO, AVOID                00092001
```

Active USINGs: IHILEXPT,R15

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.21

0000BE 7900 F120            00120    98          CE    FPR0,ONE              MULTIPLICATION BY 1              00093001
0000C2 4740 F0CE            000CE    99          BL    SKIP1                                                  00094001
0000C6 6803 F150            00150   100          LD    FPR0,MCONST-8(R3)                                      00095001
0000CA 47F0 F0D2            000D2   101          B     SKIP2                                                  00096001
                                    102 *                                                                    00097001
0000CE 6C03 F150            00150   103 SKIP1    MD    FPR0,MCONST-8(R3)                                      00098001
0000D2 1222                         104 SKIP2    LTR   R2,R2                 MULTIPLY 2**(-B)                 00099001
0000D4 4780 F0DE            000DE   105          BZ    SKIP3                 BY HALVING B TIMES               00100001
0000D8 2400                         106 SKIP3A   HDR   FPR0,FPR0                                            00101001
0000DA 4620 F0D8            000D8   107          BCT   R2,SKIP3A                                          00102001
0000DE 6000 F108            00108   108 SKIP3    STD   FPR0,SIGN             ADD A TO CHARACTERISTIC          00103001
0000E2 5A00 F108            00108   109          A     R0,SIGN                                            00104001
0000E6 5000 F108            00108   110          ST    R0,SIGN                                            00105001
0000EA 2B00                         111          SDR   FPR0,FPR0             NORMALIZE ANSWER JUST IN CASE    00106001
0000EC 6A00 F108            00108   112          AD    FPR0,SIGN                                          00107001
                                    113 *                                                                    00108001
                                    114 EXIT     RETURN (14,12)              RETURN                           00109001
0000F0                              115+EXIT     DS    0H                                                 01-RETUR
0000F0 98EC D00C            0000C   116+         LM    14,12,12(13)                RESTORE THE REGISTERS  01-RETUR
0000F4 07FE                         117+         BR    14                          RETURN                 01-RETUR
                                    118 *                                                                    00110001
0000F6 2B00                         119 SMALL    SDR   FPR0,FPR0             IF X IS VERY LARGE NEGATIVE,     00111001
0000F8 47F0 F0F0            000F0   120          B     EXIT                  GIVE 0 AS ANSWER                 00112001
                                    121 *                                                                    00113001
0000FC 58DD 0004            00004   122 ERROR    L     R13,4(R13)            RESTORE FSA ADDR                 00114001
000100 47FD 022C            0022C   123          B     FSAERR+24*4(R13)      PARAM GREATER 174.673            00115001
                                    124 *                                                                    00116001
                     001CC          125 FSAERR   EQU   X'1CC'                                              00117001
                                    126 *                                                                    00118001
000104 00000000
000108 0000000000000000             127 SIGN     DC    D'0'                                               00119001
                     0010C          128 FIELDS   EQU   SIGN+4                                              00120001
000110 40B17217F7D1CF79             129 LOGE2    DC    X'40B17217F7D1CF79'   LOG 2 (BE) TRUNCATED          00121001
000118 4010000000000000             130 ONO16    DC    X'4010000000000000'                                00122001
000120 41100000                     131 ONE      DC    X'41100000'                                        00123001
000124 3D9E0F1E                     132 C6       DC    X'3D9E0F1E'           .1507368551403575E-3         00124001
000128 3E575D42BB7276D4             133 C5       DC    X'3E575D42BB7276D4'   .1333073417706260E-2         00125001
000130 3F276553A5F9BC94             134 C4       DC    X'3F276553A5F9BC94'   .9618117095313700E-2         00126001
000138 3FE35846A61AEE7A             135 C3       DC    X'3FE35846A61AEE7A'   .5550410840231345E-1         00127001
000140 403D7F7BFF0289DE             136 C2       DC    X'403D7F7BFF0289DE'   .2402265069563678            00128001
000148 40B17217F7D1CC79             137 C1       DC    X'40B17217F7D1CC79'   .6931471805599346            00129001
000150 4080000000000000             138 C0A      DC    X'4080000000000000'   .5    C0/2                  00130001
000158 40F5257D152486CC             139 MCONST   DC    X'40F5257D152486CC'   2**(-1/16)                   00131001
000160 40EAC0C6E7DD2439             140          DC    X'40EAC0C6E7DD2439'   2**(-2/16)                   00132001
000168 40E0CCDEEC2A94E1             141          DC    X'40E0CCDEEC2A94E1'   2**(-3/16)                   00133001
000170 40D744FCCAD69D6B             142          DC    X'40D744FCCAD69D6B'   2**(-4/16)                   00134001
000178 40CE248C151F8481             143          DC    X'40CE248C151F8481'   2**(-5/16)                   00135001
000180 40C5672A115506DB             144          DC    X'40C5672A115506DB'   2**(-6/16)                   00136001
000188 40BD08A39F580C37             145          DC    X'40BD08A39F580C37'   2**(-7/16)                   00137001
000190 40B504F333F9DE65             146          DC    X'40B504F333F9DE65'   2**(-8/16)                   00138001
000198 40AD583EEA42A14B             147          DC    X'40AD583EEA42A14B'   2**(-9/16)                   00139001
0001A0 40A5FED6A9B15139             148          DC    X'40A5FED6A9B15139'   2**(-10/16)                  00140001
0001A8 409EF5326091A112             149          DC    X'409EF5326091A112'   2**(-11/16)                  00141001
0001B0 409837F0518DB8A9             150          DC    X'409837F0518DB8A9'   2**(-12/16)                  00142001
0001B8 4091C3D373AB11C3             151          DC    X'4091C3D373AB11C3'   2**(-13/16)                  00143001
0001C0 408B95C1E3EA8BD7             152          DC    X'408B95C1E3EA8BD7'   2**(-14/16)                  00144001
0001C8 4085AAC367CC487B             153          DC    X'4085AAC367CC487B'   2**(-15/16)                  00145001
0001D0 45000000                     154 SCALER   DC    X'45000000'                                        00146001
0001D4 42AEAC4E                     155 MAX      DC    X'42AEAC4E'           174.6731                     00147001
0001D8 C2B437DF                     156 MIN      DC    X'C2B437DF'           -180.2187                    00148001
                                    157 *                                                                    00149001
                                    158 *        REGISTER EQUATES                                            00150001
                                    159 *                                                                    00151001
                                    160          IEZREGS                                                     00152001
                     00000          161+R0       EQU   0                                                  01-IEZRE
                     00001          162+R1       EQU   1                                                  01-IEZRE
                     00002          163+R2       EQU   2                                                  01-IEZRE
                     00003          164+R3       EQU   3                                                  01-IEZRE
                     00004          165+R4       EQU   4                                                  01-IEZRE
                     00005          166+R5       EQU   5                                                  01-IEZRE
                     00006          167+R6       EQU   6                                                  01-IEZRE
                     00007          168+R7       EQU   7                                                  01-IEZRE
                     00008          169+R8       EQU   8                                                  01-IEZRE
                     00009          170+R9       EQU   9                                                  01-IEZRE
                     0000A          171+R10      EQU   10                                                 01-IEZRE
                     0000B          172+R11      EQU   11                                                 01-IEZRE
                     0000C          173+R12      EQU   12                                                 01-IEZRE
                     0000D          174+R13      EQU   13                                                 01-IEZRE
                     0000E          175+R14      EQU   14                                                 01-IEZRE
                     0000F          176+R15      EQU   15                                                 01-IEZRE
                                    177 *                                                                    00153001
                                    178          END                                                         00154001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
C0A             8 00000150 00000001  X X               138   94   95
C1              8 00000148 00000001  X X               137   92
C2              8 00000140 00000001  X X               136   90
C3              8 00000138 00000001  X X               135   88
C4              8 00000130 00000001  X X               134   86
C5              8 00000128 00000001  X X               133   84
C6              4 00000124 00000001  X X               132   83
ERROR           4 000000FC 00000001  I                 122   56B
EXIT            2 000000F0 00000001  H H               115  120B
FIELDS          8 0000010C 00000001  U                 128   63M  65   67
FPR0            1 00000000           U                  42   54M  55   57   59M  60   61   66M  71M  82   83M  84M  85M
                                                             86M  87M  88M  89M  90M  91M  92M  93M  94M  95M  98  100M
                                                            103M 106M 108  111M 112M 119M
FPR2            1 00000002           U                  43   61M  62M  63   64M  65M  66   82M  85   87   89   91   93
FSAERR          1 000001CC           U                 125  123B
IHILEX          4 00000000 00000001  I                  46   40
IHILEXPT        1 00000000 00000001  J                  38   52U
LOGE2           8 00000110 00000001  X X               129   59
MAX             4 000001D4 00000001  X X               155   55
MCONST          8 00000158 00000001  X X               139  100  103
MIN             4 000001D8 00000001  X X               156   57
ONE             4 00000120 00000001  X X               131   98
ONO16           8 00000118 00000001  X X               130   71
READY           2 00000072 00000001  I                  74   69B
R0              1 00000000           U                 161   79M 109M 110
R1              1 00000001           U                 162   53M  54
R13             1 0000000D           U                 174  122M 123
R15             1 0000000F           U                 176   52U
R2              1 00000002           U                 163   67M  72M  73M  75M  77M  78M  79   80M  81M 104M 107M
R3              1 00000003           U                 164   74M  76M  96M 100  103
SCALER          4 000001D0 00000001  X X               154   62
SIGN            8 00000108 00000001  D D               127   60M  68  108M 109  110M 112  128
SKIP1           4 000000CE 00000001  I                 103   99B
SKIP2           2 000000D2 00000001  I                 104   97B 101B
SKIP3           4 000000DE 00000001  I                 108  105B
SKIP3A          2 000000D8 00000001  I                 106  107B
SMALL           2 000000F6 00000001  I                 119   58B
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   50   79M 109M 110  116M
    1(1)   50   53M  54  116M
    2(2)   50   67M  72M  73M  75M  77M  78M  79   80M  81M 104M 107M 116M
    3(3)   50   74M  75M  76M  77M  81M  96M 100N 103N 116M
    4(4)   50  116M
    5(5)   50  116M
    6(6)   50  116M
    7(7)   50  116M
    8(8)   50  116M
    9(9)   50  116M
   10(A)   50  116M
   11(B)   50  116M
   12(C)   50  116M
   13(D)   50  116  122M 122N 123N
   14(E)   50  116M 117B
   15(F)   46B  50   52U 116M
```

Con Source Members X390 3.1.04 2012/08/17 13.21

1 SYS1.MACLIB
IEZREGS RETURN SAVE
2 SYSD.TOOLS.MACLIB
3 SYSD.ALGOLFRT.ASM
4 SYSD.ALGOLFRT.MACLIB
5 SYS1.AMODGEN

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04	2012/08/17 13.21
52		USING	Ordinary	00000001	00000000	00001000	15	001D8	120	IHILEXPT,R15		

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHILEX PROCSTEP: X390

Primary input: lines 1 to 154 of SYSD.ALGOLFRT.ASM(IHILEX)

SYSLIB library records read: 161

SYSUT1 work file size: 17974 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 12320 bytes

SYSLIN file records written: 11

TXA000I Return code 0, elapsed time 0.17 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHILEXPT	0001DC	4

IHILLO

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHILLO)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0170
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                     X390 3.1.04  2012/08/17 13.21

                                     2 *                                                                00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY              00003001
                                     4 *                                                                00004001
                                     5 *        STATUS - LEVEL 2.1                                      00005001
                                     6 *                                                                00006001
                                     7 *        FUNCTION/OPERATION -                                    00007001
                                     8 *        WRITE X = (16**P)*(2**-Q)*M                             00008001
                                     9 *        Q BETWEEN 0 AND 3                                       00009001
                                    10 *        AND M BETWEEN 1/2 AND 1                                 00010001
                                    11 *        DEFINE A=1, B=0                                         00011001
                                    12 *        IF M IS > SQRT2/2, OTHERWISE A=1/2, B=1                 00012001
                                    13 *        WRITE Z = (M-A)/(M+A), THEN                             00013001
                                    14 *        LOG(X) = (4P-Q-B)*LOG(2) + LOG((1+Z)/(1-Z))             00014001
                                    15 *                                                                00015001
                                    16 *        ENTRY POINT -                                           00016001
                                    17 *        IHILLO - LOG FUNCTION, LONG                             00017001
                                    18 *                 LA    R1,PARMLIST                              00018001
                                    19 *                 BALR R14,R15                                   00019001
                                    20 *                 DATA PASSED BY NAME                            00020001
                                    21 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE  00021001
                                    22 *                                                                00022001
                                    23 *        INPUT - N/A                                             00023001
                                    24 *                                                                00024001
                                    25 *        OUTPUT - N/A                                            00025001
                                    26 *                                                                00026001
                                    27 *        EXTERNAL ROUTINES - N/A                                 00027001
                                    28 *                                                                00028001
                                    29 *        EXIT - NORMAL - RETURN VIA R14, RESULT IN FPR0          00029001
                                    30 *                                                                00030001
                                    31 *        EXIT - ERROR -                                          00031001
                                    32 *        IF ARGUMENT ZERO OR NEGATIVE GOTO ERROR ROUTINE VIA     00032001
                                    33 *        B    FSAERR+25*4(R13)                                   00033001
                                    34 *                                                                00034001
                                    35 *        TABLES/WORKAREAS - N/A                                  00035001
                                    36 *                                                                00036001
000000                00000 00154   37 IHILLOGM CSECT                                                   00037001
                                    38 *                                                                00038001
                                    39          ENTRY IHILLO                                            00039001
                                    40 *                                                                00040001
                      00000         41 FPR0     EQU   0                     RESULT REGISTER             00041001
                      00002         42 FPR2     EQU   2                     SCRATCH REGISTER            00042001
                                    43 *                                                                00043001
                                    44 IHILLO   SAVE  (14,12),,'IHILLOGM LEVEL 2.1 &SYSDATE &SYSTIME'   00044001
000000 47F0 F026            00026   45+IHILLO   B     38(0,15)                     BRANCH AROUND ID     01-SAVE
000004 21                           46+         DC    AL1(33)                      LENGTH OF IDENTIFIER 01-SAVE
000005 C9C8C9D3D3D6C7D4             47+         DC    CL32'IHILLOGM LEVEL 2.1 08/17/12 13.2' IDENTIFIER 01-SAVE
000025 F1                           48+         DC    CL1'1'                       IDENTIFIER           01-SAVE
000026 90EC D00C            0000C   49+         STM   14,12,12(13)                 SAVE REGISTERS       01-SAVE
                                    50 *                                                                00045001
                 R:F  00000         51          USING IHILLOGM,R15                                      00046001
00002A 5810 1000            00000   52          L     R1,0(,R1)             OPTAIN ARGUMENT IN R0,R1    00047001
00002E 9801 1000            00000   53          LM    R0,R1,0(R1)                                       00048001
000032 1220                         54          LTR   R2,R0                                             00049001
000034 47D0 F0D6            000D6   55          BNP   ERROR                 0 OR NEGATIVE, ERROR        00050001
000038 8C20 0018            00018   56          SRDL  R2,24                 CHAR IN LOW R2              00051001
00003C 8920 0002            00002   57          SLL   R2,2                  FIRST DIGIT IN HIGH R3      00052001
000040 4020 F0EA            000EA   58          STH   R2,IPART+2            FLOAT 4*CHAR AND SAVE IT    00053001
000044 1B22                         59          SR    R2,R2                                             00054001
000046 8D20 0004            00004   60          SLDL  R2,4                  FIRST DIGIT IN R2           00055001
00004A 4322 F0F0            000F0   61          IC    R2,TABLE(R2)          NO OF LEADING ZEROS (=Q) IN R2 00056001
00004E 8D00 2000            00000   62          SLDL  R0,0(R2)                                          00057001
000052 9001 F0E0            000E0   63          STM   R0,R1,BUFF                                        00058001
000056 9240 F0E0      000E0         64          MVI   BUFF,X'40'            M = FRACTION*2**Q  IN CELL BUFF 00059001
00005A 4110 0008            00008   65          LA    R1,8                                              00060001
00005E 6800 F0E0            000E0   66          LD    FPR0,BUFF             PICK UP M IN FPR0           00061001
000062 7900 F150            00150   67          CE    FPR0,LIMIT            M > SQRT2/2, R1=8 ?         00062001
000066 4720 F070            00070   68          BH    READY                 YES, BRANCH                 00063001
00006A 1B11                         69          SR    R1,R1                 M < SQRT2/2, R1=0,          00064001
00006C 4120 2001            00001   70          LA    R2,1(,R2)             CRANK R2 BY 1, Q+B IN R2    00065001
000070 2820                         71 READY    LDR   FPR2,FPR0             Z = (M-A)/(M+A),  A = 1 OR 1/2 00066001
000072 6B00 F100            00100   72          SD    FPR0,HALF             SUBTRACT A IN 2 STEPS TO PROTECT 00067001
000076 6B01 F0F8            000F8   73          SD    FPR0,ZERO(R1)         THE LAST DIGIT              00068001
00007A 6A21 F100            00100   74          AD    FPR2,HALF(R1)         M+A HAS ONLY 53BITS. NOT SERIOUS 00069001
00007E 2D02                         75          DDR   FPR0,FPR2                                         00070001
000080 6000 F0E0            000E0   76          STD   FPR0,BUFF                                         00071001
000084 2C00                         77          MDR   FPR0,FPR0             COMPUTE LOG((1+Z)/(1-Z))    00072001
000086 2820                         78          LDR   FPR2,FPR0             BY CHEBYSHEV INTERPOLATION  00073001
000088 6C20 F110            00110   79          MD    FPR2,C7               POLYNOMIAL (IN ZSQ) OF DEGREE 7 00074001
00008C 6A20 F118            00118   80          AD    FPR2,C6                                           00075001
000090 2C20                         81          MDR   FPR2,FPR0                                         00076001
000092 6A20 F120            00120   82          AD    FPR2,C5                                           00077001
000096 2C20                         83          MDR   FPR2,FPR0                                         00078001
000098 6A20 F128            00128   84          AD    FPR2,C4                                           00079001
00009C 2C20                         85          MDR   FPR2,FPR0                                         00080001
00009E 6A20 F130            00130   86          AD    FPR2,C3                                           00081001
0000A2 2C20                         87          MDR   FPR2,FPR0                                         00082001
0000A4 6A20 F138            00138   88          AD    FPR2,C2                                           00083001
0000A8 2C20                         89          MDR   FPR2,FPR0                                         00084001
0000AA 6A20 F140            00140   90          AD    FPR2,C1                                           00085001
0000AE 2C20                         91          MDR   FPR2,FPR0           F = ZSQ*(C1+ZSQ*(C2+...+ZSQ*C7)..) 00086001
0000B0 6800 F0E0            000E0   92          LD    FPR0,BUFF             LOG((1+Z)/(1-Z)) = Z*(2+F)  00087001
0000B4 2C20                         93          MDR   FPR2,FPR0                                 = Z+Z+Z*F 00088001
0000B6 2A20                         94          ADR   FPR2,FPR0             TO GAIN ACCURACY            00089001
0000B8 2A20                         95          ADR   FPR2,FPR0                                         00090001
0000BA 6800 F0E8            000E8   96          LD    FPR0,IPART            4*CHARACTERISTIC IN FPR0    00091001
0000BE 4120 2100            00100   97          LA    R2,256(,R2)           ADD 4*(BASE CHARAC=64) TO Q+B 00092001
```

Active USINGs: IHILLOGM,R15

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

```
0000C2 4020 F0EA            000EA    98          STH   R2,IPART+2            FLOAT THIS AND SUB FROM FPR0     00093001
0000C6 7B00 F0E8            000E8    99          SE    FPR0,IPART            TO OBTAIN 4P-Q-B                 00094001
0000CA 6C00 F148            00148   100          MD    FPR0,LOGE2            MULTIPLY LOG(2) BASE E           00095001
0000CE 2A02                         101          ADR   FPR0,FPR2             AND ADD TO LOG((1+Z)/(1-Z))      00096001
                                    102 *                                                                     00097001
                                    103          RETURN (14,12)              RETURN                           00098001
0000D0 98EC D00C            0000C   104+         LM    14,12,12(13)                    RESTORE THE REGISTERS  01-RETUR
0000D4 07FE                         105+         BR    14                              RETURN                 01-RETUR
                                    106 *                                                                     00099001
0000D6 47FD 0230            00230   107 ERROR    B     FSAERR+25*4(R13)      PARAMETER ¬> ZERO                00100001
                                    108 *                                                                     00101001
                     001CC          109 FSAERR   EQU   X'1CC'                                                 00102001
                                    110 *                                                                     00103001
0000DA 000000000000
0000E0 0000000000000000             111 BUFF     DC    D'0'                                                   00104001
0000E8 4600000000000000             112 IPART    DC    X'4600000000000000'                                    00105001
                                    113 *                                                                     00106001
0000F0 0303020201010101             114 TABLE    DC    X'0303020201010101'   * THESE 4                        00107001
0000F8 0000000000000000             115 ZERO     DC    X'0000000000000000'   | CONSTANTS                     00108001
000100 4080000000000000             116 HALF     DC    X'4080000000000000'   | MUST BE                       00109001
000108 4110000000000000             117          DC    X'4110000000000000'   V TOGETHER                       00110001
                                    118 *                                                                     00111001
000110 4025E9B17CA9B973             119 C7       DC    X'4025E9B17CA9B973'     .1480971268990510              00112001
000118 40273337E26DBA7F             120 C6       DC    X'40273337E26DBA7F'     .1531252792171731              00113001
000120 402E8CD32A425C06             121 C5       DC    X'402E8CD32A425C06'     .1818363168880382              00114001
000128 4038E38A00083F6B             122 C4       DC    X'4038E38A00083F6B'     .2222219705656678              00115001
000130 4049249251450212             123 C3       DC    X'4049249251450212'     .2857142876064318              00116001
000138 40666666665EBAA3             124 C2       DC    X'40666666665EBAA3'     .3999999999930233              00117001
000140 40AAAAAAAAAAD6C              125 C1       DC    X'40AAAAAAAAAAD6C'      .666666666666764               00118001
000148 40B17217F7D1CF7B             126 LOGE2    DC    X'40B17217F7D1CF7B'     LOG 2 (BE) + 1 IN LAST DGT     00119001
000150 40B504F3                     127 LIMIT    DC    X'40B504F3'             1/SQRT 2                       00120001
                                    128 *                                                                     00121001
                                    129 *        REGISTER EQUATES                                             00122001
                                    130 *                                                                     00123001
                                    131          IEZREGS                                                      00124001
                     00000          132+R0       EQU   0                                                      01-IEZRE
                     00001          133+R1       EQU   1                                                      01-IEZRE
                     00002          134+R2       EQU   2                                                      01-IEZRE
                     00003          135+R3       EQU   3                                                      01-IEZRE
                     00004          136+R4       EQU   4                                                      01-IEZRE
                     00005          137+R5       EQU   5                                                      01-IEZRE
                     00006          138+R6       EQU   6                                                      01-IEZRE
                     00007          139+R7       EQU   7                                                      01-IEZRE
                     00008          140+R8       EQU   8                                                      01-IEZRE
                     00009          141+R9       EQU   9                                                      01-IEZRE
                     0000A          142+R10      EQU   10                                                     01-IEZRE
                     0000B          143+R11      EQU   11                                                     01-IEZRE
                     0000C          144+R12      EQU   12                                                     01-IEZRE
                     0000D          145+R13      EQU   13                                                     01-IEZRE
                     0000E          146+R14      EQU   14                                                     01-IEZRE
                     0000F          147+R15      EQU   15                                                     01-IEZRE
                                    148 *                                                                     00125001
                                    149          END                                                          00126001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
BUFF            8 000000E0 00000001  D D               111   63M  64M  66   76M  92
C1              8 00000140 00000001  X X               125   90
C2              8 00000138 00000001  X X               124   88
C3              8 00000130 00000001  X X               123   86
C4              8 00000128 00000001  X X               122   84
C5              8 00000120 00000001  X X               121   82
C6              8 00000118 00000001  X X               120   80
C7              8 00000110 00000001  X X               119   79
ERROR           4 000000D6 00000001  I                 107   55B
FPR0            1 00000000           U                  41   66M  67   71   72M  73M  75M  76   77M  78   81   83   85
                                                             87   89   91   92M  93   94   95   96M  99M 100M 101M
FPR2            1 00000002           U                  42   71M  74M  75   78M  79M  80M  81M  82M  83M  84M  85M  86M
                                                             87M  88M  89M  90M  91M  93M  94M  95M 101
FSAERR          1 000001CC           U                 109  107B
HALF            8 00000100 00000001  X X               116   72   74
IHILLO          4 00000000 00000001  I                  45   39
IHILLOGM        1 00000000 00000001  J                  37   51U
IPART           8 000000E8 00000001  X X               112   58M  96   98M  99
LIMIT           4 00000150 00000001  X X               127   67
LOGE2           8 00000148 00000001  X X               126  100
READY           2 00000070 00000001  I                  71   68B
R0              1 00000000           U                 132   53M  54   62M  63
R1              1 00000001           U                 133   52M  53M  63   65M  69M  73   74
R13             1 0000000D           U                 145  107
R15             1 0000000F           U                 147   51U
R2              1 00000002           U                 134   54M  56M  57M  58   59M  60M  61M  62   70M  97M  98
TABLE           8 000000F0 00000001  X X               114   61
ZERO            8 000000F8 00000001  X X               115   73
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   49   53M  54   62M  63  104M
    1(1)   49   52M  53M  62M  63   65M  69M  73N  74N 104M
    2(2)   49   54M  56M  57M  58   59M  60M  61M  61N  62   70M  97M  98  104M
    3(3)   49   56M  60M 104M
    4(4)   49  104M
    5(5)   49  104M
    6(6)   49  104M
    7(7)   49  104M
    8(8)   49  104M
    9(9)   49  104M
   10(A)   49  104M
   11(B)   49  104M
   12(C)   49  104M
   13(D)   49  104  107N
   14(E)   49  104M 105B
   15(F)   45B  49   51U 104M
```

Con Source Members X390 3.1.04 2012/08/17 13.21

1 SYS1.MACLIB
IEZREGS RETURN SAVE
2 SYSD.TOOLS.MACLIB
3 SYSD.ALGOLFRT.ASM
4 SYSD.ALGOLFRT.MACLIB
5 SYS1.AMODGEN

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04 2012/08/17 13.21
51		USING	Ordinary	00000001	00000000	00001000	15	00150	100	IHILLOGM,R15	

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHILLO PROCSTEP: X390

Primary input: lines 1 to 126 of SYSD.ALGOLFRT.ASM(IHILLO)

SYSLIB library records read: 161

SYSUT1 work file size: 14842 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 10080 bytes

SYSLIN file records written: 9

TXA000I Return code 0, elapsed time 0.15 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHILLOGM	000154	4

IHILOR

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHILOR)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0174
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Active USINGs: None

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                  X390 3.1.04  2012/08/17 13.21

                                      2 *                                                                  00002001
                                      3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                00003001
                                      4 *                                                                  00004001
                                      5 *        STATUS - LEVEL 2.1                                        00005001
                                      6 *                                                                  00006001
                                      7 *        FUNCTION/OPERATION -                                      00007001
                                      8 *        CONVERT BINARY ARITHMETIC VALUE, FROM SECOND ACTUAL       00008001
                                      9 *        PARAMETER, TO ZONED DECIMAL FORM AND TRANSFER TO AN       00009001
                                     10 *        OUTPUT BUFFER                                             00010001
                                     11 *                                                                  00011001
                                     12 *        ENTRY POINTS -                                            00012001
                                     13 *        IHILOREL - FROM GENERATED OBJECT MODULE                   00013001
                                     14 *                   LA    R1,PARMLIST                              00014001
                                     15 *                   BALR R14,R15                                   00015001
                                     16 *                   DATA PASSED BY NAME                            00016001
                                     17 *        IHILORAR - FROM ARRAY MODULE IHIOAR                       00017001
                                     18 *                   LA    R7,DATA                                  00018001
                                     19 *                   BALR R14,R15                                   00019001
                                     20 *                                                                  00020001
                                     21 *        INPUT - N/A                                               00021001
                                     22 *                                                                  00022001
                                     23 *        OUTPUT - N/A                                              00023001
                                     24 *                                                                  00024001
                                     25 *        EXTERNAL ROUTINES -                                       00025001
                                     26 *        IHIIOR - EVALUATE DATA SET NUMBER                         00026001
                                     27 *               - OPEN DATASET                                     00027001
                                     28 *               - CHANGE TO NEXT OUTPUT RECORD                     00028001
                                     29 *        IHIFSA - CNVIRD - CONVERT INTEGER TO REAL LONG            00029001
                                     30 *        IHIPTT - POWER OF TEN TABLE LONG PREC                     00030001
                                     31 *                                                                  00031001
                                     32 *        EXIT - NORMAL - RELOAD REGISTERS AND RETURN VIA R14       00032001
                                     33 *                                                                  00033001
                                     34 *        EXIT - ERROR - TOO LONG RECORD NO 38                      00034001
                                     35 *                       BRANCH TO IHIFSA                           00035001
                                     36 *                       L     R13,IHIFSA                           00036001
                                     37 *                       B     FSAERR+XX*4(R13) XX ERROR NO         00037001
                                     38 *                                                                  00038001
                                     39 *        TABLES/WORK AREAS - N/A                                   00039001
                                     40 *                                                                  00040001
000000               00000 00330     41 IHILOREA CSECT                                                     00041001
                                     42 *                                                                  00042001
                                     43          ENTRY IHILOREL                                            00043001
                                     44          ENTRY IHILORAR                                            00044001
                                     45 *                                                                  00045001
                R:5  00000           46          USING DSTABLE,R5                                          00046001
                                     47 *                                                                  00047001
                     00000           48 FPR0     EQU   0                FLOATING POINT NUMBER              00048001
                                     49 *                                                                  00049001
                                     50 *        R5                         -> DSTABLE ENTRY               00050001
                                     51 *        R7                         -> SOURCE                      00051001
                                     52 *        R4                         =  CHARACTER POINTER           00052001
                                     53 *        R8                         =  BLANK COUNTER               00053001
                                     54 *        R2                            EXPONENT > EIGHT            00054001
                                     55 *        R3                            EXPONENT < EIGHT            00055001
                                     56 *        R9                            DECIMAL EXPONENT            00056001
                                     57 *        R8                            BLANK COUNTER               00057001
                                     58 *        R15                        -> POWER TEN TABLE             00058001
                                     59 *                                                                  00059001
                                     60 *        DISPLACEMENTS IN ADRLST IN IHIFSA                         00060001
                                     61 *                                                                  00061001
                     00000           62 CI       EQU   0          DISPLACEMENT FOR - IHIIORCI              00062001
                     00004           63 CL       EQU   4                             IHIIORCL              00063001
                     00008           64 EV       EQU   8                             IHIIOREV              00064001
                     0000C           65 NX       EQU   12                            IHIIORNX              00065001
                     00010           66 OP       EQU   16                            IHIIOROP              00066001
                     00014           67 OQ       EQU   20                            IHIIOROQ              00067001
                                     68 *                                                                  00068001
                                     69 IHILORAR SAVE  (14,12),,'IHILORAR LEVEL 2.1 &SYSDATE &SYSTIME'     00069001
000000 47F0 F026           00026     70+IHILORAR B     38(0,15)                  BRANCH AROUND ID          01-SAVE
000004 21                            71+         DC    AL1(33)                   LENGTH OF IDENTIFIER      01-SAVE
000005 C9C8C9D3D6D9C1D9              72+         DC    CL32'IHILORAR LEVEL 2.1 08/17/12 13.2' IDENTIFIER   01-SAVE
000025 F1                            73+         DC    CL1'1'                    IDENTIFIER                01-SAVE
000026 90EC D00C           0000C     74+         STM   14,12,12(13)              SAVE REGISTERS            01-SAVE
                                     75 *                                                                  00070001
                R:F  00000           76          USING IHILORAR,R15                                        00071001
00002A 18AD                          77          LR    R10,R13                  CHAIN SAVE AREAS           00072001
00002C 41D0 F298           00298     78          LA    R13,SAVEAREA                                        00073001
000030 50A0 D004           00004     79          ST    R10,4(,R13)                                         00074001
000034 50D0 A008           00008     80          ST    R13,8(,R10)                                         00075001
000038 41A0 F07C           0007C     81          LA    R10,COMMON                                          00076001
                                     82          DROP  R15                                                 00077001
                R:A  0007C           83          USING COMMON,R10                                          00078001
00003C 47F0 A00E           0008A     84          B     SOUFLPA                                             00079001
                                     85 *                                                                  00080001
                                     86          DROP  R10                                                 00081001
                                     87 *                                                                  00082001
                                     88 IHILOREL SAVE  (14,12),,'IHILOREL LEVEL 2.1 &SYSDATE &SYSTIME'     00083001
000040 47F0 F026           00026     89+IHILOREL B     38(0,15)                  BRANCH AROUND ID          01-SAVE
000044 21                            90+         DC    AL1(33)                   LENGTH OF IDENTIFIER      01-SAVE
000045 C9C8C9D3D6D9C5D3              91+         DC    CL32'IHILOREL LEVEL 2.1 08/17/12 13.2' IDENTIFIER   01-SAVE
000065 F1                            92+         DC    CL1'1'                    IDENTIFIER                01-SAVE
000066 90EC D00C           0000C     93+         STM   14,12,12(13)              SAVE REGISTERS            01-SAVE
                                     94 *                                                                  00084001
                R:F  00040           95          USING IHILOREL,R15                                        00085001
00006A 18CD                          96          LR    R12,R13                  R12 -> FSA                 00086001
00006C 41D0 F258           00298     97          LA    R13,SAVEAREA                                        00087001
```

Active USINGs: IHILOREA+X'40',R15 DSTABLE,R5

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

```
000070 50C0 D004            00004    98          ST    R12,4(,R13)                                        00088001
000074 50D0 C008            00008    99          ST    R13,8(,R12)                                        00089001
000078 41A0 F03C            0007C   100          LA    R10,COMMON                                         00090001
                                    101          DROP  R15                                                00091001
                R:A  0007C          102          USING COMMON,R10                                         00092001
                                    103 *                                                                 00093001
                                    104 *        EVALUATE DATASET NUMBER (EVDSN)                          00094001
                                    105 *                                                                 00095001
00007C 58F0 C11C            0011C   106 COMMON   L     R15,IORLST(,R12)                                   00096001
000080 58F0 F008            00008   107          L     R15,EV(,R15)                                       00097001
000084 05EF                         108          BALR  R14,R15                                            00098001
000086 5870 1004            00004   109 SOUFLP   L     R7,4(,R1)              R7 -> SOURCE                00099001
00008A 9630 501A      0001A         110 SOUFLPA  OI    DSF,DS2+DS3            DS2, DS3 = 1                00100001
00008E 94FE 501A      0001A         111          NI    DSF,255-DS7            DS7 = 0                     00101001
000092 1277                         112          LTR   R7,R7                                              00102001
000094 4720 A036            000B2   113          BP    REAL1                                              00103001
                                    114 *                                                                 00104001
                                    115 *        CALL CONVERSION ROUTINE (LOADED IN FSA)                  00105001
                                    116 *                                                                 00106001
000098 90ED D008            00008   117          STM   R14,R13,8(R13)         SAVE REGS                   00107001
00009C 182D                         118          LR    R2,R13                 R2 -> SAVEAREA              00108001
00009E 58E0 7000            00000   119          L     R14,0(,R7)             INTEGER INTO R14            00109001
0000A2 417C 0120            00120   120          LA    R7,ACNVIRD(R12)                                    00110001
0000A6 18DC                         121          LR    R13,R12                R13 -> FSA                  00111001
0000A8 0587                         122          BALR  R8,R7                                              00112001
0000AA 98ED 2008            00008   123          LM    R14,R13,8(R2)          RESTORE REGS                00113001
0000AE 47F0 A03A            000B6   124          B     REAL1A                 NUMBER IN FPRO AFTER CONVERSION 00114001
                                    125 *                                                                 00115001
0000B2 6800 7000            00000   126 REAL1    LD    FPR0,0(,R7)            NUMBER IN FPR0              00116001
0000B6 9180 501A      0001A         127 REAL1A   TM    DSF,DS0                DATASET OPEN ?              00117001
0000BA 4710 A050            000CC   128          BO    NOCLO                  YES, BRANCH                 00118001
0000BE 9602 501A      0001A         129          OI    DSF,DS6                DS6 = 1 OPEN FOR OUTPUT     00119001
0000C2 58F0 C11C            0011C   130          L     R15,IORLST(,R12)                                   00120001
0000C6 58F0 F010            00010   131          L     R15,OP(,R15)                                       00121001
0000CA 05EF                         132          BALR  R14,R15                                            00122001
0000CC 5840 5004            00004   133 NOCLO    L     R4,R                   CHARACTER POINTER           00123001
0000D0 4180 4016            00016   134          LA    R8,22(,R4)                                         00124001
0000D4 5980 5008            00008   135          C     R8,RE                  BUFFER CAN ACCEPT 22 DIGITS ? 00125001
0000D8 47D0 A094            00110   136          BNH   NONEXREC               YES, BRANCH                 00126001
0000DC 5880 5008            00008   137          L     R8,RE                                              00127001
0000E0 1B84                         138          SR    R8,R4                                              00128001
0000E2 47D0 A076            000F2   139          BNP   CALLNXT                NO, REQUEST NEW RECORD      00129001
0000E6 9240 4000      00000         140 BLANKS   MVI   0(R4),C' '             BLANK IN BUFFER             00130001
0000EA 4140 4001            00001   141          LA    R4,1(,R4)              INCR R                      00131001
0000EE 4680 A06A            000E6   142          BCT   R8,BLANKS                                          00132001
0000F2 58F0 C11C            0011C   143 CALLNXT  L     R15,IORLST(,R12)                                   00133001
0000F6 58F0 F00C            0000C   144          L     R15,NX(,R15)                                       00134001
0000FA 05EF                         145          BALR  R14,R15                GET NEXT RECORD             00135001
0000FC 5840 5004            00004   146          L     R4,R                                               00136001
000100 4180 4016            00016   147          LA    R8,22(,R4)                                         00137001
000104 5980 5008            00008   148          C     R8,RE                                              00138001
000108 4720 A212            0028E   149          BH    ORLERR                 TOO SHORT RECORD LENGTH     00139001
00010C 9610 501A      0001A         150          OI    DSF,DS3                                            00140001
000110 4190 0010            00010   151 NONEXREC LA    R9,16                                              00141001
000114 2200                         152          LTDR  FPR0,FPR0              NUMBER IS ZERO ?            00142001
000116 4770 A0B0            0012C   153          BNZ   NOT0                   NO, BRANCH                  00143001
00011A 9240 4000      00000         154          MVI   0(R4),C' '             NUMBER IS ZERO              00144001
00011E D214 4001 4000 00001 00000   155          MVC   1(21,R4),0(R4)                                     00145001
000124 92F0 4001      00001         156          MVI   1(R4),C'0'                                         00146001
000128 47F0 A1B6            00232   157          B     TERMIN                                             00147001
                                    158 *                                                                 00148001
00012C 924E 4000      00000         159 NOT0     MVI   0(R4),C'+'             ZONE IS INSERTED            00149001
000130 4720 A0BE            0013A   160          BP    EXPLOOP                                            00150001
000134 9260 4000      00000         161          MVI   0(R4),C'-'                                         00151001
000138 2300                         162          LCDR  FPR0,FPR0                                          00152001
00013A 6000 A27C            002F8   163 EXPLOOP  STD   FPR0,CHAR                                         00153001
00013E 1B33                         164          SR    R3,R3                                              00154001
000140 4330 A27C            002F8   165          IC    R3,CHAR                                            00155001
000144 9200 A29C      00318         166          MVI   SE,0                                               00156001
000148 5B30 A268            002E4   167          S     R3,KF78                                            00157001
00014C 4720 A0DE            0015A   168          BP    EXPLOAA                                            00158001
000150 4780 A148            001C4   169          BZ    EXP0                   EXPONENT = 78               00159001
000154 9280 A29C      00318         170          MVI   SE,X'80'                                           00160001
000158 1333                         171          LCR   R3,R3                                              00161001
00015A 4C30 A26C            002E8   172 EXPLOAA  MH    R3,LOG2                                            00162001
00015E 4A30 A26E            002EA   173          AH    R3,ROUND                                           00163001
000162 8830 000E            0000E   174          SRL   R3,14                                              00164001
000166 5930 A268            002E4   175          C     R3,KF78                                            00165001
00016A 47D0 A0F6            00172   176          BNH   EXPLOBB                                            00166001
00016E 5830 A268            002E4   177          L     R3,KF78                EXPONENT = 78               00167001
000172 9180 A29C      00318         178 EXPLOBB  TM    SE,X'80'                                           00168001
000176 58F0 A218            00294   179          L     R15,VPTTAB             R15 -> POWER TEN TABLE      00169001
00017A 4780 A108            00184   180          BZ    EXPLOCC                                            00170001
00017E 1B93                         181          SR    R9,R3                                              00171001
000180 47F0 A10E            0018A   182          B     EXPLODD                                            00172001
                                    183 *                                                                 00173001
000184 41F0 F080            00080   184 EXPLOCC  LA    R15,128(,R15)                                      00174001
000188 1A93                         185          AR    R9,R3                                              00175001
00018A 1823                         186 EXPLODD  LR    R2,R3                                              00176001
00018C 1B33                         187          SR    R3,R3                  CLEAR REGISTER              00177001
00018E 8E20 0003            00003   188          SRDA  R2,3                                               00178001
000192 8B20 0003            00003   189          SLA   R2,3                                               00179001
000196 4780 A136            001B2   190 TESTEXP1 BZ    EXP1LS8                                            00180001
00019A 5920 A264            002E0   191          C     R2,KF72                                            00181001
00019E 4740 A132            001AE   192          BL    EXP1LS8A               EXPONENT NEGATIVE           00182001
0001A2 6C00 F080            00080   193          MD    FPR0,128(,R15)                                     00183001
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Active USINGs: IHILOREA+X'7C',R10 DSTABLE,R5

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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0001A6 5B20 A264            002E0   194          S     R2,KF72                                    00184001
0001AA 47F0 A11A            00196   195          B     TESTEXP1                                   00185001
                                    196 *                                                         00186001
0001AE 6C02 F038            00038   197 EXP1LS8A MD    FPR0,56(R2,R15)                            00187001
0001B2 8830 001A            0001A   198 EXP1LS8  SRL   R3,26                 EXPONENT MULTIPLIED EIGHT 00188001
0001B6 1233                         199          LTR   R3,R3                                      00189001
0001B8 4780 A0BE            0013A   200          BZ    EXPLOOP                                    00190001
0001BC 6C03 F000            00000   201          MD    FPR0,0(R3,R15)                             00191001
0001C0 47F0 A0BE            0013A   202          B     EXPLOOP                                    00192001
                                    203 *                                                         00193001
0001C4 6900 A294            00310   204 EXP0     CD    FPR0,TENP16              NUMBER >= 10**16 ? 00194001
0001C8 47B0 A1F8            00274   205          BNL   DIG17                    YES, BRANCH        00195001
0001CC 9200 A27C      002F8         206 EXP0AA   MVI   CHAR,0                                     00196001
0001D0 9823 A27C            002F8   207          LM    R2,R3,CHAR                                 00197001
0001D4 5D20 A270            002EC   208          D     R2,TENP9I                                  00198001
                                    209 *                                                         00199001
                                    210 *        TRANSFORM NUMBER TO DECIMAL FORM                 00200001
                                    211 *        EDIT OUTPUT NUMBER IN I/O BUFFER                 00201001
                                    212 *                                                         00202001
0001D8 4E30 A274            002F0   213          CVD   R3,BUFF                  QUOTE CONVERTED    00203001
0001DC F384 4001 A277 00001 002F3   214          UNPK  1(9,R4),BUFF+3(5)                          00204001
0001E2 96F0 4009      00009         215          OI    9(R4),X'F0'                                00205001
0001E6 4E20 A274            002F0   216          CVD   R2,BUFF                                    00206001
0001EA F384 400A A277 0000A 002F3   217          UNPK  10(9,R4),BUFF+3(5)                         00207001
0001F0 96F0 4012      00012         218          OI    18(R4),X'F0'                               00208001
0001F4 95F0 4002      00002         219          CLI   2(R4),C'0'               LEADING ZERO ?     00209001
0001F8 4770 A188            00204   220          BNE   TRANSAA                                    00210001
0001FC 0690                         221          BCTR  R9,0                                       00211001
0001FE D20F 4002 4003 00002 00003   222          MVC   2(16,R4),3(R4)                             00212001
000204 D200 4001 4002 00001 00002   223 TRANSAA  MVC   1(1,R4),2(R4)                              00213001
00020A 924B 4002      00002         224          MVI   2(R4),C'.'               DECIMAL POINT INSERTED 00214001
00020E 927D 4012      00012         225          MVI   18(R4),C''''             APOSTROPHE INSERTED 00215001
000212 4E90 A274            002F0   226 DECEXP   CVD   R9,BUFF                                    00216001
000216 F321 4013 A27A 00013 002F6   227          UNPK  19(3,R4),BUFF+6(2)                         00217001
00021C 1299                         228          LTR   R9,R9                                      00218001
00021E 47B0 A1AE            0022A   229          BNM   DECEXPAA                                   00219001
000222 9260 4013      00013         230          MVI   19(R4),C'-'              EXPONENT SIGN IS NEGATIVE 00220001
000226 47F0 A1B2            0022E   231          B     DECEXPBB                                   00221001
                                    232 *                                                         00222001
00022A 924E 4013      00013         233 DECEXPAA MVI   19(R4),C'+'                                00223001
00022E 96F0 4015      00015         234 DECEXPBB OI    21(R4),X'F0'               ZONE INSERTED EXPONENT 00224001
                                    235 *                                                         00225001
                                    236 *        TERMINATION ROUTINE INSERT BLANKS                00226001
                                    237 *        IF RECORD END CALL NEXTREC                       00227001
                                    238 *                                                         00228001
000232 4140 4016            00016   239 TERMIN   LA    R4,22(,R4)                                 00229001
000236 1B88                         240          SR    R8,R8                                      00230001
000238 4380 5018            00018   241          IC    R8,K                                       00231001
00023C 5940 5008            00008   242 TERMINAA C     R4,RE                                      00232001
000240 4780 A1EA            00266   243          BE    RECEND                                     00233001
000244 9240 4000      00000         244          MVI   0(R4),C' '                                 00234001
000248 4140 4001            00001   245          LA    R4,1(,R4)                                  00235001
00024C 4680 A1C0            0023C   246          BCT   R8,TERMINAA                                00236001
000250 5940 5008            00008   247          C     R4,RE                                      00237001
000254 4780 A1EA            00266   248          BE    RECEND                                     00238001
000258 5040 5004            00004   249          ST    R4,R                                       00239001
00025C 58D0 A220            0029C   250 TERMINBB L     R13,SAVEAREA+4                             00240001
                                    251 *                                                         00241001
                                    252          RETURN (14,12)                                   00242001
000260 98EC D00C            0000C   253+         LM    14,12,12(13)               RESTORE THE REGISTERS 01-RETUR
000264 07FE                         254+         BR    14                         RETURN             01-RETUR
                                    255 *                                                         00243001
000266 58F0 C11C            0011C   256 RECEND   L     R15,IORLST(,R12)                           00244001
00026A 58F0 F00C            0000C   257          L     R15,NX(,R15)                               00245001
00026E 05EF                         258          BALR  R14,R15                                    00246001
000270 47F0 A1E0            0025C   259          B     TERMINBB                                   00247001
                                    260 *                                                         00248001
                                    261 *        NUMBER >= 10**16                                 00249001
                                    262 *                                                         00250001
000274 6E00 A284            00300   263 DIG17    AW    FPR0,FIVE                                  00251001
000278 6000 A27C            002F8   264          STD   FPR0,CHAR                                  00252001
00027C 6900 A28C            00308   265          CD    FPR0,TWOP56B                               00253001
000280 4740 A150            001CC   266          BL    EXP0AA                                     00254001
000284 D211 4001 A29D 00001 00319   267          MVC   1(18,R4),TWOP56          NUMBER > 16**14    00255001
00028A 47F0 A196            00212   268          B     DECEXP                                     00256001
                                    269 *                                                         00257001
00028E 18DC                         270 ORLERR   LR    R13,R12                                    00258001
000290 47FC 0264            00264   271          B     FSAERR+38*4(R12)                           00259001
                                    272 *                                                         00260001
000294 00000000                     273 VPTTAB   DC    V(IHIPTTAB)                                00261001
                                    274 *                                                         00262001
                      00120         275 ACNVIRD  EQU   X'120'                                    00263001
                                    276 *                                                         00264001
                                    277 *        CONSTANTS AND STORAGE                            00265001
                                    278 *                                                         00266001
000298 0000000000000000             279 SAVEAREA DC    18F'0'                                     00267001
                                    280 *                                                         00268001
0002E0 00000048                     281 KF72     DC    F'72'                                      00269001
0002E4 0000004E                     282 KF78     DC    F'78'                                      00270001
0002E8 4D10                         283 LOG2     DC    H'19728'                                   00271001
0002EA 2000                         284 ROUND    DC    H'8192'                                    00272001
0002EC 3B9ACA00                     285 TENP9I   DC    F'1000000000'                              00273001
0002F0 0000000000000000             286 BUFF     DC    D'0'                                       00274001
0002F8 0000000000000000             287 CHAR     DC    D'0'                                       00275001
000300 4E00000000000005             288 FIVE     DC    X'4E00000000000005'                        00276001
000308 4F10000000000000             289 TWOP56B  DC    X'4F10000000000000'                        00277001
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Active USINGs: IHILOREA+X'7C',R10 DSTABLE,R5

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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000310 4E2386F26FC10000            290 TENP16   DC    DE16'1'                                                    00278001
000318 00                          291 SE       DC    X'00'                                                      00279001
000319 F74BF2F0F5F7F5F9            292 TWOP56   DC    C'7.205759403792794'''                                     00280001
                                   293 *                                                                          00281001
000330                             294          LTORG                                                         00282001
                                   295 *                                                                          00283001
                                   296          DSTABLE DSECT=YES                                             00284001
000000               00000 00024   297+DSTABLE  DSECT                                                         01-DSTAB
                                   298+*                                                                      01-DSTAB
000000 00000000                    299+ADCB     DC    F'0'                    -> DCB                        01-DSTAB
000004 00000000                    300+R        DC    F'0'                    CHARACTER POINTER             01-DSTAB
000008 00000000                    301+RE       DC    F'0'                                                  01-DSTAB
00000C 00000000                    302+NBB      DC    F'0'                                                  01-DSTAB
000010 00000000                    303+BB       DC    F'0'                                                  01-DSTAB
000014 0001                        304+S        DC    H'1'                    RECORD POINTER                01-DSTAB
000016 0050                        305+P        DC    H'80'                   RECORD LENGTH                 01-DSTAB
000018 02                          306+K        DC    X'02'                   NUMBER OF BLANK DELIM CHARS   01-DSTAB
000019 00                          307+Q        DC    X'00'                   NO OF RECORDS PER SECTION     01-DSTAB
00001A 0000                        308+DSF      DC    H'00'                   DATASET FLAGS                 01-DSTAB
                                   309+*                                                                      01-DSTAB
                                   310+*        DATASET FLAGS - DSF                                           01-DSTAB
                                   311+*                                                                      01-DSTAB
                     00080         312+DS0      EQU   X'80'                   DATASET OPEN                  01-DSTAB
                     00040         313+DS1      EQU   X'40'                                                 01-DSTAB
                     00020         314+DS2      EQU   X'20'                   LAST I/O OUTPUT               01-DSTAB
                     00010         315+DS3      EQU   X'10'                                                 01-DSTAB
                     00008         316+DS4      EQU   X'08'                                                 01-DSTAB
                     00004         317+DS5      EQU   X'04'                                                 01-DSTAB
                     00002         318+DS6      EQU   X'02'                   OPEN FOR OUTPUT               01-DSTAB
                     00001         319+DS7      EQU   X'01'                   END OF FILE                   01-DSTAB
                                   320+*                                                                      01-DSTAB
                                   321+*        DATASET FLAGS - DSF+1                                         01-DSTAB
                                   322+*                                                                      01-DSTAB
                     00080         323+DS8      EQU   X'80'                   END OF DATA                   01-DSTAB
                     00040         324+DS9      EQU   X'40'                                                 01-DSTAB
                     00020         325+DS10     EQU   X'20'                   OPENED BY SYSACT 12           01-DSTAB
                     00010         326+DS11     EQU   X'10'                   INDICATE IHIERR-ROUT          01-DSTAB
                     00008         327+DSEOD    EQU   X'08'                                                 01-DSTAB
                     00004         328+DSIOERR  EQU   X'04'                   I/O ERROR                     01-DSTAB
                     00002         329+DS14     EQU   X'02'                   DATASET OPENED                01-DSTAB
                     00001         330+DS15     EQU   X'01'                   CLOSE FROM IHIERR             01-DSTAB
                                   331+*                                                                      01-DSTAB
00001C 00000000                    332+NOTEADR  DC    F'0'                                                  01-DSTAB
000020 0000                        333+BL       DC    H'0'                    LRECL+ TWO ARB                01-DSTAB
000022 0000                        334+         DC    H'0'                                                  01-DSTAB
                                   335+*                                                                      01-DSTAB
                     00024         336+DSTABLEL EQU   *-DSTABLE               L'DSTABLE ENTRY               01-DSTAB
                                   337+*                                                                      01-DSTAB
                                   338 *                                                                          00285001
000000               00000 00120   339 FAS      DSECT                                                         00286001
                                   340 *                                                                          00287001
                                   341          COPY  FSAREA                                                  00288001
                                   342=*                                                                          00001001
                                   343=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                    00002001
                                   344=*                                                                          00003001
                                   345=*        STATUS - LEVEL 2.1                                            00004001
                                   346=*                                                                          00005001
                                   347=**************************************************************************00006001
                                   348=*                                                                          00007001
                                   349=*        COMMON DATA AREA                                              00008001
                                   350=*                                                                          00009001
                                   351=*        FSAREA                                                        00010001
                                   352=*                                                                          00011001
                                   353=**************************************************************************00012001
                                   354=*                                                                          00013001
                                   355=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                    00014001
                                   356=*        MODULES DURING THE EXECUTION                                  00015001
                                   357=*                                                                          00016001
                                   358=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY                 00017001
                                   359=*        SUBROUTINES) BY R12                                           00018001
                                   360=*                                                                          00019001
                     00000         361=FSAREA   EQU   *                                                       00020001
                                   362=*                                                                          00021001
                                   363=*        SAVE AREAS                                                    00022001
                                   364=*                                                                          00023001
000000                             365=         DS    18F                     STANDARD SAVE AREA            00024001
                     00048         366=ASAVE    EQU   *-FSAREA                ALTERNATE SAVE AREA USED BY   00025001
000048                             367=         DS    18F                     CERTAIN SUBROUTINES           00026001
                                   368=*                                                                          00027001
                                   369=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                        00028001
                                   370=*                                                                          00029001
                     00090         371=FCTVALST EQU   *-FSAREA                TEMPORARY STORAGE FOR         00030001
000090                             372=         DS    D                       FUNCTION VALUES               00031001
                     00098         373=ASTLOC   EQU   *-FSAREA                DISPL FOR ADDR OF STAND LOCTN 00032001
000098 00000090                    374=         DC    A(FSAREA+FCTVALST)                                      00033001
                     0009C         375=BRRST    EQU   *-FSAREA                TEMPORARY SAVE REG BRR        00034001
                     0009C         376=HW       EQU   BRRST                   TEMPORARY HALFWORD STORAGE    00035001
00009C                             377=         DS    F                                                     00036001
                     000A0         378=PROLREG  EQU   *-FSAREA                STORAGE FOR PBT AND LAT WHEN  00037001
0000A0                             379=         DS    2A                      A PROCEDURE IS FORMAL PARAM   00038001
                                   380=*                                                                          00039001
                                   381=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE         00040001
                                   382=*                                                                          00041001
0000A8                             383=         DS    0H                                                    00042001
0000A8 00                          384=         DC    X'00'                                                 00043001
                     000A9         385=PROLPBN  EQU   *-FSAREA                STORAGE FOR CALLED PBN        00044001
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D-Loc  Object Code      Addr1 Addr2  Stmt   Source Statement                                   X390 3.1.04  2012/08/17 13.21

0000A9 00                             386=         DC    X'00'                                            00045001
                        000AA         387=EIGHT    EQU   *-FSAREA              CONST FOR REDUCING RAS     00046001
0000AA 0008                           388=         DC    H'8'                                             00047001
                                      389=*                                                               00048001
0000AC                                390=         DS    0F                                               00049001
                        000AC         391=ADSTAB   EQU   *-FSAREA              ADDR OF DSTABLE            00050001
0000AC                                392=         DS    A                     IN THE OBJECT PROGRAM      00051001
                        000B0         393=ANOTTAB  EQU   *-FSAREA              ADDR OF NOTE TABLE         00052001
0000B0                                394=         DS    A                     (INSERTED BY THE OPEN ROUTINE) 00053001
                                      395=*                                                               00054001
                        000B4         396=IHIFSAST EQU   *                                                00055001
                        000B4         397=PGOPSW   EQU   *-FSAREA              PROGRAM CHECK OLD PSW      00056001
0000B4                                398=         DS    2F                                               00057001
                        000BC         399=FSAPICA  EQU   *-FSAREA              OLD PICA ADDR              00058001
0000BC 00000000                       400=         DC    F'0'                                             00059001
                        000C0         401=SCRCS    EQU   *-FSAREA              SEMICOLON NUMBER           00060001
0000C0                                402=         DS    H                                                00061001
                        000C2         403=DTSW     EQU   *-FSAREA              OPTION SWITCHES            00062001
                        000C2         404=OPTSW    EQU   DTSW                                             00063001
0000C2 00                             405=         DC    X'00'                 DUMP-80, TRACE-40, SHORT-20 00064001
                        000C3         406=FSAERCOD EQU   *-FSAREA              ERROR CODE FOR ERROR ROUTINE 00065001
0000C3                                407=         DS    C                                                00066001
                                      408=*                                                               00067001
                                      409=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER      00068001
                                      410=*                                                               00069001
0000C4                                411=         DS    0F                                               00070001
                        000C4         412=IHIFSARS EQU   *                                                00071001
                        000C4         413=RASSTART EQU   *-FSAREA              ADDR OF FIRST ENTRY IN RAS-8 00072001
0000C4                                414=         DS    F                                                00073001
                        000C8         415=RASPT    EQU   *-FSAREA              RAS POINTER FROM TOP       00074001
0000C8                                416=         DS    F                                                00075001
                        000CC         417=RASEND   EQU   *-FSAREA              ADDR OF LAST  ENTRY IN RAS+8 00076001
0000CC                                418=         DS    F                                                00077001
                        000D0         419=RASPB    EQU   *-FSAREA              RAS POINTER FROM BOTTOM    00078001
0000D0                                420=         DS    F                                                00079001
                                      421=*                                                               00080001
                                      422=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES 00081001
                                      423=*                                                               00082001
0000D4                                424=BRLIST   DS    0F                                               00083001
                        000D4         425=CAP1     EQU   *-FSAREA              FIRST PART CAPS            00084001
0000D4 4700 0000              00000   426=         NOP   0                                                00085001
                        000D8         427=CAP2     EQU   *-FSAREA              SECOND PART CAPS           00086001
0000D8 4700 0000              00000   428=         NOP   0                                                00087001
                        000DC         429=PROLOGP  EQU   *-FSAREA              PROLOGUE FORMAL PARAMETER ENTRY 00088001
                        000DC         430=PROLOGFP EQU   PROLOGP                                          00089001
0000DC 4700 0000              00000   431=         NOP   0                                                00090001
                        000E0         432=PROLOG   EQU   *-FSAREA              PROLOGUE PROGRAM USUAL ENTRY 00091001
0000E0 4700 0000              00000   433=         NOP   0                                                00092001
                        000E4         434=RETPROG  EQU   *-FSAREA              DISPLACEMENT RETURN PROGRAM 00093001
0000E4 4700 0000              00000   435=         NOP   0                                                00094001
                        000E8         436=EPILOGP  EQU   *-FSAREA              EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000              00000   437=         NOP   0                                                00096001
                        000EC         438=EPILOGB  EQU   *-FSAREA              EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000              00000   439=         NOP   0                                                00098001
                        000F0         440=EPILPR3  EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3   00099001
0000F0 4700 0000              00000   441=         NOP   0                                                00100001
                        000F4         442=CSWE1    EQU   *-FSAREA              FIRST PART CSWES           00101001
0000F4 4700 0000              00000   443=         NOP   0                                                00102001
                        000F8         444=CSWE2    EQU   *-FSAREA              SECOND PART CSWES          00103001
0000F8 4700 0000              00000   445=         NOP   0                                                00104001
                        000FC         446=LOADPP   EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE 00105001
0000FC 4700 0000              00000   447=         NOP   0                                                00106001
                        00100         448=TRACE    EQU   *-FSAREA                                         00107001
000100 D200 0000 0000 00000 00000     449=         MVC   0(0),0                                           00108001
000106 4700 0000              00000   450=         NOP   0                                                00109001
00010A 4700 0000              00000   451=         NOP   0                                                00110001
                        0010E         452=TERMNTE  EQU   *-FSAREA              NORMAL TERMINATION EXIT    00111001
00010E 4700 0000              00000   453=         NOP   0                                                00112001
                        00112         454=BCR      EQU   *-FSAREA                                         00113001
000112 0700                           455=         BCR   0,0                   VARIABLE CONDITIONAL BRANCH 00114001
                        00114         456=GETMSTO  EQU   *-FSAREA                                         00115001
000114 4700 0000              00000   457=         NOP   0                                                00116001
                                      458=*                                                               00117001
                        00118         459=VALUCALL EQU   *-FSAREA                                         00118001
000118 4700 0000              00000   460=         NOP   0                                                00119001
                        0011C         461=IORLST   EQU   *-FSAREA                                         00120001
00011C 4700 0000              00000   462=         NOP   0                                                00121001
                                      463=*                                                               00122001
                        001CC         464=FSAERR   EQU   X'1CC'                DISPL  FOR ERROR LIST      00123001
                                      465=*                                                               00124001
                                      466=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA           00125001
                                      467=*                                                               00126001
                        0020C         468=OUTOFB   EQU   FSAERR+4*16                                      00127001
                        00218         469=NUMBIND  EQU   FSAERR+4*19                                      00128001
                        00208         470=ARRAYBD  EQU   FSAERR+4*15                                      00129001
                        0026C         471=ERROR40  EQU   FSAERR+4*40                                      00130001
                        00224         472=OERR22   EQU   FSAERR+4*22                                      00131001
                        00210         473=ENDLESL  EQU   FSAERR+4*17                                      00132001
                        00220         474=OERR21   EQU   FSAERR+4*21                                      00133001
                                      475=*                                                               00134001
                                      476 *                                                               00289001
                                      477 *        REGISTER EQUATES                                       00290001
                                      478 *                                                               00291001
                                      479          IEZREGS                                                00292001
                        00000         480+R0       EQU   0                                                01-IEZRE
                        00001         481+R1       EQU   1                                                01-IEZRE
```

Active USINGs: IHILOREA+X'7C',R10 DSTABLE,R5

D-Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

```
                    00002         482+R2       EQU   2                                  01-IEZRE
                    00003         483+R3       EQU   3                                  01-IEZRE
                    00004         484+R4       EQU   4                                  01-IEZRE
                    00005         485+R5       EQU   5                                  01-IEZRE
                    00006         486+R6       EQU   6                                  01-IEZRE
                    00007         487+R7       EQU   7                                  01-IEZRE
                    00008         488+R8       EQU   8                                  01-IEZRE
                    00009         489+R9       EQU   9                                  01-IEZRE
                    0000A         490+R10      EQU   10                                 01-IEZRE
                    0000B         491+R11      EQU   11                                 01-IEZRE
                    0000C         492+R12      EQU   12                                 01-IEZRE
                    0000D         493+R13      EQU   13                                 01-IEZRE
                    0000E         494+R14      EQU   14                                 01-IEZRE
                    0000F         495+R15      EQU   15                                 01-IEZRE
                                  496 *                                                 00293001
                                  497          END                                      00294001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
ACNVIRD          1 00000120           U                 275  120
BLANKS           4 000000E6 00000001  I                 140  142B
BRRST            1 0000009C           U                 375  376
BUFF             8 000002F0 00000001  D D               286  213M 214  216M 217  226M 227
CALLNXT          4 000000F2 00000001  I                 143  139B
CHAR             8 000002F8 00000001  D D               287  163M 165  206M 207  264M
COMMON           4 0000007C 00000001  I                 106   81   83U 100  102U
DECEXP           4 00000212 00000001  I                 226  268B
DECEXPAA         4 0000022A 00000001  I                 233  229B
DECEXPBB         4 0000022E 00000001  I                 234  231B
DIG17            4 00000274 00000001  I                 263  205B
DSF              2 0000001A FFFFFFFF  H H               308  110M 111M 127  129M 150M
DSTABLE          1 00000000 FFFFFFFF  J                 297   46U 336
DS0              1 00000080           U                 312  127
DS2              1 00000020           U                 314  110
DS3              1 00000010           U                 315  110  150
DS6              1 00000002           U                 318  129
DS7              1 00000001           U                 319  111
DTSW             1 000000C2           U                 403  404
EV               1 00000008           U                  64  107
EXPLOAA          4 0000015A 00000001  I                 172  168B
EXPLOBB          4 00000172 00000001  I                 178  176B
EXPLOCC          4 00000184 00000001  I                 184  180B
EXPLODD          2 0000018A 00000001  I                 186  182B
EXPLOOP          4 0000013A 00000001  I                 163  160B 200B 202B
EXP0             4 000001C4 00000001  I                 204  169B
EXP0AA           4 000001CC 00000001  I                 206  266B
EXP1LS8          4 000001B2 00000001  I                 198  190B
EXP1LS8A         4 000001AE 00000001  I                 197  192B
FCTVALST         1 00000090           U                 371  374
FIVE             8 00000300 00000001  X X               288  263
FPR0             1 00000000           U                  48  126M 152M 162M 163  193M 197M 201M 204  263M 264  265
FSAERR           1 000001CC           U                 464  271B 468  469  470  471  472  473  474
FSAREA           1 00000000 FFFFFFFE  U                 361  366  371  373  374  375  378  385  387  391  393  397  399
                                                             401  403  406  413  415  417  419  425  427  429  432  434
                                                             436  438  440  442  444  446  448  452  454  456  459  461
IHILORAR         4 00000000 00000001  I                  70   44   76U
IHILOREL         4 00000040 00000001  I                  89   43   95U
IHIPTTAB         1 00000000 00000002  T                 273  273
IORLST           1 0000011C           U                 461  106  130  143  256
K                1 00000018 FFFFFFFF  X X               306  241
KF72             4 000002E0 00000001  F F               281  191  194
KF78             4 000002E4 00000001  F F               282  167  175  177
LOG2             2 000002E8 00000001  H H               283  172
NOCLO            4 000000CC 00000001  I                 133  128B
NONEXREC         4 00000110 00000001  I                 151  136B
NOT0             4 0000012C 00000001  I                 159  153B
NX               1 0000000C           U                  65  144  257
OP               1 00000010           U                  66  131
ORLERR           2 0000028E 00000001  I                 270  149B
PROLOGP          1 000000DC           U                 429  430
R                4 00000004 FFFFFFFF  F F               300  133  146  249M
RE               4 00000008 FFFFFFFF  F F               301  135  137  148  242  247
REAL1            4 000000B2 00000001  I                 126  113B
REAL1A           4 000000B6 00000001  I                 127  124B
RECEND           4 00000266 00000001  I                 256  243B 248B
ROUND            2 000002EA 00000001  H H               284  173
R1               1 00000001           U                 481  109
R10              1 0000000A           U                 490   77M  79   80   81M  83U  86D 100M 102U
R12              1 0000000C           U                 492   96M  98   99  106  120  121  130  143  256  270  271
R13              1 0000000D           U                 493   77   78M  79   80   96   97M  98   99  117  118  121M 123M
                                                             250M 270M
R14              1 0000000E           U                 494  108M 117  119M 123M 132M 145M 258M
R15              1 0000000F           U                 495   76U  82D  95U 101D 106M 107M 108B 130M 131M 132B 143M 144M
                                                             145B 179M 184M 193  197  201  256M 257M 258B
R2               1 00000002           U                 482  118M 123  186M 188M 189M 191  194M 197  207M 208M 216
R3               1 00000003           U                 483  164M 165M 167M 171M 172M 173M 174M 175  177M 181  185  186
                                                             187M 198M 199M 201  207M 213
R4               1 00000004           U                 484  133M 134  138  140  141M 146M 147  154  155  156  159  161
                                                             214  215  217  218  219  222  223  224  225  227  230  233
                                                             234  239M 242  244  245M 247  249  267
R5               1 00000005           U                 485   46U
R7               1 00000007           U                 487  109M 112M 119  120M 122B 126
R8               1 00000008           U                 488  122M 134M 135  137M 138M 142M 147M 148  240M 241M 246M
R9               1 00000009           U                 489  151M 181M 185M 221M 226  228M
SAVEAREA         4 00000298 00000001  F F               279   78   97  250
SE               1 00000318 00000001  X X               291  166M 170M 178
SOUFLPA          4 0000008A 00000001  I                 110   84B
TENP16           8 00000310 00000001  D D               290  204
TENP9I           4 000002EC 00000001  F F               285  208
TERMIN           4 00000232 00000001  I                 239  157B
TERMINAA         4 0000023C 00000001  I                 242  246B
TERMINBB         4 0000025C 00000001  I                 250  259B
TESTEXP1         4 00000196 00000001  I                 190  195B
TRANSAA          6 00000204 00000001  I                 223  220B
TWOP56          18 00000319 00000001  C C               292  267
TWOP56B          8 00000308 00000001  X X               289  265
VPTTAB           4 00000294 00000001  V V               273  179
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   74   93  117  123M 253M
    1(1)   74   93  109  117  123M 253M
    2(2)   74   93  117  118M 123M 186M 188M 189M 191  194M 197N 207M 208M 216  253M
    3(3)   74   93  117  123M 164M 165M 167M 171M 172M 173M 174M 175  177M 181  185  186  187M 188M 198M 199M 201N 207M
          208M 213  253M
    4(4)   74   93  117  123M 133M 134  138  140  141M 146M 147  154  155  156  159  161  214  215  217  218  219  222
          223  224  225  227  230  233  234  239M 242  244  245M 247  249  253M 267
    5(5)   46U  74   93  117  123M 253M
    6(6)   74   93  117  123M 253M
    7(7)   74   93  109M 112M 117  119  120M 122B 123M 126  253M
    8(8)   74   93  117  122M 123M 134M 135  137M 138M 142M 147M 148  240M 241M 246M 253M
    9(9)   74   93  117  123M 151M 181M 185M 221M 226  228M 253M
   10(A)   74   77M  79   80   81M  83U  86D  93  100M 102U 117  123M 253M
   11(B)   74   93  117  123M 253M
   12(C)   74   93   96M  98   99  106  117  120N 121  123M 130  143  253M 256  270  271N
   13(D)   74   77   78M  79   80   93   96   97M  98   99  117  118  121M 123M 250M 253  270M
   14(E)   74   93  108M 117  119M 123M 132M 145M 253M 254B 258M
   15(F)   70B  74   76U  82D  89B  93   95U 101D 106M 107M 108B 117  123M 130M 131M 132B 143M 144M 145B 179M 184M 193
          197  201  253M 256M 257M 258B
```

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

Dsect	Length	Id	Defn	Con	Member
DSTABLE	00000024	FFFFFFFF	297	4	DSTABLE
FAS	00000120	FFFFFFFE	339		PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
46		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001A	249	DSTABLE,R5
76		USING	Ordinary	00000001	00000000	00001000	15	00298	81	IHILORAR,R15
82		DROP					15			R15
83		USING	Ordinary	00000001	0000007C	00001000	10	0000E	84	COMMON,R10
86		DROP					10			R10
95		USING	Ordinary	00000001	00000040	00001000	15	00258	100	IHILOREL,R15
101		DROP					15			R15
102		USING	Ordinary	00000001	0000007C	00001000	10	0029D	268	COMMON,R10

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHILOR PROCSTEP: X390

Primary input: lines 1 to 294 of SYSD.ALGOLFRT.ASM(IHILOR)

SYSLIB library records read: 362

SYSUT1 work file size: 46496 bytes

SYSUT2 work file size: 17960 bytes

SYSUT3 work file size: 23520 bytes

SYSLIN file records written: 19

TXA000I Return code 0, elapsed time 0.30 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHILOREA	00032B	5

IHILSC

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHILSC)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0178
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    2 *                                                                          00002001
                                    3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                    4 *                                                                          00004001
                                    5 *        STATUS - LEVEL 2.1                                                00005001
                                    6 *                                                                          00006001
                                    7 *        FUNCTION/OPERATION -                                              00007001
                                    8 *        1. DIVIDE MAGNITUDE OF ARG BY PI/4 TO FIND OCTANT AND             00008001
                                    9 *           FRACTION                                                       00009001
                                   10 *        2. IF COSINE ADD 2 TO OCTANT NUMBER                               00010001
                                   11 *           IF SINE FOR NEGATIVE ARG, ADD 4 TO OCTANT NUMBER               00011001
                                   12 *        3. COMPUTE SINE OR COSINE OF FRACTION*PI/4 DEPENDING ON           00012001
                                   13 *           THE OCTANT                                                     00013001
                                   14 *        4. IF OCTANT NUMBER IS FOR LOWER PLANE MAKE SIGN MINUS            00014001
                                   15 *                                                                          00015001
                                   16 *        ENTRY POINTS -                                                    00016001
                                   17 *        IHILSCC - COSINE FUNCTION, LONG                                   00017001
                                   18 *        IHILSCS - SINE FUNCTION, LONG                                     00018001
                                   19 *                  LA   R1,PARMLIST                                        00019001
                                   20 *                  BALR R14,R15                                            00020001
                                   21 *                  DATA PASSED BY NAME                                     00021001
                                   22 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00022001
                                   23 *                                                                          00023001
                                   24 *        INPUT - N/A                                                       00024001
                                   25 *                                                                          00025001
                                   26 *        OUTPUT - N/A                                                      00026001
                                   27 *                                                                          00027001
                                   28 *        EXTERNAL ROUTINES - N/A                                           00028001
                                   29 *                                                                          00029001
                                   30 *        EXIT - NORMAL - RETURN VIA R14, RESULT IN FPR0                    00030001
                                   31 *                                                                          00031001
                                   32 *        EXIT - ERROR -                                                    00032001
                                   33 *        IF ABS(ARG) ¬< PI*2**50 GOTO ERROR ROUTINE VIA                    00033001
                                   34 *                                B    FSAERR+27*4(R13)                    00034001
                                   35 *                                                                          00035001
                                   36 *        TABLES/WORKAREAS - N/A                                            00036001
                                   37 *                                                                          00037001
000000                  00000 001B0   38 IHILSCSN CSECT                                                         00038001
                                   39 *                                                                          00039001
                                   40         ENTRY IHILSCC                                                     00040001
                                   41         ENTRY IHILSCS                                                     00041001
                                   42 *                                                                          00042001
                        00000      43 FPR0    EQU   0                     RESULT REGISTER                       00043001
                        00002      44 FPR2    EQU   2                     SCRATCH REGISTERS                     00044001
                        00004      45 FPR4    EQU   4                                                           00045001
                                   46 *                                                                          00046001
                                   47 IHILSCC SAVE  (14,12),,'IHILSCC  LEVEL 2.1 &SYSDATE &SYSTIME'             00047001
000000 47F0 F026            00026  48+IHILSCC B     38(0,15)                        BRANCH AROUND ID      01-SAVE
000004 21                          49+        DC    AL1(33)                         LENGTH OF IDENTIFIER  01-SAVE
000005 C9C8C9D3E2C3C340            50+        DC    CL32'IHILSCC  LEVEL 2.1 08/17/12 13.2' IDENTIFIER   01-SAVE
000025 F1                          51+        DC    CL1'1'                          IDENTIFIER            01-SAVE
000026 90EC D00C            0000C  52+        STM   14,12,12(13)                    SAVE REGISTERS        01-SAVE
                                   53 *                                                                          00048001
                R:F  00000         54         USING IHILSCC,R15                                                 00049001
00002A 41A0 F07A            0007A  55         LA    R10,COMMON                                                  00050001
                                   56         DROP  R15                                                         00051001
                R:A  0007A         57         USING COMMON,R10                                                  00052001
00002E 4100 0002            00002  58         LA    R0,2                      OCTANT CRANK OF 2 TO R0           00053001
000032 5810 1000            00000  59         L     R1,0(,R1)                 R1 -> ARGUMENT ADDR               00054001
000036 47F0 A000            0007A  60         B     COMMON                                                      00055001
                                   61 *                                                                          00056001
                                   62         DROP  R10                                                         00057001
                                   63 *                                                                          00058001
                                   64 IHILSCS SAVE  (14,12),,'IHILSCS  LEVEL 2.1 &SYSDATE &SYSTIME'             00059001
00003A 47F0 F026            00026  65+IHILSCS B     38(0,15)                        BRANCH AROUND ID      01-SAVE
00003E 21                          66+        DC    AL1(33)                         LENGTH OF IDENTIFIER  01-SAVE
00003F C9C8C9D3E2C3E240            67+        DC    CL32'IHILSCS  LEVEL 2.1 08/17/12 13.2' IDENTIFIER   01-SAVE
00005F F1                          68+        DC    CL1'1'                          IDENTIFIER            01-SAVE
000060 90EC D00C            0000C  69+        STM   14,12,12(13)                    SAVE REGISTERS        01-SAVE
                                   70 *                                                                          00060001
                R:F  0003A         71         USING IHILSCS,R15                                                 00061001
000064 41A0 F040            0007A  72         LA    R10,COMMON                                                  00062001
                                   73         DROP  R15                                                         00063001
                R:A  0007A         74         USING COMMON,R10                                                  00064001
000068 1B00                        75         SR    R0,R0                                                       00065001
00006A 5810 1000            00000  76         L     R1,0(,R1)                 R1 -> ARGUMENT                    00066001
00006E 9180 1000      00000        77         TM    0(R1),X'80'               IF ARG IS +, CRANK OF 0 TO R0     00067001
000072 4780 A000            0007A  78         BZ    COMMON                    IF ARG IS -, CRANK OF 4 TO R0     00068001
000076 4100 0004            00004  79         LA    R0,4                                                        00069001
00007A 6800 1000            00000  80 COMMON  LD    FPR0,0(,R1)               PICK UP THE ARGUMENT              00070001
00007E 3000                        81         LPER  FPR0,FPR0                 FORCE SIGN OF ARG TO +            00071001
000080 7900 A12E            001A8  82         CE    FPR0,MAX                  /X/ >= PI*2**50 ?                 00072001
000084 47B0 A09C            00116  83         BNL   ERROR                     YES, ERROR                        00073001
000088 6D00 A11E            00198  84         DD    FPR0,PIOV4                DIV BY PI/4, SEPARATE INTEGER     00074001
00008C 2820                        85         LDR   FPR2,FPR0                 PART AND FRACT PART OF QUOTIENT   00075001
00008E 6E20 A0AE            00128  86         AW    FPR2,SCALER               FORCE CHARACTERISTIC X'4E'        00076001
000092 6020 A0A6            00120  87         STD   FPR2,ARG                  INTEGER PART UNNORMAL = OCTANT    00077001
000096 2B22                        88         SDR   FPR2,FPR2                                                   00078001
000098 6A20 A0A6            00120  89         AD    FPR2,ARG                  INTEGER PART NORMALIZED           00079001
00009C 2B02                        90         SDR   FPR0,FPR2                 FRACTION PART TO FPR0             00080001
00009E 5E00 A0AA            00124  91         AL    R0,ARG+4                  ADJUST OCTANT NUMBER WITH CRANK   00081001
0000A2 5000 A132            001AC  92         ST    R0,OCTNT                  SAVE IT                           00082001
0000A6 9101 A135      001AF        93         TM    OCTNT+3,X'01'             IF ODD OCTANT, TAKE COMPLEMENT    00083001
0000AA 4780 A03C            000B6  94         BZ    EVEN                      OF FRACT TO OBTAIN MODIFIED ARG   00084001
0000AE 6B00 A126            001A0  95         SD    FPR0,HALF                                                   00085001
0000B2 6B00 A126            001A0  96         SD    FPR0,HALF                 SUBTRACT 1 IN 2 STEPS             00086001
0000B6 2040                        97 EVEN    LPDR  FPR4,FPR0                                                   00087001
```

Active USINGs: IHILSCSN+X'7A',R10

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.21

0000B8 1B11                        98          SR    R1,R1              R1 = 0 FOR COSINE POLYNOMIAL     00088001
0000BA 9103 A135      001AF        99          TM    OCTNT+3,X'03'      THIS IS FOR OCTANT 2,3,6, OR 7   00089001
0000BE 4740 A04C            000C6  100         BM    LABAA              IF OCTANT 1,4,5, OR 8, USE SINE  00090001
0000C2 4110 0008            00008  101         LA    R1,8               POLYNOMIAL.   R1 = 8             00091001
0000C6 2C00                        102 LABAA   MDR   FPR0,FPR0           CALC SIN OR COS OF MODIFIED ARG  00092001
0000C8 2820                        103         LDR   FPR2,FPR0           USING PROPER CHEBYSHEV           00093001
0000CA 6C01 A0B6            00130  104         MD    FPR0,C7(R1)        INTERPOLATION POLYNOMIAL         00094001
0000CE 6A01 A0C6            00140  105         AD    FPR0,C6(R1)                                         00095001
0000D2 2C02                        106         MDR   FPR0,FPR2       SIN(X)/X POLYN OF DEGREE 6 IN XSQ 00096001
0000D4 6A01 A0D6            00150  107         AD    FPR0,C5(R1)        COS(X) POLYN OF DEGREE 7 IN XSQ  00097001
0000D8 2C02                        108         MDR   FPR0,FPR2                                           00098001
0000DA 6A01 A0E6            00160  109         AD    FPR0,C4(R1)                                         00099001
0000DE 2C02                        110         MDR   FPR0,FPR2                                           00100001
0000E0 6A01 A0F6            00170  111         AD    FPR0,C3(R1)                                         00101001
0000E4 2C02                        112         MDR   FPR0,FPR2                                           00102001
0000E6 6A01 A106            00180  113         AD    FPR0,C2(R1)                                         00103001
0000EA 2C02                        114         MDR   FPR0,FPR2                                           00104001
0000EC 6A01 A116            00190  115         AD    FPR0,C1(R1)                                         00105001
0000F0 1211                        116         LTR   R1,R1                                               00106001
0000F2 4780 A082            000FC  117         BZ    COSF                                                00107001
0000F6 2C04                        118         MDR   FPR0,FPR4           COMPLETE SIN POLYNOMIAL BY       00108001
0000F8 47F0 A08C            00106  119         B     SIGN                MULTIPLYING BY X                 00109001
                                   120 *                                                                  00110001
0000FC 2C02                        121 COSF    MDR   FPR0,FPR2           COMPLETE COS POLYNOMIAL          00111001
0000FE 6A00 A126            001A0  122         AD    FPR0,HALF           (ONE MORE DEGREE)                00112001
000102 6A00 A126            001A0  123         AD    FPR0,HALF           ADD 1 IN 2 STEPS                 00113001
000106 9104 A135      001AF        124 SIGN    TM    OCTNT+3,X'04'       IF MODIFIED OCTANT IS IN         00114001
00010A 4780 A096            00110  125         BZ    SIGNAA              LOWER PLANE, SIGN IS NEGATIVE    00115001
00010E 3100                        126         LNER  FPR0,FPR0                                           00116001
                                   127 *                                                                  00117001
                                   128 SIGNAA  RETURN (14,12)            RESTORE CALLERS REGS AND RETURN  00118001
000110                             129+SIGNAA  DS    0H                                                  01-RETUR
000110 98EC D00C            0000C  130+        LM    14,12,12(13)                RESTORE THE REGISTERS    01-RETUR
000114 07FE                        131+        BR    14                          RETURN                   01-RETUR
                                   132 *                                                                  00119001
000116 47FD 0238            00238  133 ERROR   B     FSAERR+27*4(R13)    PARAMETER ¬< PI*2**50             00120001
                                   134 *                                                                  00121001
                      001CC        135 FSAERR  EQU   X'1CC'                                                00122001
                                   136 *                                                                  00123001
00011A 000000000000
000120 0000000000000000              137 ARG     DC    D'0'                                                00124001
                                   138 *                                                                  00125001
000128 4E00000000000000              139 SCALER  DC    X'4E00000000000000'                                 00126001
                                   140 *                                                                  00127001
000130 B66C992E84B6AA37              141 C7      DC    X'B66C992E84B6AA37'                                 00128001
000138 3778FCE0E5AD1685              142         DC    X'3778FCE0E5AD1685'     S6                          00129001
000140 387E731045017594              143 C6      DC    X'387E731045017594'                                 00130001
000148 B978C01C6BEF8CB3              144         DC    X'B978C01C6BEF8CB3'     S5                          00131001
000150 BA69B47B1E41AEF6              145 C5      DC    X'BA69B47B1E41AEF6'                                 00132001
000158 3B541E0BF684B527              146         DC    X'3B541E0BF684B527'     S4                          00133001
000160 3C3C3EA0D06ABC29              147 C4      DC    X'3C3C3EA0D06ABC29'                                 00134001
000168 BD265A599C5CB632              148         DC    X'BD265A599C5CB632'     S3                          00135001
000170 BE155D3C7E3C90F8              149 C3      DC    X'BE155D3C7E3C90F8'                                 00136001
000178 3EA335E33BAC3FBD              150         DC    X'3EA335E33BAC3FBD'     S2                          00137001
000180 3F40F07C206D6AB1              151 C2      DC    X'3F40F07C206D6AB1'                                 00138001
000188 C014ABBCE625BE41              152         DC    X'C014ABBCE625BE41'     S1                          00139001
000190 C04EF4F326F91777              153 C1      DC    X'C04EF4F326F91777'     LAST DGT REDUCED BY 2       00140001
000198 40C90FDAA22168C2              154 PIOV4   DC    X'40C90FDAA22168C2'     S0                          00141001
0001A0 4080000000000000              155 HALF    DC    X'4080000000000000'     1/2 = C0/2                  00142001
                                   156 *                                                                  00143001
0001A8 4DC90FDA                    157 MAX     DC    X'4DC90FDA'                                         00144001
0001AC 00000000                    158 OCTNT   DC    F'0'                                                00145001
                                   159 *                                                                  00146001
                                   160 *       REGSITER EQUATES                                           00147001
                                   161 *                                                                  00148001
                                   162         IEZREGS                                                    00149001
                      00000        163+R0      EQU   0                                                    01-IEZRE
                      00001        164+R1      EQU   1                                                    01-IEZRE
                      00002        165+R2      EQU   2                                                    01-IEZRE
                      00003        166+R3      EQU   3                                                    01-IEZRE
                      00004        167+R4      EQU   4                                                    01-IEZRE
                      00005        168+R5      EQU   5                                                    01-IEZRE
                      00006        169+R6      EQU   6                                                    01-IEZRE
                      00007        170+R7      EQU   7                                                    01-IEZRE
                      00008        171+R8      EQU   8                                                    01-IEZRE
                      00009        172+R9      EQU   9                                                    01-IEZRE
                      0000A        173+R10     EQU   10                                                   01-IEZRE
                      0000B        174+R11     EQU   11                                                   01-IEZRE
                      0000C        175+R12     EQU   12                                                   01-IEZRE
                      0000D        176+R13     EQU   13                                                   01-IEZRE
                      0000E        177+R14     EQU   14                                                   01-IEZRE
                      0000F        178+R15     EQU   15                                                   01-IEZRE
                                   179 *                                                                  00150001
                                   180         END                                                        00151001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
ARG             8 00000120 00000001  D D               137   87M  89   91
COMMON          4 0000007A 00000001  I                  80   55   57U  60B  72   74U  78B
COSF            2 000000FC 00000001  I                 121  117B
C1              8 00000190 00000001  X X               153  115
C2              8 00000180 00000001  X X               151  113
C3              8 00000170 00000001  X X               149  111
C4              8 00000160 00000001  X X               147  109
C5              8 00000150 00000001  X X               145  107
C6              8 00000140 00000001  X X               143  105
C7              8 00000130 00000001  X X               141  104
ERROR           4 00000116 00000001  I                 133   83B
EVEN            2 000000B6 00000001  I                  97   94B
FPR0            1 00000000           U                  43   80M  81M  82   84M  85   90M  95M  96M  97  102M 103  104M
                                                             105M 106M 107M 108M 109M 110M 111M 112M 113M 114M 115M 118M
                                                             121M 122M 123M 126M
FPR2            1 00000002           U                  44   85M  86M  87   88M  89M  90  103M 106  108  110  112  114
                                                             121
FPR4            1 00000004           U                  45   97M 118
FSAERR          1 000001CC           U                 135  133B
HALF            8 000001A0 00000001  X X               155   95   96  122  123
IHILSCC         4 00000000 00000001  I                  48   40   54U
IHILSCS         4 0000003A 00000001  I                  65   41   71U
LABAA           2 000000C6 00000001  I                 102  100B
MAX             4 000001A8 00000001  X X               157   82
OCTNT           4 000001AC 00000001  F F               158   92M  93   99  124
PIOV4           8 00000198 00000001  X X               154   84
R0              1 00000000           U                 163   58M  75M  79M  91M  92
R1              1 00000001           U                 164   59M  76M  77   80   98M 101M 104  105  107  109  111  113
                                                             115  116M
R10             1 0000000A           U                 173   55M  57U  62D  72M  74U
R13             1 0000000D           U                 176  133
R15             1 0000000F           U                 178   54U  56D  71U  73D
SCALER          8 00000128 00000001  X X               139   86
SIGN            4 00000106 00000001  I                 124  119B
SIGNAA          2 00000110 00000001  H H               129  125B
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   52   58M  69   75M  79M  91M  92  130M
    1(1)   52   59M  69   76M  77   80   98M 101M 104N 105N 107N 109N 111N 113N 115N 116M 130M
    2(2)   52   69  130M
    3(3)   52   69  130M
    4(4)   52   69  130M
    5(5)   52   69  130M
    6(6)   52   69  130M
    7(7)   52   69  130M
    8(8)   52   69  130M
    9(9)   52   69  130M
   10(A)   52   55M  57U  62D  69   72M  74U 130M
   11(B)   52   69  130M
   12(C)   52   69  130M
   13(D)   52   69  130  133N
   14(E)   52   69  130M 131B
   15(F)   48B  52   54U  56D  65B  69   71U  73D 130M
```

Con Source Members X390 3.1.04 2012/08/17 13.21

1 SYS1.MACLIB
IEZREGS RETURN SAVE
2 SYSD.TOOLS.MACLIB
3 SYSD.ALGOLFRT.ASM
4 SYSD.ALGOLFRT.MACLIB
5 SYS1.AMODGEN

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04 2012/08/17 13.21
54		USING	Ordinary	00000001	00000000	00001000	15	0007A	55	IHILSCC,R15	
56		DROP					15			R15	
57		USING	Ordinary	00000001	0000007A	00001000	10	00000	60	COMMON,R10	
62		DROP					10			R10	
71		USING	Ordinary	00000001	0000003A	00001000	15	00040	72	IHILSCS,R15	
73		DROP					15			R15	
74		USING	Ordinary	00000001	0000007A	00001000	10	00135	125	COMMON,R10	

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHILSC PROCSTEP: X390

Primary input: lines 1 to 151 of SYSD.ALGOLFRT.ASM(IHILSC)

SYSLIB library records read: 161

SYSUT1 work file size: 18015 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 12080 bytes

SYSLIN file records written: 10

TXA000I Return code 0, elapsed time 0.17 seconds.

Csect   Rel Addr(hex) Length(dec)

 No uninitialized areas found

IHILSQ

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHILSQ)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0182
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     2 *                                                                          00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                     4 *                                                                          00004001
                                     5 *        STATUS - LEVEL 2.1                                                00005001
                                     6 *                                                                          00006001
                                     7 *        FUNCTION/OPERATION -                                              00007001
                                     8 *        WRITE X = M*16**(2P-Q), M MANTISSA, Q=0 OR 1                      00008001
                                     9 *        THEN SQRT(X) = SQRT(M)*(4**-Q)*(16**P)                            00009001
                                    10 *                                                                          00010001
                                    11 *        ENTRY POINT -                                                     00011001
                                    12 *        IHILSQ - SQRT FUNCTION, LONG                                      00012001
                                    13 *                 LA   R1,PARMLIST                                         00013001
                                    14 *                 BALR R14,R15                                             00014001
                                    15 *                 DATA PASSED BY NAME                                      00015001
                                    16 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00016001
                                    17 *                                                                          00017001
                                    18 *        INPUT - N/A                                                       00018001
                                    19 *                                                                          00019001
                                    20 *        OUTPUT - N/A                                                      00020001
                                    21 *                                                                          00021001
                                    22 *        EXTERNAL ROUTINES - N/A                                           00022001
                                    23 *                                                                          00023001
                                    24 *        EXIT - NORMAL -                                                   00024001
                                    25 *        RETURN VIA R14, RESULT IN FPR0                                    00025001
                                    26 *                                                                          00026001
                                    27 *        EXIT - ERROR -                                                    00027001
                                    28 *        IF ARGUMENT NEGATIVE GOTO ERROR ROUTINE VIA                       00028001
                                    29 *        B   FSAERR+23*4(R13)                                              00029001
                                    30 *                                                                          00030001
                                    31 *        TABLES/WORKAREAS - N/A                                            00031001
                                    32 *                                                                          00032001
000000                00000 000A6   33 IHILSQRT CSECT                                                            00033001
                                    34 *                                                                          00034001
                                    35         ENTRY IHILSQ                                                       00035001
                                    36 *                                                                          00036001
                      00000         37 FPR0    EQU   0                     RESULT REGISTER                        00037001
                      00002         38 FPR2    EQU   2                     SCRATCH REGISTERS                      00038001
                      00004         39 FPR4    EQU   4                                                            00039001
                                    40 *                                                                          00040001
                                    41 IHILSQ  SAVE  (14,12),,'IHILSQRT LEVEL 2.1 &SYSDATE &SYSTIME'              00041001
000000 47F0 F026            00026   42+IHILSQ  B     38(0,15)                        BRANCH AROUND ID       01-SAVE
000004 21                           43+        DC    AL1(33)                         LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9D3E2D8D9E3             44+        DC    CL32'IHILSQRT LEVEL 2.1 08/17/12 13.2' IDENTIFIER      01-SAVE
000025 F1                           45+        DC    CL1'1'                          IDENTIFIER             01-SAVE
000026 90EC D00C            0000C   46+        STM   14,12,12(13)                    SAVE REGISTERS         01-SAVE
                                    47 *                                                                          00042001
               R:F  00000           48         USING IHILSQRT,R15                                                 00043001
00002A 5810 1000            00000   49         L     R1,0(,R1)                                                    00044001
00002E 6800 1000            00000   50         LD    FPR0,0(,R1)               OBTAIN ARGUMENT                    00045001
000032 2240                         51         LTDR  FPR4,FPR0                 ARG = 0 ?                          00046001
000034 4780 F08E            0008E   52         BZ    FIN                       YES, ANS = 0, RETURN               00047001
000038 4740 F094            00094   53         BM    ERROR                     NEGATIVE ARG, ERROR                00048001
00003C 7000 F098            00098   54         STE   FPR0,BUFF                 CONSTRUCT Y = M*16**P AS FOLLOWS   00049001
000040 1B00                         55         SR    R0,R0                                                        00050001
000042 4300 F098            00098   56         IC    R0,BUFF                   P+64 = INT PART OF (CHAR+65)/2     00051001
000046 4A00 F0A4            000A4   57         AH    R0,BIAS                                                      00052001
00004A 8C00 0001            00001   58         SRDL  R0,1                      P+64 IN R0, R1 IS - IF EVEN CHAR   00053001
00004E 4200 F098            00098   59         STC   R0,BUFF                   Y IS READY IN BUFF                 00054001
000052 4200 F0A0            000A0   60         STC   R0,B                      CONSTRUCT (2/9)*16**P IN B         00055001
000056 7800 F098            00098   61         LE    FPR0,BUFF                 COMPUTE ((2/9+(8/9)*M)*16**P       00056001
00005A 7C00 F09C            0009C   62         ME    FPR0,A                                                       00057001
00005E 7A00 F0A0            000A0   63         AE    FPR0,B                                                       00058001
000062 1211                         64         LTR   R1,R1                                                        00059001
000064 4740 F06C            0006C   65         BM    OK                        EVEN CHAR, 1ST APPROX IS READY     00060001
000068 3400                         66         HER   FPR0,FPR0                 ODD CHAR, DIVIDE BY 4 TO OBTAIN    00061001
00006A 3400                         67         HER   FPR0,FPR0                 1ST APPROXIMATION                  00062001
00006C 3824                         68 OK      LER   FPR2,FPR4                 NEWTON RAPHSON ITERATIONS          00063001
00006E 3D20                         69         DER   FPR2,FPR0                 Y(N+1) = (Y(N)+ARG/Y(N))/2         00064001
000070 3A02                         70         AER   FPR0,FPR2                 2 PASSES IN SHORT FORM             00065001
000072 3400                         71         HER   FPR0,FPR0                                                    00066001
000074 3824                         72         LER   FPR2,FPR4                                                    00067001
000076 3D20                         73         DER   FPR2,FPR0                                                    00068001
000078 3A02                         74         AER   FPR0,FPR2                                                    00069001
00007A 3400                         75         HER   FPR0,FPR0                                                    00070001
00007C 2824                         76         LDR   FPR2,FPR4                 2 PASSES IN LONG FORM              00071001
00007E 2D20                         77         DDR   FPR2,FPR0                                                    00072001
000080 2422                         78         HDR   FPR2,FPR2                                                    00073001
000082 2400                         79         HDR   FPR0,FPR0                                                    00074001
000084 2A02                         80         ADR   FPR0,FPR2                                                    00075001
000086 2D40                         81         DDR   FPR4,FPR0                                                    00076001
000088 2F40                         82         SWR   FPR4,FPR0                                                    00077001
00008A 2444                         83         HDR   FPR4,FPR4                                                    00078001
00008C 2A04                         84         ADR   FPR0,FPR4                                                    00079001
                                    85 *                                                                          00080001
                                    86 FIN     RETURN (14,12)                  RESTORE REGS AND RETURN            00081001
00008E                              87+FIN     DS    0H                                                     01-RETUR
00008E 98EC D00C            0000C   88+        LM    14,12,12(13)                    RESTORE THE REGISTERS  01-RETUR
000092 07FE                         89+        BR    14                              RETURN                 01-RETUR
                                    90 *                                                                          00082001
000094 47FD 0228            00228   91 ERROR   B     FSAERR+23*4(R13)          NEGATIVE PARAMETER                 00083001
                                    92 *                                                                          00084001
                      001CC         93 FSAERR  EQU   X'1CC'                                                      00085001
                                    94 *                                                                          00086001
000098 00000000                     95 BUFF    DC    F'0'                                                         00087001
00009C 40E38E39                     96 A       DC    X'40E38E39'                                                  00088001
0000A0 4038E38E                     97 B       DC    X'4038E38E'                                                  00089001
```

Active USINGs: IHILSQRT,R15

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                    X390 3.1.04  2012/08/17 13.21

                                    98 *                                                                00090001
0000A4 0041                         99 BIAS     DC    H'65'                                             00091001
                                   100 *                                                                00092001
                                   101 *        REGISTER EQUATES                                        00093001
                                   102 *                                                                00094001
                                   103          IEZREGS                                                 00095001
                        00000      104+R0       EQU   0                                                 01-IEZRE
                        00001      105+R1       EQU   1                                                 01-IEZRE
                        00002      106+R2       EQU   2                                                 01-IEZRE
                        00003      107+R3       EQU   3                                                 01-IEZRE
                        00004      108+R4       EQU   4                                                 01-IEZRE
                        00005      109+R5       EQU   5                                                 01-IEZRE
                        00006      110+R6       EQU   6                                                 01-IEZRE
                        00007      111+R7       EQU   7                                                 01-IEZRE
                        00008      112+R8       EQU   8                                                 01-IEZRE
                        00009      113+R9       EQU   9                                                 01-IEZRE
                        0000A      114+R10      EQU   10                                                01-IEZRE
                        0000B      115+R11      EQU   11                                                01-IEZRE
                        0000C      116+R12      EQU   12                                                01-IEZRE
                        0000D      117+R13      EQU   13                                                01-IEZRE
                        0000E      118+R14      EQU   14                                                01-IEZRE
                        0000F      119+R15      EQU   15                                                01-IEZRE
                                   120 *                                                                00096001
                                   121          END                                                     00097001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

Symbol	Length	Value	Id	Type	Asm	Program	Defn	References
A	4	0000009C	00000001	X	X		96	62
B	4	000000A0	00000001	X	X		97	60M 63
BIAS	2	000000A4	00000001	H	H		99	57
BUFF	4	00000098	00000001	F	F		95	54M 56 59M 61
ERROR	4	00000094	00000001	I			91	53B
FIN	2	0000008E	00000001	H	H		87	52B
FPR0	1	00000000		U			37	50M 51 54 61M 62M 63M 66M 67M 69 70M 71M 73 74M 75M 77 79M 80M 81 82 84M
FPR2	1	00000002		U			38	68M 69M 70 72M 73M 74 76M 77M 78M 80
FPR4	1	00000004		U			39	51M 68 72 76 81M 82M 83M 84
FSAERR	1	000001CC		U			93	91B
IHILSQ	4	00000000	00000001	I			42	35
IHILSQRT	1	00000000	00000001	J			33	48U
OK	2	0000006C	00000001	I			68	65B
R0	1	00000000		U			104	55M 56M 57M 58M 59 60
R1	1	00000001		U			105	49M 50 64M
R13	1	0000000D		U			117	91
R15	1	0000000F		U			119	48U

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

0(0)	46	55M	56M	57M	58M	59	60	88M
1(1)	46	49M	50	58M	64M	88M		
2(2)	46	88M						
3(3)	46	88M						
4(4)	46	88M						
5(5)	46	88M						
6(6)	46	88M						
7(7)	46	88M						
8(8)	46	88M						
9(9)	46	88M						
10(A)	46	88M						
11(B)	46	88M						
12(C)	46	88M						
13(D)	46	88	91N					
14(E)	46	88M	89B					
15(F)	42B	46	48U	88M				

Con Source Members X390 3.1.04 2012/08/17 13.21

1 SYS1.MACLIB
IEZREGS RETURN SAVE
2 SYSD.TOOLS.MACLIB
3 SYSD.ALGOLFRT.ASM
4 SYSD.ALGOLFRT.MACLIB
5 SYS1.AMODGEN

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
48		USING	Ordinary	00000001	00000000	00001000	15	000A4	65	IHILSQRT,R15

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHILSQ PROCSTEP: X390

Primary input: lines 1 to 97 of SYSD.ALGOLFRT.ASM(IHILSQ)

SYSLIB library records read: 161

SYSUT1 work file size: 11254 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 7760 bytes

SYSLIN file records written: 5

TXA000I Return code 0, elapsed time 0.14 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHILSQRT	0000A6	2

IHIOAR

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIOAR)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0186
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     2 *                                                                          00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                     4 *                                                                          00004001
                                     5 *        STATUS - LEVEL 2.1                                                00005001
                                     6 *                                                                          00006001
                                     7 *        FUNCTION/OPERATION -                                              00007001
                                     8 *        TRANSFER NUMBERS FROM ARRAY INDICATED BY SECOND ACTUAL            00008001
                                     9 *        PARAMETER TO OUTPUT BUFFER BY CALLING OUTREAL LONG OR             00009001
                                    10 *        SHORT REPEATEDLY                                                  00010001
                                    11 *                                                                          00011001
                                    12 *        ENTRY POINT -                                                     00012001
                                    13 *        IHIOARRY - FROM GENERATED OBJECT MODULE                           00013001
                                    14 *                   LA   R1,PARMLIST                                       00014001
                                    15 *                   BALR R14,R15                                           00015001
                                    16 *                   DATA PASSED BY NAME                                    00016001
                                    17 *                                                                          00017001
                                    18 *        INPUT - N/A                                                       00018001
                                    19 *                                                                          00019001
                                    20 *        OUTPUT - N/A                                                      00020001
                                    21 *                                                                          00021001
                                    22 *        EXTERNAL ROUTINES -                                               00022001
                                    23 *        IHIIOR - EVALUATE DATA SET NUMBER                                 00023001
                                    24 *        IHISOR - OUTREAL SHORT                                            00024001
                                    25 *        IHILOR - OUTREAL LONG                                             00025001
                                    26 *                                                                          00026001
                                    27 *        EXIT - NORMAL - RELOAD REGISTERS AND RETURN VIA R14               00027001
                                    28 *                                                                          00028001
                                    29 *        EXIT - ERROR - N/A                                                00029001
                                    30 *                                                                          00030001
                                    31 *        TABLES/WORK AREAS - N/A                                           00031001
                                    32 *                                                                          00032001
000000                00000 000AA   33 IHIOARRY CSECT                                                            00033001
                                    34 *                                                                          00034001
                                    35          SAVE  (14,12),,'IHIOARRY LEVEL 2.1 &SYSDATE &SYSTIME'             00035001
000000 47F0 F026            00026   36+         B     38(0,15)                        BRANCH AROUND ID    01-SAVE
000004 21                           37+         DC    AL1(33)                         LENGTH OF IDENTIFIER 01-SAVE
000005 C9C8C9D6C1D9D9E8             38+         DC    CL32'IHIOARRY LEVEL 2.1 08/17/12 13.2' IDENTIFIER 01-SAVE
000025 F1                           39+         DC    CL1'1'                          IDENTIFIER          01-SAVE
000026 90EC D00C            0000C   40+         STM   14,12,12(13)                    SAVE REGISTERS      01-SAVE
00002A 188F                         41          LR    R8,R15                                                    00036001
               R:8  00000           42          USING IHIOARRY,R8                                               00037001
00002C 18CD                         43          LR    R12,R13                  R12 -> FSA                       00038001
00002E 41D0 C048            00048   44          LA    R13,ASAVE(,R12)          R13 -> SECOND FSA SAVEAREA       00039001
000032 1B33                         45          SR    R3,R3                                                     00040001
                                    46 *                                                                          00041001
                                    47 *        EVALUATE DATASET NUMBER                                           00042001
                                    48 *                                                                          00043001
000034 58F0 8090            00090   49          L     R15,VIOREV               R15 -> IHIIOREV ROUTINE          00044001
000038 05EF                         50          BALR  R14,R15                  CALL IHIIOREV                    00045001
                                    51 *                                                                          00046001
                                    52 *        EVALUATE SOURCE ADDR                                              00047001
                                    53 *                                                                          00048001
00003A BF1F 1004            00004   54          ICM   R1,B'1111',4(R1)                                          00049001
00003E 47B0 804A            0004A   55          BNM   OTARY1                   >= 0, BRANCH                     00050001
000042 5630 80A0            000A0   56          O     R3,=X'80000000'                                           00051001
000046 5410 80A4            000A4   57          N     R1,=X'00FFFFFF'                                           00052001
00004A 5820 100C            0000C   58 OTARY1   L     R2,12(,R1)               R2 -> DESTEND+1                  00053001
00004E 5870 1008            00008   59          L     R7,8(,R1)                R7 -> STARTDEST                  00054001
000052 1A73                         60          AR    R7,R3                                                     00055001
000054 1A23                         61          AR    R2,R3                                                     00056001
                                    62 *                                                                          00057001
                                    63 *        CALL ROUTINE OUREAL LONG OR SHORT                                 00058001
                                    64 *                                                                          00059001
000056 4140 0004            00004   65          LA    R4,4                     SETUP FOR SHORT                  00060001
00005A 9120 C0C2      000C2         66          TM    OPTSW(R12),X'20'         LONG OR SHORT PRECISION ?        00061001
00005E 4710 8066            00066   67          BO    OTARY2                   SHORT, BRANCH                    00062001
000062 4140 0008            00008   68          LA    R4,8                     LONG                             00063001
000066 58F4 8094            00094   69 OTARY2   L     R15,ARROUTR(R4)                                           00064001
00006A 05EF                         70          BALR  R14,R15                                                   00065001
00006C 9120 C0C2      000C2         71          TM    OPTSW(R12),X'20'         LONG OR SHORT                    00066001
000070 4710 807E            0007E   72          BO    OTARY3                   SHORT                            00067001
000074 1277                         73          LTR   R7,R7                    LONG                             00068001
000076 4720 807E            0007E   74          BP    OTARY3                                                    00069001
00007A 4B70 80A8            000A8   75          SH    R7,=H'4'                                                  00070001
00007E 1A74                         76 OTARY3   AR    R7,R4                    INCREASE DEST ADDR               00071001
000080 1972                         77          CR    R7,R2                                                     00072001
000082 4740 8066            00066   78          BL    OTARY2                   DESTEND NOT REACHED              00073001
000086 18DC                         79          LR    R13,R12                                                   00074001
                                    80 *                                                                          00075001
                                    81          RETURN (14,12)                                                  00076001
000088 98EC D00C            0000C   82+         LM    14,12,12(13)                    RESTORE THE REGISTERS 01-RETUR
00008C 07FE                         83+         BR    14                              RETURN                01-RETUR
                                    84 *                                                                          00077001
                                    85 *        EXTERNAL ADDRS                                                    00078001
                                    86 *                                                                          00079001
00008E 0000
000090 00000000                     87 VIOREV   DC    V(IHIIOREV)                                               00080001
                                    88 *                                                                          00081001
000094 00000000                     89 ARROUTR  DC    A(0)                     +00                              00082001
000098 00000000                     90          DC    V(IHISORAR)              +04                              00083001
00009C 00000000                     91          DC    V(IHILORAR)              +08                              00084001
                                    92 *                                                                          00085001
0000A0                              93          LTORG                                                           00086001
0000A0 80000000                     94                =X'80000000'
0000A4 00FFFFFF                     95                =X'00FFFFFF'
0000A8 0004                         96                =H'4'
```

```
  Active USINGs: IHIOARRY,R8

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                        X390 3.1.04  2012/08/17 13.21

                                     97 *                                                                      00087001
000000                00000 00120    98 FAS      DSECT                                                         00088001
                                     99 *                                                                      00089001
                                    100          COPY  FSAREA                                                  00090001
                                    101=*                                                                      00001001
                                    102=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                    00002001
                                    103=*                                                                      00003001
                                    104=*        STATUS - LEVEL 2.1                                            00004001
                                    105=*                                                                      00005001
                                    106=*********************************************************************** 00006001
                                    107=*                                                                      00007001
                                    108=*        COMMON DATA AREA                                              00008001
                                    109=*                                                                      00009001
                                    110=*        FSAREA                                                        00010001
                                    111=*                                                                      00011001
                                    112=*********************************************************************** 00012001
                                    113=*                                                                      00013001
                                    114=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                    00014001
                                    115=*        MODULES DURING THE EXECUTION                                  00015001
                                    116=*                                                                      00016001
                                    117=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY                 00017001
                                    118=*        SUBROUTINES) BY R12                                           00018001
                                    119=*                                                                      00019001
                      00000         120=FSAREA   EQU   *                                                       00020001
                                    121=*                                                                      00021001
                                    122=*        SAVE AREAS                                                    00022001
                                    123=*                                                                      00023001
000000                              124=         DS    18F                    STANDARD SAVE AREA               00024001
                      00048         125=ASAVE    EQU   *-FSAREA               ALTERNATE SAVE AREA USED BY      00025001
000048                              126=         DS    18F                    CERTAIN SUBROUTINES              00026001
                                    127=*                                                                      00027001
                                    128=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                        00028001
                                    129=*                                                                      00029001
                      00090         130=FCTVALST EQU   *-FSAREA               TEMPORARY STORAGE FOR            00030001
000090                              131=         DS    D                      FUNCTION VALUES                  00031001
                      00098         132=ASTLOC   EQU   *-FSAREA               DISPL FOR ADDR OF STAND LOCTN    00032001
000098 00000090                     133=         DC    A(FSAREA+FCTVALST)                                      00033001
                      0009C         134=BRRST    EQU   *-FSAREA               TEMPORARY SAVE REG BRR           00034001
                      0009C         135=HW       EQU   BRRST                  TEMPORARY HALFWORD STORAGE       00035001
00009C                              136=         DS    F                                                       00036001
                      000A0         137=PROLREG  EQU   *-FSAREA               STORAGE FOR PBT AND LAT WHEN     00037001
0000A0                              138=         DS    2A                     A PROCEDURE IS FORMAL PARAM      00038001
                                    139=*                                                                      00039001
                                    140=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE        00040001
                                    141=*                                                                      00041001
0000A8                              142=         DS    0H                                                      00042001
0000A8 00                           143=         DC    X'00'                                                   00043001
                      000A9         144=PROLPBN  EQU   *-FSAREA               STORAGE FOR CALLED PBN           00044001
0000A9 00                           145=         DC    X'00'                                                   00045001
                      000AA         146=EIGHT    EQU   *-FSAREA               CONST FOR REDUCING RAS           00046001
0000AA 0008                         147=         DC    H'8'                                                    00047001
                                    148=*                                                                      00048001
0000AC                              149=         DS    0F                                                      00049001
                      000AC         150=ADSTAB   EQU   *-FSAREA               ADDR OF DSTABLE                  00050001
0000AC                              151=         DS    A                      IN THE OBJECT PROGRAM            00051001
                      000B0         152=ANOTTAB  EQU   *-FSAREA               ADDR OF NOTE TABLE               00052001
0000B0                              153=         DS    A                      (INSERTED BY THE OPEN ROUTINE)   00053001
                                    154=*                                                                      00054001
                      000B4         155=IHIFSAST EQU   *                                                       00055001
                      000B4         156=PGOPSW   EQU   *-FSAREA               PROGRAM CHECK OLD PSW            00056001
0000B4                              157=         DS    2F                                                      00057001
                      000BC         158=FSAPICA  EQU   *-FSAREA               OLD PICA ADDR                    00058001
0000BC 00000000                     159=         DC    F'0'                                                    00059001
                      000C0         160=SCRCS    EQU   *-FSAREA               SEMICOLON NUMBER                 00060001
0000C0                              161=         DS    H                                                       00061001
                      000C2         162=DTSW     EQU   *-FSAREA               OPTION SWITCHES                  00062001
                      000C2         163=OPTSW    EQU   DTSW                                                    00063001
0000C2 00                           164=         DC    X'00'                  DUMP-80, TRACE-40, SHORT-20      00064001
                      000C3         165=FSAERCOD EQU   *-FSAREA               ERROR CODE FOR ERROR ROUTINE     00065001
0000C3                              166=         DS    C                                                       00066001
                                    167=*                                                                      00067001
                                    168=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER             00068001
                                    169=*                                                                      00069001
0000C4                              170=         DS    0F                                                      00070001
                      000C4         171=IHIFSARS EQU   *                                                       00071001
                      000C4         172=RASSTART EQU   *-FSAREA               ADDR OF FIRST ENTRY IN RAS-8     00072001
0000C4                              173=         DS    F                                                       00073001
                      000C8         174=RASPT    EQU   *-FSAREA               RAS POINTER FROM TOP             00074001
0000C8                              175=         DS    F                                                       00075001
                      000CC         176=RASEND   EQU   *-FSAREA               ADDR OF LAST  ENTRY IN RAS+8     00076001
0000CC                              177=         DS    F                                                       00077001
                      000D0         178=RASPB    EQU   *-FSAREA               RAS POINTER FROM BOTTOM          00078001
0000D0                              179=         DS    F                                                       00079001
                                    180=*                                                                      00080001
                                    181=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES      00081001
                                    182=*                                                                      00082001
0000D4                              183=BRLIST   DS    0F                                                      00083001
                      000D4         184=CAP1     EQU   *-FSAREA               FIRST PART CAPS                  00084001
0000D4 4700 0000            00000   185=         NOP   0                                                       00085001
                      000D8         186=CAP2     EQU   *-FSAREA               SECOND PART CAPS                 00086001
0000D8 4700 0000            00000   187=         NOP   0                                                       00087001
                      000DC         188=PROLOGP  EQU   *-FSAREA               PROLOGUE FORMAL PARAMETER ENTRY  00088001
                      000DC         189=PROLOGFP EQU   PROLOGP                                                 00089001
0000DC 4700 0000            00000   190=         NOP   0                                                       00090001
                      000E0         191=PROLOG   EQU   *-FSAREA               PROLOGUE PROGRAM USUAL ENTRY     00091001
0000E0 4700 0000            00000   192=         NOP   0                                                       00092001
```

Active USINGs: IHIOARRY,R8

D-Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

```
                      000E4         193=RETPROG  EQU   *-FSAREA              DISPLACEMENT RETURN PROGRAM      00093001
0000E4 4700 0000            00000   194=         NOP   0                                                       00094001
                      000E8         195=EPILOGP  EQU   *-FSAREA              EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000            00000   196=         NOP   0                                                       00096001
                      000EC         197=EPILOGB  EQU   *-FSAREA              EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000            00000   198=         NOP   0                                                       00098001
                      000F0         199=EPILPR3  EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3         00099001
0000F0 4700 0000            00000   200=         NOP   0                                                       00100001
                      000F4         201=CSWE1    EQU   *-FSAREA              FIRST PART CSWES                 00101001
0000F4 4700 0000            00000   202=         NOP   0                                                       00102001
                      000F8         203=CSWE2    EQU   *-FSAREA              SECOND PART CSWES                00103001
0000F8 4700 0000            00000   204=         NOP   0                                                       00104001
                      000FC         205=LOADPP   EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE    00105001
0000FC 4700 0000            00000   206=         NOP   0                                                       00106001
                      00100         207=TRACE    EQU   *-FSAREA                                               00107001
000100 D200 0000 0000 00000 00000   208=         MVC   0(0),0                                                 00108001
000106 4700 0000            00000   209=         NOP   0                                                       00109001
00010A 4700 0000            00000   210=         NOP   0                                                       00110001
                      0010E         211=TERMNTE  EQU   *-FSAREA              NORMAL TERMINATION EXIT          00111001
00010E 4700 0000            00000   212=         NOP   0                                                       00112001
                      00112         213=BCR      EQU   *-FSAREA                                               00113001
000112 0700                         214=         BCR   0,0                   VARIABLE CONDITIONAL BRANCH      00114001
                      00114         215=GETMSTO  EQU   *-FSAREA                                               00115001
000114 4700 0000            00000   216=         NOP   0                                                       00116001
                                    217=*                                                                     00117001
                      00118         218=VALUCALL EQU   *-FSAREA                                               00118001
000118 4700 0000            00000   219=         NOP   0                                                       00119001
                      0011C         220=IORLST   EQU   *-FSAREA                                               00120001
00011C 4700 0000            00000   221=         NOP   0                                                       00121001
                                    222=*                                                                     00122001
                      001CC         223=FSAERR   EQU   X'1CC'                 DISPL  FOR ERROR LIST            00123001
                                    224=*                                                                     00124001
                                    225=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                 00125001
                                    226=*                                                                     00126001
                      0020C         227=OUTOFB   EQU   FSAERR+4*16                                            00127001
                      00218         228=NUMBIND  EQU   FSAERR+4*19                                            00128001
                      00208         229=ARRAYBD  EQU   FSAERR+4*15                                            00129001
                      0026C         230=ERROR40  EQU   FSAERR+4*40                                            00130001
                      00224         231=OERR22   EQU   FSAERR+4*22                                            00131001
                      00210         232=ENDLESL  EQU   FSAERR+4*17                                            00132001
                      00220         233=OERR21   EQU   FSAERR+4*21                                            00133001
                                    234=*                                                                     00134001
                                    235 *                                                                     00091001
                                    236 *        REGISTER EQUATES                                             00092001
                                    237 *                                                                     00093001
                                    238          IEZREGS                                                      00094001
                      00000         239+R0       EQU   0                                                      01-IEZRE
                      00001         240+R1       EQU   1                                                      01-IEZRE
                      00002         241+R2       EQU   2                                                      01-IEZRE
                      00003         242+R3       EQU   3                                                      01-IEZRE
                      00004         243+R4       EQU   4                                                      01-IEZRE
                      00005         244+R5       EQU   5                                                      01-IEZRE
                      00006         245+R6       EQU   6                                                      01-IEZRE
                      00007         246+R7       EQU   7                                                      01-IEZRE
                      00008         247+R8       EQU   8                                                      01-IEZRE
                      00009         248+R9       EQU   9                                                      01-IEZRE
                      0000A         249+R10      EQU   10                                                     01-IEZRE
                      0000B         250+R11      EQU   11                                                     01-IEZRE
                      0000C         251+R12      EQU   12                                                     01-IEZRE
                      0000D         252+R13      EQU   13                                                     01-IEZRE
                      0000E         253+R14      EQU   14                                                     01-IEZRE
                      0000F         254+R15      EQU   15                                                     01-IEZRE
                                    255 *                                                                     00095001
                                    256          END                                                          00096001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
=H'4'           2 000000A8 00000001  H H                96   75
=X'00FFFFFF'
                4 000000A4 00000001  X X                95   57
=X'80000000'
                4 000000A0 00000001  X X                94   56
ARROUTR         4 00000094 00000001  A A                89   69
ASAVE           1 00000048           U                 125   44
BRRST           1 0000009C           U                 134  135
DTSW            1 000000C2           U                 162  163
FCTVALST        1 00000090           U                 130  133
FSAERR          1 000001CC           U                 223  227  228  229  230  231  232  233
FSAREA          1 00000000 FFFFFFFF  U                 120  125  130  132  133  134  137  144  146  150  152  156  158
                                                           160  162  165  172  174  176  178  184  186  188  191  193
                                                           195  197  199  201  203  205  207  211  213  215  218  220
IHIIOREV        1 00000000 00000002  T                  87   87
IHILORAR        1 00000000 00000004  T                  91   91
IHIOARRY        1 00000000 00000001  J                  33   42U
IHISORAR        1 00000000 00000003  T                  90   90
OPTSW           1 000000C2           U                 163   66   71
OTARY1          4 0000004A 00000001  I                  58   55B
OTARY2          4 00000066 00000001  I                  69   67B  78B
OTARY3          2 0000007E 00000001  I                  76   72B  74B
PROLOGP         1 000000DC           U                 188  189
R1              1 00000001           U                 240   54M  57M  58   59
R12             1 0000000C           U                 251   43M  44   66   71   79
R13             1 0000000D           U                 252   43   44M  79M
R14             1 0000000E           U                 253   50M  70M
R15             1 0000000F           U                 254   41   49M  50B  69M  70B
R2              1 00000002           U                 241   58M  61M  77
R3              1 00000003           U                 242   45M  56M  60   61
R4              1 00000004           U                 243   65M  68M  69   76
R7              1 00000007           U                 246   59M  60M  73M  75M  76M  77
R8              1 00000008           U                 247   41M  42U
VIOREV          4 00000090 00000001  V V                87   49
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   40   82M
    1(1)   40   54M  57M  58   59   82M
    2(2)   40   58M  61M  77   82M
    3(3)   40   45M  56M  60   61   82M
    4(4)   40   65M  68M  69N  76   82M
    5(5)   40   82M
    6(6)   40   82M
    7(7)   40   59M  60M  73M  75M  76M  77   82M
    8(8)   40   41M  42U  82M
    9(9)   40   82M
   10(A)   40   82M
   11(B)   40   82M
   12(C)   40   43M  44   66   71   79   82M
   13(D)   40   43   44M  79M  82
   14(E)   40   50M  70M  82M  83B
   15(F)   36B  40   41   49M  50B  69M  70B  82M
```

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

FAS 00000120 FFFFFFFF 98 PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04 2012/08/17 13.21
42		USING	Ordinary	00000001	00000000	00001000	8	000A8	78	IHIOARRY,R8	

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIOAR PROCSTEP: X390

Primary input: lines 1 to 96 of SYSD.ALGOLFRT.ASM(IHIOAR)

SYSLIB library records read: 295

SYSUT1 work file size: 23110 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 7680 bytes

SYSLIN file records written: 8

TXA000I Return code 0, elapsed time 0.19 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIOARRY	0000AA	6

IHIOBA

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIOBA)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0190
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Active USINGs: None

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                  X390 3.1.04  2012/08/17 13.21

                                      2 *                                                                00002001
                                      3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY              00003001
                                      4 *                                                                00004001
                                      5 *        STATUS - LEVEL 2.1                                      00005001
                                      6 *                                                                00006001
                                      7 *        FUNCTION/OPERATION -                                    00007001
                                      8 *        TRANSFER BOOLEAN VALUES FROM ARRAY DEFINED BY SECOND    00008001
                                      9 *        ACTUAL PARAMETER TO AN OUTPUT BUFFER BY CALLING         00009001
                                     10 *        OUTBOOLEAN REPEATEDLY                                   00010001
                                     11 *                                                                00011001
                                     12 *        ENTRY POINTS -                                          00012001
                                     13 *        IHIOBARR - FROM GENERATED OBJECT MODULE                 00013001
                                     14 *                   LA    R1,PARMLIST                            00014001
                                     15 *                   BALR R14,R15                                 00015001
                                     16 *                   DATA PASSED BY NAME                          00016001
                                     17 *                                                                00017001
                                     18 *        INPUT - N/A                                             00018001
                                     19 *                                                                00019001
                                     20 *        OUTPUT - N/A                                            00020001
                                     21 *                                                                00021001
                                     22 *        EXTERNAL ROUTINES -                                     00022001
                                     23 *        IHIIOR - EVALUATE DATASET NUMBER                        00023001
                                     24 *                                                                00024001
                                     25 *        IHIOBO - INBOOLEAN                                      00025001
                                     26 *                                                                00026001
                                     27 *        EXIT - NORMAL - RELOAD REGISTERS AND RETURN VIA R14     00027001
                                     28 *                                                                00028001
                                     29 *        EXIT - ERROR - N/A                                      00029001
                                     30 *                                                                00030001
                                     31 *        TABLES/WORK AREAS - N/A                                 00031001
                                     32 *                                                                00032001
000000                00000 00064    33 IHIOBARR CSECT                                                   00033001
                                     34 *                                                                00034001
                                     35          SAVE  (14,12),,'IHIOBARR LEVEL 2.1 &SYSDATE &SYSTIME'   00035001
000000 47F0 F026            00026    36+         B     38(0,15)                 BRANCH AROUND ID         01-SAVE
000004 21                            37+         DC    AL1(33)                  LENGTH OF IDENTIFIER     01-SAVE
000005 C9C8C9D6C2C1D9D9              38+         DC    CL32'IHIOBARR LEVEL 2.1 08/17/12 13.2' IDENTIFIER 01-SAVE
000025 F1                            39+         DC    CL1'1'                   IDENTIFIER               01-SAVE
000026 90EC D00C            0000C    40+         STM   14,12,12(13)             SAVE REGISTERS           01-SAVE
00002A 187F                          41          LR    R7,R15                                            00036001
                   R:7  00000        42          USING IHIOBARR,R7                                       00037001
00002C 18CD                          43          LR    R12,R13             R12 -> FSA                    00038001
00002E 41D0 C048            00048    44          LA    R13,ASAVE(,R12)     R13 -> SECOND FSA SAVEAREA    00039001
                                     45 *                                                                00040001
                                     46 *        EVALUATE DATASET NUMBER                                 00041001
                                     47 *                                                                00042001
000032 58F0 705C            0005C    48          L     R15,VIORREC         R15 -> IHIIOREC ROUTINE       00043001
000036 05EF                          49          BALR  R14,R15             CALL IHIIOREC                 00044001
000038 5810 1004            00004    50          L     R1,4(,R1)                                         00045001
00003C 5840 100C            0000C    51          L     R4,12(,R1)          R4 -> SOURCEEND+1             00046001
000040 5820 1008            00008    52          L     R2,8(,R1)           R2 -> SOURCE                  00047001
                                     53 *                                                                00048001
                                     54 *        CALL ROUTINE OUTBOOLEAN                                 00049001
                                     55 *                                                                00050001
000044 58F0 7060            00060    56 OUTBY1   L     R15,VOBOAR          R15 -> IHIOBOAR ROUTINE       00051001
000048 05EF                          57          BALR  R14,R15             CALL IHIOBOAR                 00052001
00004A 4120 2001            00001    58          LA    R2,1(,R2)           INCREASE SOURCE ADDR BY ONE   00053001
00004E 1924                          59          CR    R2,R4                                             00054001
000050 4740 7044            00044    60          BL    OUTBY1              LOOP, MORE VALUE TO WRITE     00055001
000054 18DC                          61          LR    R13,R12                                           00056001
                                     62 *                                                                00057001
                                     63          RETURN (14,12)            RESTORE REGS AND RETURN       00058001
000056 98EC D00C            0000C    64+         LM    14,12,12(13)             RESTORE THE REGISTERS    01-RETUR
00005A 07FE                          65+         BR    14                       RETURN                   01-RETUR
                                     66 *                                                                00059001
                                     67 *        EXTERNAL ADDRS                                          00060001
                                     68 *                                                                00061001
00005C 00000000                      69 VIORREC  DC    V(IHIIOREV)                                       00062001
000060 00000000                      70 VOBOAR   DC    V(IHIOBOAR)                                       00063001
                                     71 *                                                                00064001
000000                00000 00120    72 FAS      DSECT                                                   00065001
                                     73 *                                                                00066001
                                     74          COPY  FSAREA                                            00067001
                                     75=*                                                                00001001
                                     76=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY              00002001
                                     77=*                                                                00003001
                                     78=*        STATUS - LEVEL 2.1                                      00004001
                                     79=*                                                                00005001
                                     80=*********************************************************************** 00006001
                                     81=*                                                                00007001
                                     82=*        COMMON DATA AREA                                        00008001
                                     83=*                                                                00009001
                                     84=*        FSAREA                                                  00010001
                                     85=*                                                                00011001
                                     86=*********************************************************************** 00012001
                                     87=*                                                                00013001
                                     88=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL              00014001
                                     89=*        MODULES DURING THE EXECUTION                            00015001
                                     90=*                                                                00016001
                                     91=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY           00017001
                                     92=*        SUBROUTINES) BY R12                                     00018001
                                     93=*                                                                00019001
                            00000    94=FSAREA   EQU   *                                                 00020001
                                     95=*                                                                00021001
                                     96=*        SAVE AREAS                                              00022001
                                     97=*                                                                00023001
```

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000000                              98=          DS    18F                  STANDARD SAVE AREA                00024001
                      00048         99=ASAVE     EQU   *-FSAREA            ALTERNATE SAVE AREA USED BY       00025001
000048                             100=          DS    18F                  CERTAIN SUBROUTINES               00026001
                                   101=*                                                                      00027001
                                   102=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                        00028001
                                   103=*                                                                      00029001
                      00090        104=FCTVALST EQU   *-FSAREA            TEMPORARY STORAGE FOR             00030001
000090                             105=          DS    D                    FUNCTION VALUES                   00031001
                      00098        106=ASTLOC   EQU   *-FSAREA            DISPL FOR ADDR OF STAND LOCTN     00032001
000098 00000090                    107=          DC    A(FSAREA+FCTVALST)                                      00033001
                      0009C        108=BRRST    EQU   *-FSAREA            TEMPORARY SAVE REG BRR            00034001
                      0009C        109=HW       EQU   BRRST               TEMPORARY HALFWORD STORAGE        00035001
00009C                             110=          DS    F                                                     00036001
                      000A0        111=PROLREG  EQU   *-FSAREA            STORAGE FOR PBT AND LAT WHEN      00037001
0000A0                             112=          DS    2A                   A PROCEDURE IS FORMAL PARAM       00038001
                                   113=*                                                                      00039001
                                   114=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE        00040001
                                   115=*                                                                      00041001
0000A8                             116=          DS    0H                                                    00042001
0000A8 00                          117=          DC    X'00'                                                 00043001
                      000A9        118=PROLPBN  EQU   *-FSAREA            STORAGE FOR CALLED PBN            00044001
0000A9 00                          119=          DC    X'00'                                                 00045001
                      000AA        120=EIGHT    EQU   *-FSAREA            CONST FOR REDUCING RAS            00046001
0000AA 0008                        121=          DC    H'8'                                                  00047001
                                   122=*                                                                      00048001
0000AC                             123=          DS    0F                                                    00049001
                      000AC        124=ADSTAB   EQU   *-FSAREA            ADDR OF DSTABLE                   00050001
0000AC                             125=          DS    A                    IN THE OBJECT PROGRAM             00051001
                      000B0        126=ANOTTAB  EQU   *-FSAREA            ADDR OF NOTE TABLE                00052001
0000B0                             127=          DS    A                    (INSERTED BY THE OPEN ROUTINE)    00053001
                                   128=*                                                                      00054001
                      000B4        129=IHIFSAST EQU   *                                                       00055001
                      000B4        130=PGOPSW   EQU   *-FSAREA            PROGRAM CHECK OLD PSW             00056001
0000B4                             131=          DS    2F                                                    00057001
                      000BC        132=FSAPICA  EQU   *-FSAREA            OLD PICA ADDR                     00058001
0000BC 00000000                    133=          DC    F'0'                                                  00059001
                      000C0        134=SCRCS    EQU   *-FSAREA            SEMICOLON NUMBER                  00060001
0000C0                             135=          DS    H                                                     00061001
                      000C2        136=DTSW     EQU   *-FSAREA            OPTION SWITCHES                   00062001
                      000C2        137=OPTSW    EQU   DTSW                                                  00063001
0000C2 00                          138=          DC    X'00'                DUMP-80, TRACE-40, SHORT-20       00064001
                      000C3        139=FSAERCOD EQU   *-FSAREA            ERROR CODE FOR ERROR ROUTINE      00065001
0000C3                             140=          DS    C                                                     00066001
                                   141=*                                                                      00067001
                                   142=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER             00068001
                                   143=*                                                                      00069001
0000C4                             144=          DS    0F                                                    00070001
                      000C4        145=IHIFSARS EQU   *                                                       00071001
                      000C4        146=RASSTART EQU   *-FSAREA            ADDR OF FIRST ENTRY IN RAS-8      00072001
0000C4                             147=          DS    F                                                     00073001
                      000C8        148=RASPT    EQU   *-FSAREA            RAS POINTER FROM TOP              00074001
0000C8                             149=          DS    F                                                     00075001
                      000CC        150=RASEND   EQU   *-FSAREA            ADDR OF LAST  ENTRY IN RAS+8      00076001
0000CC                             151=          DS    F                                                     00077001
                      000D0        152=RASPB    EQU   *-FSAREA            RAS POINTER FROM BOTTOM           00078001
0000D0                             153=          DS    F                                                     00079001
                                   154=*                                                                      00080001
                                   155=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES       00081001
                                   156=*                                                                      00082001
0000D4                             157=BRLIST   DS    0F                                                    00083001
                      000D4        158=CAP1     EQU   *-FSAREA            FIRST PART CAPS                   00084001
0000D4 4700 0000            00000  159=          NOP   0                                                     00085001
                      000D8        160=CAP2     EQU   *-FSAREA            SECOND PART CAPS                  00086001
0000D8 4700 0000            00000  161=          NOP   0                                                     00087001
                      000DC        162=PROLOGP  EQU   *-FSAREA            PROLOGUE FORMAL PARAMETER ENTRY   00088001
                      000DC        163=PROLOGFP EQU   PROLOGP                                               00089001
0000DC 4700 0000            00000  164=          NOP   0                                                     00090001
                      000E0        165=PROLOG   EQU   *-FSAREA            PROLOGUE PROGRAM USUAL ENTRY      00091001
0000E0 4700 0000            00000  166=          NOP   0                                                     00092001
                      000E4        167=RETPROG  EQU   *-FSAREA            DISPLACEMENT RETURN PROGRAM       00093001
0000E4 4700 0000            00000  168=          NOP   0                                                     00094001
                      000E8        169=EPILOGP  EQU   *-FSAREA            EPILOGUE PROGRAM,PROCEDURE ENTRY  00095001
0000E8 4700 0000            00000  170=          NOP   0                                                     00096001
                      000EC        171=EPILOGB  EQU   *-FSAREA            EPILOGE PROGRAM,BETA-BLOCK ENTRY  00097001
0000EC 4700 0000            00000  172=          NOP   0                                                     00098001
                      000F0        173=EPILPR3  EQU   *-FSAREA            EPILOGUE PROGRAM ENTRY 3          00099001
0000F0 4700 0000            00000  174=          NOP   0                                                     00100001
                      000F4        175=CSWE1    EQU   *-FSAREA            FIRST PART CSWES                  00101001
0000F4 4700 0000            00000  176=          NOP   0                                                     00102001
                      000F8        177=CSWE2    EQU   *-FSAREA            SECOND PART CSWES                 00103001
0000F8 4700 0000            00000  178=          NOP   0                                                     00104001
                      000FC        179=LOADPP   EQU   *-FSAREA            LOAD PRECOMPILED PROC ROUTINE     00105001
0000FC 4700 0000            00000  180=          NOP   0                                                     00106001
                      00100        181=TRACE    EQU   *-FSAREA                                              00107001
000100 D200 0000 0000 00000 00000  182=          MVC   0(0),0                                                00108001
000106 4700 0000            00000  183=          NOP   0                                                     00109001
00010A 4700 0000            00000  184=          NOP   0                                                     00110001
                      0010E        185=TERMNTE  EQU   *-FSAREA            NORMAL TERMINATION EXIT           00111001
00010E 4700 0000            00000  186=          NOP   0                                                     00112001
                      00112        187=BCR      EQU   *-FSAREA                                              00113001
000112 0700                        188=          BCR   0,0                  VARIABLE CONDITIONAL BRANCH       00114001
                      00114        189=GETMSTO  EQU   *-FSAREA                                              00115001
000114 4700 0000            00000  190=          NOP   0                                                     00116001
                                   191=*                                                                      00117001
                      00118        192=VALUCALL EQU   *-FSAREA                                              00118001
000118 4700 0000            00000  193=          NOP   0                                                     00119001
```

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.21

                      0011C         194=IORLST   EQU   *-FSAREA                                          00120001
00011C 4700 0000            00000   195=         NOP   0                                                 00121001
                                    196=*                                                                00122001
                      001CC         197=FSAERR   EQU   X'1CC'              DISPL  FOR ERROR LIST        00123001
                                    198=*                                                                00124001
                                    199=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA            00125001
                                    200=*                                                                00126001
                      0020C         201=OUTOFB   EQU   FSAERR+4*16                                       00127001
                      00218         202=NUMBIND  EQU   FSAERR+4*19                                       00128001
                      00208         203=ARRAYBD  EQU   FSAERR+4*15                                       00129001
                      0026C         204=ERROR40  EQU   FSAERR+4*40                                       00130001
                      00224         205=OERR22   EQU   FSAERR+4*22                                       00131001
                      00210         206=ENDLESL  EQU   FSAERR+4*17                                       00132001
                      00220         207=OERR21   EQU   FSAERR+4*21                                       00133001
                                    208=*                                                                00134001
                                    209 *                                                                00068001
                                    210 *        REGISTER EQUATES                                        00069001
                                    211 *                                                                00070001
                                    212          IEZREGS                                                 00071001
                      00000         213+R0       EQU   0                                                 01-IEZRE
                      00001         214+R1       EQU   1                                                 01-IEZRE
                      00002         215+R2       EQU   2                                                 01-IEZRE
                      00003         216+R3       EQU   3                                                 01-IEZRE
                      00004         217+R4       EQU   4                                                 01-IEZRE
                      00005         218+R5       EQU   5                                                 01-IEZRE
                      00006         219+R6       EQU   6                                                 01-IEZRE
                      00007         220+R7       EQU   7                                                 01-IEZRE
                      00008         221+R8       EQU   8                                                 01-IEZRE
                      00009         222+R9       EQU   9                                                 01-IEZRE
                      0000A         223+R10      EQU   10                                                01-IEZRE
                      0000B         224+R11      EQU   11                                                01-IEZRE
                      0000C         225+R12      EQU   12                                                01-IEZRE
                      0000D         226+R13      EQU   13                                                01-IEZRE
                      0000E         227+R14      EQU   14                                                01-IEZRE
                      0000F         228+R15      EQU   15                                                01-IEZRE
                                    229 *                                                                00072001
                                    230          END                                                     00073001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
ASAVE           1 00000048           U                  99   44
BRRST           1 0000009C           U                 108  109
DTSW            1 000000C2           U                 136  137
FCTVALST        1 00000090           U                 104  107
FSAERR          1 000001CC           U                 197  201  202  203  204  205  206  207
FSAREA          1 00000000 FFFFFFFF  U                  94   99  104  106  107  108  111  118  120  124  126  130  132
                                                           134  136  139  146  148  150  152  158  160  162  165  167
                                                           169  171  173  175  177  179  181  185  187  189  192  194
IHIIOREV        1 00000000 00000002  T                  69   69
IHIOBARR        1 00000000 00000001  J                  33   42U
IHIOBOAR        1 00000000 00000003  T                  70   70
OUTBY1          4 00000044 00000001  I                  56   60B
PROLOGP         1 000000DC           U                 162  163
R1              1 00000001           U                 214   50M  51   52
R12             1 0000000C           U                 225   43M  44   61
R13             1 0000000D           U                 226   43   44M  61M
R14             1 0000000E           U                 227   49M  57M
R15             1 0000000F           U                 228   41   48M  49B  56M  57B
R2              1 00000002           U                 215   52M  58M  59
R4              1 00000004           U                 217   51M  59
R7              1 00000007           U                 220   41M  42U
VIORREC         4 0000005C 00000001  V V                69   48
VOBOAR          4 00000060 00000001  V V                70   56
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   40   64M
    1(1)   40   50M  51   52   64M
    2(2)   40   52M  58M  59   64M
    3(3)   40   64M
    4(4)   40   51M  59   64M
    5(5)   40   64M
    6(6)   40   64M
    7(7)   40   41M  42U  64M
    8(8)   40   64M
    9(9)   40   64M
   10(A)   40   64M
   11(B)   40   64M
   12(C)   40   43M  44   61   64M
   13(D)   40   43   44M  61M  64
   14(E)   40   49M  57M  64M  65B
   15(F)   36B  40   41   48M  49B  56M  57B  64M
```

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

FAS 00000120 FFFFFFFF 72 PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
42		USING	Ordinary	00000001	00000000	00001000	7	00060	60	IHIOBARR,R7

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIOBA PROCSTEP: X390

Primary input: lines 1 to 73 of SYSD.ALGOLFRT.ASM(IHIOBA)

SYSLIB library records read: 295

SYSUT1 work file size: 20786 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 5840 bytes

SYSLIN file records written: 5

TXA000I Return code 0, elapsed time 0.18 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIOBARR	000064	4

IHIOBO

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIOBO)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0194
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     2 *                                                                          00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                     4 *                                                                          00004001
                                     5 *        STATUS - LEVEL 2.1                                                00005001
                                     6 *                                                                          00006001
                                     7 *        FUNCTION/OPERATION -                                              00007001
                                     8 *        TRANSFER BOOLEAN VALUE FROM SECOND PARAMETER TO AN                00008001
                                     9 *        OUTPUT BUFFER WITH CHARACTER STRING 'TRUE' OR 'FALSE'             00009001
                                    10 *                                                                          00010001
                                    11 *        ENTRY POINTS -                                                    00011001
                                    12 *        IHIOBOOL - FROM GENERATED OBJECT MODULE                           00012001
                                    13 *                   LA   R1,PARMLIST                                       00013001
                                    14 *                   BALR R14,R15                                           00014001
                                    15 *                   DATA PASSED BY NAME                                    00015001
                                    16 *        IHIOBOAR - FROM ARRAY MODULE IHIOBA                               00016001
                                    17 *                   LA   R2,DATA                                           00017001
                                    18 *                   BALR R14,R15                                           00018001
                                    19 *        DATA PASSED BY NAME                                               00019001
                                    20 *                                                                          00020001
                                    21 *        INPUT - N/A                                                       00021001
                                    22 *                                                                          00022001
                                    23 *        OUTPUT - N/A                                                      00023001
                                    24 *                                                                          00024001
                                    25 *        EXTERNAL ROUTINES -                                               00025001
                                    26 *        IHIIOR - EVALUATE DATASET NUMBER                                  00026001
                                    27 *               - OPEN DATASET                                             00027001
                                    28 *               - CHANGE TO NEXT RECORD                                    00028001
                                    29 *                                                                          00029001
                                    30 *        EXIT - NORMAL - RELOAD REGISTERS AND RETURN VIA R14               00030001
                                    31 *                                                                          00031001
                                    32 *        EXIT - ERROR - TOO LONG RECORD - NO 38                            00032001
                                    33 *                       BRANCH TO IHIFSA                                   00033001
                                    34 *                       L    R13,IHIFSA                                    00034001
                                    35 *                       B    FSAERR+XX*4(R13) XX ERROR NO                  00035001
                                    36 *                                                                          00036001
                                    37 *        TABLES/WORK AREAS - N/A                                           00037001
                                    38 *                                                                          00038001
000000              00000 001C8     39 IHIOBOOL CSECT                                                             00039001
                                    40 *                                                                          00040001
                                    41          ENTRY IHIOBOAR                                                    00041001
                                    42 *                                                                          00042001
                                    43 *        DISPLACEMENTS IN ADRLST IN IHIFSA                                 00043001
                                    44 *                                                                          00044001
                    00000           45 CI       EQU   0             DISPLACEMENT FOR - IHIIORCI                   00045001
                    00004           46 CL       EQU   4                                IHIIORCL                   00046001
                    00008           47 EV       EQU   8                                IHIIOREV                   00047001
                    0000C           48 NX       EQU   12                               IHIIORNX                   00048001
                    00010           49 OP       EQU   16                               IHIIOROP                   00049001
                    00014           50 OQ       EQU   20                               IHIIOROQ                   00050001
                                    51 *                                                                          00051001
                R:5 00000           52          USING DSTABLE,R5             R5 -> DSTABLE ENTRY              00052001
                                    53 *                                                                          00053001
                                    54          SAVE  (14,12),,'IHIOBOOL LEVEL 2.1 &SYSDATE &SYSTIME'             00054001
000000 47F0 F026            00026   55+         B     38(0,15)                          BRANCH AROUND ID       01-SAVE
000004 21                           56+         DC    AL1(33)                           LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9D6C2D6D6D3             57+         DC    CL32'IHIOBOOL LEVEL 2.1 08/17/12 13.2' IDENTIFIER        01-SAVE
000025 F1                           58+         DC    CL1'1'                            IDENTIFIER             01-SAVE
000026 90EC D00C            0000C   59+         STM   14,12,12(13)                      SAVE REGISTERS         01-SAVE
                                    60 *                                                                          00055001
                R:F 00000           61          USING IHIOBOOL,R15                                                00056001
00002A 18CD                         62          LR    R12,R13                CHAIN SAVE AREAS                   00057001
00002C 41D0 F180            00180   63          LA    R13,SAVEAREA                                              00058001
000030 50C0 D004            00004   64          ST    R12,4(,R13)                                               00059001
000034 50D0 C008            00008   65          ST    R13,8(,R12)                                               00060001
000038 4170 F08E            0008E   66          LA    R7,COMMON                                                 00061001
                                    67          DROP  R15                                                       00062001
                R:7 0008E           68          USING COMMON,R7                                                 00063001
                                    69 *                                                                          00064001
                                    70 *        EVALUATE DATASET NUMBER                                           00065001
                                    71 *                                                                          00066001
00003C 58F0 C11C            0011C   72          L     R15,IORLST(,R12)                                          00067001
000040 58F0 F008            00008   73          L     R15,EV(,R15)                                              00068001
000044 05EF                         74          BALR  R14,R15                                                   00069001
000046 5810 1004            00004   75          L     R1,4(,R1)                                                 00070001
00004A 5010 70DE            0016C   76          ST    R1,ASOURCE                                                00071001
00004E 47F0 7000            0008E   77          B     COMMON                                                    00072001
                                    78 *                                                                          00073001
                                    79          DROP  R7                                                        00074001
                                    80 *                                                                          00075001
                                    81 IHIOBOAR SAVE  (14,12),,'IHIOBOAR LEVEL 2.1 &SYSDATE &SYSTIME'           00076001
000052 47F0 F026            00026   82+IHIOBOAR B     38(0,15)                          BRANCH AROUND ID       01-SAVE
000056 21                           83+         DC    AL1(33)                           LENGTH OF IDENTIFIER   01-SAVE
000057 C9C8C9D6C2D6C1D9             84+         DC    CL32'IHIOBOAR LEVEL 2.1 08/17/12 13.2' IDENTIFIER        01-SAVE
000077 F1                           85+         DC    CL1'1'                            IDENTIFIER             01-SAVE
000078 90EC D00C            0000C   86+         STM   14,12,12(13)                      SAVE REGISTERS         01-SAVE
                                    87 *                                                                          00077001
                R:F 00052           88          USING IHIOBOAR,R15                                              00078001
00007C 187D                         89          LR    R7,R13                 CHAIN SAVE AREAS                   00079001
00007E 41D0 F12E            00180   90          LA    R13,SAVEAREA                                              00080001
000082 5070 D004            00004   91          ST    R7,4(,R13)                                                00081001
000086 50D0 7008            00008   92          ST    R13,8(,R7)                                                00082001
00008A 4170 F03C            0008E   93          LA    R7,COMMON                                                 00083001
                                    94          DROP  R15                                                       00084001
                R:7 0008E           95          USING COMMON,R7                                                 00085001
                                    96 *                                                                          00086001
00008E 9630 501A            0001A   97 COMMON   OI    DSF,DS2+DS3              DS2, DS3 SET TO ONE              00087001
```

Active USINGs: IHIOBOOL+X'8E',R7 DSTABLE,R5

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000092 94FE 501A      0001A          98          NI    DSF,255-DS7             DS7 IS SET TO 0                  00088001
000096 9180 501A      0001A          99          TM    DSF,DS0                 DATASET OPEN ?                   00089001
00009A 4710 701E            000AC   100          BO    OTBOOL1                 YES, BRANCH                      00090001
00009E 9602 501A      0001A         101          OI    DSF,DS6                 NO, OPEN DATASET                 00091001
0000A2 58F0 C11C            0011C   102          L     R15,IORLST(,R12)                                         00092001
0000A6 58F0 F010            00010   103          L     R15,OP(,R15)                                             00093001
0000AA 05EF                         104          BALR  R14,R15                 CALL DATASET OPEN ROUTINE        00094001
0000AC 5840 5008            00008   105 OTBOOL1  L     R4,RE                                                    00095001
0000B0 5830 5004            00004   106          L     R3,R                                                     00096001
0000B4 4130 3007            00007   107          LA    R3,7(,R3)                                                00097001
0000B8 1943                         108          CR    R4,R3                                                    00098001
0000BA 47B0 706E            000FC   109          BNL   OTBOOL2                 SEVEN CHARACTER FREE IN RECORD   00099001
                                    110 *                                                                        00100001
                                    111 *        NOT ROOM ENOUGH TO STORE BOOLEAN VALUE IN RECORD                00101001
                                    112 *        FILL CURRENT RECORD BY BLANKS                                   00102001
                                    113 *        CALL FOR ROUTINE NEXTREC                                        00103001
                                    114 *                                                                        00104001
0000BE 5830 5004            00004   115          L     R3,R                                                     00105001
0000C2 5840 5008            00008   116          L     R4,RE                                                    00106001
0000C6 1B43                         117          SR    R4,R3                                                    00107001
0000C8 4780 7050            000DE   118          BZ    OTBOOL7                                                  00108001
0000CC 9240 3000      00000         119          MVI   0(R3),C' '                                               00109001
0000D0 0640                         120          BCTR  R4,0                                                     00110001
0000D2 0640                         121          BCTR  R4,0                                                     00111001
0000D4 1244                         122          LTR   R4,R4                                                    00112001
0000D6 4740 7050            000DE   123          BM    OTBOOL7                                                  00113001
0000DA 4440 70D6            00164   124          EX    R4,BLANKS                                                00114001
0000DE 58F0 C11C            0011C   125 OTBOOL7  L     R15,IORLST(,R12)                                         00115001
0000E2 58F0 F00C            0000C   126          L     R15,NX(,R15)                                             00116001
0000E6 05EF                         127          BALR  R14,R15                                                  00117001
0000E8 5830 5004            00004   128          L     R3,R                                                     00118001
0000EC 4130 3007            00007   129          LA    R3,7(,R3)                                                00119001
0000F0 5930 5008            00008   130          C     R3,RE                                                    00120001
0000F4 4720 70D0            0015E   131          BH    OERROR                  TOO SHORT RECORD LENGTH          00121001
0000F8 9610 501A      0001A         132          OI    DSF,DS3                                                  00122001
0000FC 5820 70DE            0016C   133 OTBOOL2  L     R2,ASOURCE                                               00123001
000100 1B99                         134          SR    R9,R9                                                    00124001
000102 4390 2000            00000   135          IC    R9,0(,R2)                                                00125001
000106 5830 5004            00004   136          L     R3,R                                                     00126001
00010A 1299                         137          LTR   R9,R9                                                    00127001
00010C 4780 708C            0011A   138          BZ    OTBOOL3                                                  00128001
000110 D206 3000 70E2 00000 00170   139          MVC   0(L'TRUE,R3),TRUE       BOOLEAN VALUE TRUE OR FALSE      00129001
000116 47F0 7092            00120   140          B     OTBOOL3A                TO RECORD WHICH ONE DEPENDING    00130001
                                    141 *                                                                        00131001
00011A D206 3000 70E9 00000 00177   142 OTBOOL3  MVC   0(L'FALSE,R3),FALSE     ON VALUE OF SOURCE               00132001
000120 4130 3007            00007   143 OTBOOL3A LA    R3,7(,R3)                                                00133001
000124 5030 5004            00004   144          ST    R3,R                    UPDATE CHARACTER POINTER         00134001
                                    145 *                                                                        00135001
                                    146 *        ROUTINE BLADEL                                                  00136001
                                    147 *                                                                        00137001
000128 1B88                         148          SR    R8,R8                                                    00138001
00012A 4380 5018            00018   149          IC    R8,K                    NUMBER OF DELIMITERS             00139001
00012E 5930 5008            00008   150 OTBOOL4  C     R3,RE                                                    00140001
000132 4780 70BC            0014A   151          BE    OTBOOL5                 RECORD END REACHED               00141001
000136 9240 3000      00000         152          MVI   0(R3),C' '              FILL WITH BLANK                  00142001
00013A 4130 3001            00001   153          LA    R3,1(,R3)                                                00143001
00013E 4680 70A0            0012E   154          BCT   R8,OTBOOL4                                               00144001
000142 5030 5004            00004   155          ST    R3,R                    UPDATE CHARACTER POINTER         00145001
000146 47F0 70C6            00154   156          B     OTBOOL6                                                  00146001
                                    157 *                                                                        00147001
                                    158 *        CALL NEXTREC                                                    00148001
                                    159 *                                                                        00149001
00014A 58F0 C11C            0011C   160 OTBOOL5  L     R15,IORLST(,R12)                                         00150001
00014E 58F0 F00C            0000C   161          L     R15,NX(,R15)                                             00151001
000152 05EF                         162          BALR  R14,R15                                                  00152001
000154 58D0 70F6            00184   163 OTBOOL6  L     R13,SAVEAREA+4                                           00153001
                                    164 *                                                                        00154001
                                    165          RETURN (14,12)                RESTORE REGS AND RETURN          00155001
000158 98EC D00C            0000C   166+         LM    14,12,12(13)                    RESTORE THE REGISTERS    01-RETUR
00015C 07FE                         167+         BR    14                              RETURN                   01-RETUR
                                    168 *                                                                        00156001
00015E 18DC                         169 OERROR   LR    R13,R12                                                  00157001
000160 47FC 0264            00264   170          B     FSAERR+38*4(R12)                                         00158001
                                    171 *                                                                        00159001
000164 D200 3001 3000 00001 00000   172 BLANKS   MVC   1(0,R3),0(R3)             EXE INSTRUCTION                  00160001
                                    173 *                                                                        00161001
00016A 0000
00016C 00000000                     174 ASOURCE  DC    A(0)                                                     00162001
                                    175 *                                                                        00163001
000170 7DE3D9E4C57D40               176 TRUE     DC    C'''TRUE'' '                                             00164001
000177 7DC6C1D3E2C57D               177 FALSE    DC    C'''FALSE'''                                             00165001
                                    178 *                                                                        00166001
00017E 0000
000180 0000000000000000             179 SAVEAREA DC    18F'0'                                                   00167001
                                    180 *                                                                        00168001
0001C8                              181          LTORG                                                       00169001
                                    182 *                                                                        00170001
                                    183 *        DSTABLE MAPPING DSECT                                           00171001
                                    184 *                                                                        00172001
                                    185          DSTABLE DSECT=YES                                           00173001
000000                00000 00024   186+DSTABLE  DSECT                                                        01-DSTAB
                                    187+*                                                                        01-DSTAB
000000 00000000                     188+ADCB     DC    F'0'                    -> DCB                           01-DSTAB
000004 00000000                     189+R        DC    F'0'                    CHARACTER POINTER                01-DSTAB
000008 00000000                     190+RE       DC    F'0'                                                     01-DSTAB
00000C 00000000                     191+NBB      DC    F'0'                                                     01-DSTAB
```

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.21

000010 00000000                    192+BB       DC    F'0'                                                    01-DSTAB
000014 0001                        193+S        DC    H'1'                  RECORD POINTER                    01-DSTAB
000016 0050                        194+P        DC    H'80'                 RECORD LENGTH                     01-DSTAB
000018 02                          195+K        DC    X'02'                 NUMBER OF BLANK DELIM CHARS       01-DSTAB
000019 00                          196+Q        DC    X'00'                 NO OF RECORDS PER SECTION         01-DSTAB
00001A 0000                        197+DSF      DC    H'00'                 DATASET FLAGS                     01-DSTAB
                                   198+*                                                                      01-DSTAB
                                   199+*        DATASET FLAGS - DSF                                           01-DSTAB
                                   200+*                                                                      01-DSTAB
                         00080     201+DS0      EQU   X'80'                 DATASET OPEN                      01-DSTAB
                         00040     202+DS1      EQU   X'40'                                                   01-DSTAB
                         00020     203+DS2      EQU   X'20'                 LAST I/O OUTPUT                   01-DSTAB
                         00010     204+DS3      EQU   X'10'                                                   01-DSTAB
                         00008     205+DS4      EQU   X'08'                                                   01-DSTAB
                         00004     206+DS5      EQU   X'04'                                                   01-DSTAB
                         00002     207+DS6      EQU   X'02'                 OPEN FOR OUTPUT                   01-DSTAB
                         00001     208+DS7      EQU   X'01'                 END OF FILE                       01-DSTAB
                                   209+*                                                                      01-DSTAB
                                   210+*        DATASET FLAGS - DSF+1                                         01-DSTAB
                                   211+*                                                                      01-DSTAB
                         00080     212+DS8      EQU   X'80'                 END OF DATA                       01-DSTAB
                         00040     213+DS9      EQU   X'40'                                                   01-DSTAB
                         00020     214+DS10     EQU   X'20'                 OPENED BY SYSACT 12               01-DSTAB
                         00010     215+DS11     EQU   X'10'                 INDICATE IHIERR-ROUT              01-DSTAB
                         00008     216+DSEOD    EQU   X'08'                                                   01-DSTAB
                         00004     217+DSIOERR  EQU   X'04'                 I/O ERROR                         01-DSTAB
                         00002     218+DS14     EQU   X'02'                 DATASET OPENED                    01-DSTAB
                         00001     219+DS15     EQU   X'01'                 CLOSE FROM IHIERR                 01-DSTAB
                                   220+*                                                                      01-DSTAB
00001C 00000000                    221+NOTEADR  DC    F'0'                                                    01-DSTAB
000020 0000                        222+BL       DC    H'0'                  LRECL+ TWO ARB                    01-DSTAB
000022 0000                        223+         DC    H'0'                                                    01-DSTAB
                                   224+*                                                                      01-DSTAB
                         00024     225+DSTABLEL EQU   *-DSTABLE             L'DSTABLE ENTRY                   01-DSTAB
                                   226+*                                                                      01-DSTAB
                                   227 *                                                                      00174001
000000                   00000 00120 228 FAS      DSECT                                                      00175001
                                   229 *                                                                      00176001
                                   230          COPY  FSAREA                                                  00177001
                                   231=*                                                                      00001001
                                   232=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                    00002001
                                   233=*                                                                      00003001
                                   234=*        STATUS - LEVEL 2.1                                            00004001
                                   235=*                                                                      00005001
                                   236=*********************************************************************** 00006001
                                   237=*                                                                      00007001
                                   238=*        COMMON DATA AREA                                              00008001
                                   239=*                                                                      00009001
                                   240=*        FSAREA                                                        00010001
                                   241=*                                                                      00011001
                                   242=*********************************************************************** 00012001
                                   243=*                                                                      00013001
                                   244=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                    00014001
                                   245=*        MODULES DURING THE EXECUTION                                  00015001
                                   246=*                                                                      00016001
                                   247=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY                 00017001
                                   248=*        SUBROUTINES) BY R12                                           00018001
                                   249=*                                                                      00019001
                         00000     250=FSAREA   EQU   *                                                       00020001
                                   251=*                                                                      00021001
                                   252=*        SAVE AREAS                                                    00022001
                                   253=*                                                                      00023001
000000                             254=         DS    18F                   STANDARD SAVE AREA                00024001
                         00048     255=ASAVE    EQU   *-FSAREA              ALTERNATE SAVE AREA USED BY       00025001
000048                             256=         DS    18F                   CERTAIN SUBROUTINES               00026001
                                   257=*                                                                      00027001
                                   258=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                        00028001
                                   259=*                                                                      00029001
                         00090     260=FCTVALST EQU   *-FSAREA              TEMPORARY STORAGE FOR             00030001
000090                             261=         DS    D                     FUNCTION VALUES                   00031001
                         00098     262=ASTLOC   EQU   *-FSAREA              DISPL FOR ADDR OF STAND LOCTN     00032001
000098 00000090                    263=         DC    A(FSAREA+FCTVALST)                                      00033001
                         0009C     264=BRRST    EQU   *-FSAREA              TEMPORARY SAVE REG BRR            00034001
                         0009C     265=HW       EQU   BRRST                 TEMPORARY HALFWORD STORAGE        00035001
00009C                             266=         DS    F                                                       00036001
                         000A0     267=PROLREG  EQU   *-FSAREA              STORAGE FOR PBT AND LAT WHEN      00037001
0000A0                             268=         DS    2A                    A PROCEDURE IS FORMAL PARAM       00038001
                                   269=*                                                                      00039001
                                   270=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE        00040001
                                   271=*                                                                      00041001
0000A8                             272=         DS    0H                                                      00042001
0000A8 00                          273=         DC    X'00'                                                   00043001
                         000A9     274=PROLPBN  EQU   *-FSAREA              STORAGE FOR CALLED PBN            00044001
0000A9 00                          275=         DC    X'00'                                                   00045001
                         000AA     276=EIGHT    EQU   *-FSAREA              CONST FOR REDUCING RAS            00046001
0000AA 0008                        277=         DC    H'8'                                                    00047001
                                   278=*                                                                      00048001
0000AC                             279=         DS    0F                                                      00049001
                         000AC     280=ADSTAB   EQU   *-FSAREA              ADDR OF DSTABLE                   00050001
0000AC                             281=         DS    A                     IN THE OBJECT PROGRAM             00051001
                         000B0     282=ANOTTAB  EQU   *-FSAREA              ADDR OF NOTE TABLE                00052001
0000B0                             283=         DS    A                     (INSERTED BY THE OPEN ROUTINE)    00053001
                                   284=*                                                                      00054001
                         000B4     285=IHIFSAST EQU   *                                                       00055001
                         000B4     286=PGOPSW   EQU   *-FSAREA              PROGRAM CHECK OLD PSW             00056001
0000B4                             287=         DS    2F                                                      00057001
```

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.21

                      000BC         288=FSAPICA  EQU   *-FSAREA              OLD PICA ADDR                 00058001
0000BC 00000000                     289=         DC    F'0'                                                00059001
                      000C0         290=SCRCS    EQU   *-FSAREA              SEMICOLON NUMBER              00060001
0000C0                              291=         DS    H                                                   00061001
                      000C2         292=DTSW     EQU   *-FSAREA              OPTION SWITCHES               00062001
                      000C2         293=OPTSW    EQU   DTSW                                                00063001
0000C2 00                           294=         DC    X'00'                 DUMP-80, TRACE-40, SHORT-20   00064001
                      000C3         295=FSAERCOD EQU   *-FSAREA              ERROR CODE FOR ERROR ROUTINE  00065001
0000C3                              296=         DS    C                                                   00066001
                                    297=*                                                                 00067001
                                    298=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER        00068001
                                    299=*                                                                 00069001
0000C4                              300=         DS    0F                                                  00070001
                      000C4         301=IHIFSARS EQU   *                                                   00071001
                      000C4         302=RASSTART EQU   *-FSAREA              ADDR OF FIRST ENTRY IN RAS-8  00072001
0000C4                              303=         DS    F                                                   00073001
                      000C8         304=RASPT    EQU   *-FSAREA              RAS POINTER FROM TOP          00074001
0000C8                              305=         DS    F                                                   00075001
                      000CC         306=RASEND   EQU   *-FSAREA              ADDR OF LAST  ENTRY IN RAS+8  00076001
0000CC                              307=         DS    F                                                   00077001
                      000D0         308=RASPB    EQU   *-FSAREA              RAS POINTER FROM BOTTOM       00078001
0000D0                              309=         DS    F                                                   00079001
                                    310=*                                                                 00080001
                                    311=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES  00081001
                                    312=*                                                                 00082001
0000D4                              313=BRLIST   DS    0F                                                  00083001
                      000D4         314=CAP1     EQU   *-FSAREA              FIRST PART CAPS               00084001
0000D4 4700 0000            00000   315=         NOP   0                                                   00085001
                      000D8         316=CAP2     EQU   *-FSAREA              SECOND PART CAPS              00086001
0000D8 4700 0000            00000   317=         NOP   0                                                   00087001
                      000DC         318=PROLOGP  EQU   *-FSAREA              PROLOGUE FORMAL PARAMETER ENTRY 00088001
                      000DC         319=PROLOGFP EQU   PROLOGP                                            00089001
0000DC 4700 0000            00000   320=         NOP   0                                                   00090001
                      000E0         321=PROLOG   EQU   *-FSAREA              PROLOGUE PROGRAM USUAL ENTRY  00091001
0000E0 4700 0000            00000   322=         NOP   0                                                   00092001
                      000E4         323=RETPROG  EQU   *-FSAREA              DISPLACEMENT RETURN PROGRAM   00093001
0000E4 4700 0000            00000   324=         NOP   0                                                   00094001
                      000E8         325=EPILOGP  EQU   *-FSAREA              EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000            00000   326=         NOP   0                                                   00096001
                      000EC         327=EPILOGB  EQU   *-FSAREA              EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000            00000   328=         NOP   0                                                   00098001
                      000F0         329=EPILPR3  EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3      00099001
0000F0 4700 0000            00000   330=         NOP   0                                                   00100001
                      000F4         331=CSWE1    EQU   *-FSAREA              FIRST PART CSWES              00101001
0000F4 4700 0000            00000   332=         NOP   0                                                   00102001
                      000F8         333=CSWE2    EQU   *-FSAREA              SECOND PART CSWES             00103001
0000F8 4700 0000            00000   334=         NOP   0                                                   00104001
                      000FC         335=LOADPP   EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE 00105001
0000FC 4700 0000            00000   336=         NOP   0                                                   00106001
                      00100         337=TRACE    EQU   *-FSAREA                                            00107001
000100 D200 0000 0000 00000 00000   338=         MVC   0(0),0                                              00108001
000106 4700 0000            00000   339=         NOP   0                                                   00109001
00010A 4700 0000            00000   340=         NOP   0                                                   00110001
                      0010E         341=TERMNTE  EQU   *-FSAREA              NORMAL TERMINATION EXIT       00111001
00010E 4700 0000            00000   342=         NOP   0                                                   00112001
                      00112         343=BCR      EQU   *-FSAREA                                            00113001
000112 0700                         344=         BCR   0,0                   VARIABLE CONDITIONAL BRANCH   00114001
                      00114         345=GETMSTO  EQU   *-FSAREA                                            00115001
000114 4700 0000            00000   346=         NOP   0                                                   00116001
                                    347=*                                                                 00117001
                      00118         348=VALUCALL EQU   *-FSAREA                                            00118001
000118 4700 0000            00000   349=         NOP   0                                                   00119001
                      0011C         350=IORLST   EQU   *-FSAREA                                            00120001
00011C 4700 0000            00000   351=         NOP   0                                                   00121001
                                    352=*                                                                 00122001
                      001CC         353=FSAERR   EQU   X'1CC'                 DISPL  FOR ERROR LIST         00123001
                                    354=*                                                                 00124001
                                    355=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA             00125001
                                    356=*                                                                 00126001
                      0020C         357=OUTOFB   EQU   FSAERR+4*16                                         00127001
                      00218         358=NUMBIND  EQU   FSAERR+4*19                                         00128001
                      00208         359=ARRAYBD  EQU   FSAERR+4*15                                         00129001
                      0026C         360=ERROR40  EQU   FSAERR+4*40                                         00130001
                      00224         361=OERR22   EQU   FSAERR+4*22                                         00131001
                      00210         362=ENDLESL  EQU   FSAERR+4*17                                         00132001
                      00220         363=OERR21   EQU   FSAERR+4*21                                         00133001
                                    364=*                                                                 00134001
                                    365 *                                                                 00178001
                                    366 *        REGISTER EQUATES                                         00179001
                                    367 *                                                                 00180001
                                    368          IEZREGS                                                  00181001
                      00000         369+R0       EQU   0                                                  01-IEZRE
                      00001         370+R1       EQU   1                                                  01-IEZRE
                      00002         371+R2       EQU   2                                                  01-IEZRE
                      00003         372+R3       EQU   3                                                  01-IEZRE
                      00004         373+R4       EQU   4                                                  01-IEZRE
                      00005         374+R5       EQU   5                                                  01-IEZRE
                      00006         375+R6       EQU   6                                                  01-IEZRE
                      00007         376+R7       EQU   7                                                  01-IEZRE
                      00008         377+R8       EQU   8                                                  01-IEZRE
                      00009         378+R9       EQU   9                                                  01-IEZRE
                      0000A         379+R10      EQU   10                                                 01-IEZRE
                      0000B         380+R11      EQU   11                                                 01-IEZRE
                      0000C         381+R12      EQU   12                                                 01-IEZRE
                      0000D         382+R13      EQU   13                                                 01-IEZRE
                      0000E         383+R14      EQU   14                                                 01-IEZRE
```

Active USINGs: IHIOBOOL+X'8E',R7 DSTABLE,R5

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                X390 3.1.04  2012/08/17 13.21

                      0000F         384+R15      EQU   15                                  01-IEZRE
                                    385 *                                                  00182001
                                    386          END                                       00183001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
ASOURCE         4 0000016C 00000001  A A               174   76M 133
BLANKS          6 00000164 00000001  I                 172  124X
BRRST           1 0000009C           U                 264  265
COMMON          4 0000008E 00000001  I                  97   66   68U  77B  93   95U
DSF             2 0000001A FFFFFFFF  H H               197   97M  98M  99  101M 132M
DSTABLE         1 00000000 FFFFFFFF  J                 186   52U 225
DS0             1 00000080           U                 201   99
DS2             1 00000020           U                 203   97
DS3             1 00000010           U                 204   97  132
DS6             1 00000002           U                 207  101
DS7             1 00000001           U                 208   98
DTSW            1 000000C2           U                 292  293
EV              1 00000008           U                  47   73
FALSE           7 00000177 00000001  C C               177  142
FCTVALST        1 00000090           U                 260  263
FSAERR          1 000001CC           U                 353  170B 357  358  359  360  361  362  363
FSAREA          1 00000000 FFFFFFFE  U                 250  255  260  262  263  264  267  274  276  280  282  286  288
                                                           290  292  295  302  304  306  308  314  316  318  321  323
                                                           325  327  329  331  333  335  337  341  343  345  348  350
IHIOBOAR        4 00000052 00000001  I                  82   41   88U
IHIOBOOL        1 00000000 00000001  J                  39   61U
IORLST          1 0000011C           U                 350   72  102  125  160
K               1 00000018 FFFFFFFF  X X               195  149
NX              1 0000000C           U                  48  126  161
OERROR          2 0000015E 00000001  I                 169  131B
OP              1 00000010           U                  49  103
OTBOOL1         4 000000AC 00000001  I                 105  100B
OTBOOL2         4 000000FC 00000001  I                 133  109B
OTBOOL3         6 0000011A 00000001  I                 142  138B
OTBOOL3A        4 00000120 00000001  I                 143  140B
OTBOOL4         4 0000012E 00000001  I                 150  154B
OTBOOL5         4 0000014A 00000001  I                 160  151B
OTBOOL6         4 00000154 00000001  I                 163  156B
OTBOOL7         4 000000DE 00000001  I                 125  118B 123B
PROLOGP         1 000000DC           U                 318  319
R               4 00000004 FFFFFFFF  F F               189  106  115  128  136  144M 155M
RE              4 00000008 FFFFFFFF  F F               190  105  116  130  150
R1              1 00000001           U                 370   75M  76
R12             1 0000000C           U                 381   62M  64   65   72  102  125  160  169  170
R13             1 0000000D           U                 382   62   63M  64   65   89   90M  91   92  163M 169M
R14             1 0000000E           U                 383   74M 104M 127M 162M
R15             1 0000000F           U                 384   61U  67D  72M  73M  74B  88U  94D 102M 103M 104B 125M 126M
                                                           127B 160M 161M 162B
R2              1 00000002           U                 371  133M 135
R3              1 00000003           U                 372  106M 107M 108  115M 117  119  128M 129M 130  136M 139  142
                                                           143M 144  150  152  153M 155  172
R4              1 00000004           U                 373  105M 108  116M 117M 120M 121M 122M 124
R5              1 00000005           U                 374   52U
R7              1 00000007           U                 376   66M  68U  79D  89M  91   92   93M  95U
R8              1 00000008           U                 377  148M 149M 154M
R9              1 00000009           U                 378  134M 135M 137M
SAVEAREA        4 00000180 00000001  F F               179   63   90  163
TRUE            7 00000170 00000001  C C               176  139
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   59   86  166M
    1(1)   59   75M  76   86  166M
    2(2)   59   86  133M 135  166M
    3(3)   59   86  106M 107M 108  115M 117  119  128M 129M 130  136M 139  142  143M 144  150  152  153M 155  166M 172
    4(4)   59   86  105M 108  116M 117M 120M 121M 122M 124  166M
    5(5)   52U  59   86  166M
    6(6)   59   86  166M
    7(7)   59   66M  68U  79D  86   89M  91   92   93M  95U 166M
    8(8)   59   86  148M 149M 154M 166M
    9(9)   59   86  134M 135M 137M 166M
   10(A)   59   86  166M
   11(B)   59   86  166M
   12(C)   59   62M  64   65   72   86  102  125  160  166M 169  170N
   13(D)   59   62   63M  64   65   86   89   90M  91   92  163M 166  169M
   14(E)   59   74M  86  104M 127M 162M 166M 167B
   15(F)   55B  59   61U  67D  72M  73M  74B  82B  86   88U  94D 102M 103M 104B 125M 126M 127B 160M 161M 162B 166M
```

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

DSTABLE 00000024 FFFFFFFF 186 4 DSTABLE
FAS 00000120 FFFFFFFE 228 PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSAREA
  5 SYS1.AMODGEN
```

Stmt Level Action Type Id Address Range Reg Max Last Text X390 3.1.04 2012/08/17 13.21

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
52		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001A	155	DSTABLE,R5
61		USING	Ordinary	00000001	00000000	00001000	15	00180	66	IHIOBOOL,R15
67		DROP					15			R15
68		USING	Ordinary	00000001	0000008E	00001000	7	000DE	77	COMMON,R7
79		DROP					7			R7
88		USING	Ordinary	00000001	00000052	00001000	15	0012E	93	IHIOBOAR,R15
94		DROP					15			R15
95		USING	Ordinary	00000001	0000008E	00001000	7	000F6	163	COMMON,R7

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIOBO PROCSTEP: X390

Primary input: lines 1 to 183 of SYSD.ALGOLFRT.ASM(IHIOBO)

SYSLIB library records read: 362

SYSUT1 work file size: 35266 bytes

SYSUT2 work file size: 17960 bytes

SYSUT3 work file size: 14640 bytes

SYSLIN file records written: 11

TXA000I Return code 0, elapsed time 0.26 seconds.

Csect   Rel Addr(hex) Length(dec)

 No uninitialized areas found

IHIOIN

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIOIN)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0198
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Active USINGs: None

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                  X390 3.1.04  2012/08/17 13.21

                                      2 *                                                             00002001
                                      3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY           00003001
                                      4 *                                                             00004001
                                      5 *        STATUS - LEVEL 2.1                                   00005001
                                      6 *                                                             00006001
                                      7 *        FUNCTION/OPERATION -                                 00007001
                                      8 *        TRANSFER NUMBER FROM INTEGER INDICATED BY SECOND ACTUAL 00008001
                                      9 *        PARAMETER TO OUTPUT BUFFER IN ZONED DECIMAL FORM     00009001
                                     10 *                                                             00010001
                                     11 *        ENTRY POINTS -                                       00011001
                                     12 *        IHIOINTG - FROM GENERATED OBJECT MODULE              00012001
                                     13 *                   LA    R1,PARMLIST                         00013001
                                     14 *                   BALR R14,R15                              00014001
                                     15 *                   DATA PASSED BY NAME                       00015001
                                     16 *        IHIOINAR - FROM ARRAY MODULE IHIOTA                  00016001
                                     17 *                   LA    R7,DATA                             00017001
                                     18 *                   BALR R14,R15                              00018001
                                     19 *                   DATA PASSED BY NAME                       00019001
                                     20 *                                                             00020001
                                     21 *        INPUT - N/A                                          00021001
                                     22 *                                                             00022001
                                     23 *        OUTPUT - N/A                                         00023001
                                     24 *                                                             00024001
                                     25 *        EXTERNAL ROUTINES -                                  00025001
                                     26 *                                                             00026001
                                     27 *        IHIIOR - EVALUATE DATASET NUMBER                     00027001
                                     28 *               - OPEN DATASET                                00028001
                                     29 *               - CHANGE TO NEXT OUTPUT RECORD                00029001
                                     30 *        CNVRI  - CONVERT REAL TO INTEGER                     00030001
                                     31 *                                                             00031001
                                     32 *        EXIT - NORMAL - RELOAD REGISTERS AND RETURN VIA R14  00032001
                                     33 *             - ERROR  - TOO LONG RECORD      NO 38           00033001
                                     34 *                        BRANCH TO IHIFSA                     00034001
                                     35 *                        L    R13,IHIFSA                      00035001
                                     36 *                        B    FSAERR+XX*4(13)    XX ERROR NO  00036001
                                     37 *                                                             00037001
                                     38 *        TABLES/WORK AREAS - N/A                              00038001
                                     39 *                                                             00039001
                                     40 *        ATTRIBUTES - SERIALLY REUSABLE                       00040001
                                     41 *                                                             00041001
                                     42 *        NOTES -                                              00042001
                                     43 *        LINKING TO IHIOINAR DEVIATES FROM STANDARD CHARACTER 00043001
                                     44 *        DEPENDENCE                                           00044001
                                     45 *                                                             00045001
000000               00000 001F8     46 IHIOINTE CSECT                                                00046001
                                     47 *                                                             00047001
                                     48          ENTRY IHIOINTG                                       00048001
                                     49          ENTRY IHIOINAR                                       00049001
                                     50 *                                                             00050001
                     00000           51 FPR0     EQU   0                     FPRO                     00051001
                                     52 *                                                             00052001
                 R:5  00000          53          USING DSTABLE,R5                                     00053001
                                     54 *                                                             00054001
                                     55 *        DISPLACEMENTS IN ADRLST IN IHIFSA                    00055001
                                     56 *                                                             00056001
                     00000           57 CI       EQU   0                     IHIIORCI                 00057001
                     00004           58 CL       EQU   4                     IHIIORCL                 00058001
                     00008           59 EV       EQU   8                     IHIIOREV                 00059001
                     0000C           60 NX       EQU   12                    IHIIORNX                 00060001
                     00010           61 OP       EQU   16                    IHIIOROP                 00061001
                     00014           62 OQ       EQU   20                    IHIIOROQ                 00062001
                                     63 *                                                             00063001
                                     64 IHIOINAR SAVE  (14,12),,'IHIOINAR LEVEL 2.1 &SYSDATE &SYSTIME' 00064001
000000 47F0 F026           00026     65+IHIOINAR B     38(0,15)                BRANCH AROUND ID       01-SAVE
000004 21                            66+         DC    AL1(33)                 LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9D6C9D5C1D9              67+         DC    CL32'IHIOINAR LEVEL 2.1 08/17/12 13.2' IDENTIFIER 01-SAVE
000025 F1                            68+         DC    CL1'1'                  IDENTIFIER             01-SAVE
000026 90EC D00C           0000C     69+         STM   14,12,12(13)            SAVE REGISTERS         01-SAVE
                                     70 *                                                             00065001
                 R:F  00000          71          USING IHIOINAR,R15                                   00066001
00002A 18AD                          72          LR    R10,R13               CHAIN SAVE AREAS         00067001
00002C 41D0 F1B0           001B0     73          LA    R13,SAVEAREA                                   00068001
000030 50A0 D004           00004     74          ST    R10,4(,R13)                                    00069001
000034 50D0 A008           00008     75          ST    R13,8(,R10)                                    00070001
000038 41A0 F07C           0007C     76          LA    R10,COMMON                                     00071001
                                     77          DROP  R15                                            00072001
                 R:A  0007C          78          USING COMMON,R10                                     00073001
00003C 47F0 A00E           0008A     79          B     SOUINTA                                        00074001
                                     80 *                                                             00075001
                                     81          DROP  R10                                            00076001
                                     82 *                                                             00077001
                                     83 IHIOINTG SAVE  (14,12),,'IHIOINTG LEVEL 2.1 &SYSDATE &SYSTIME' 00078001
000040 47F0 F026           00026     84+IHIOINTG B     38(0,15)                BRANCH AROUND ID       01-SAVE
000044 21                            85+         DC    AL1(33)                 LENGTH OF IDENTIFIER   01-SAVE
000045 C9C8C9D6C9D5E3C7              86+         DC    CL32'IHIOINTG LEVEL 2.1 08/17/12 13.2' IDENTIFIER 01-SAVE
000065 F1                            87+         DC    CL1'1'                  IDENTIFIER             01-SAVE
000066 90EC D00C           0000C     88+         STM   14,12,12(13)            SAVE REGISTERS         01-SAVE
                                     89 *                                                             00079001
                 R:F  00040          90          USING IHIOINTG,R15                                   00080001
00006A 18CD                          91          LR    R12,R13               R12 -> FSA   TO FSA REG  00081001
00006C 41D0 F170           001B0     92          LA    R13,SAVEAREA                                   00082001
000070 50C0 D004           00004     93          ST    R12,4(,R13)                                    00083001
000074 50D0 C008           00008     94          ST    R13,8(,R12)                                    00084001
000078 41A0 F03C           0007C     95          LA    R10,COMMON                                     00085001
                                     96          DROP  R15                                            00086001
                 R:A  0007C          97          USING COMMON,R10                                     00087001
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  Active USINGs: IHIOINTE+X'7C',R10  DSTABLE,R5

  Loc  Object Code     Addr1 Addr2  Stmt   Source Statement                                      X390 3.1.04  2012/08/17 13.21

                                      98 *                                                                        00088001
                                      99 *        EVALUATE DATASET NUMBER (EVDSN)                                 00089001
                                     100 *                                                                        00090001
00007C 58F0 C11C            0011C   101 COMMON   L     R15,IORLST(,R12)                                          00091001
000080 58F0 F008            00008   102          L     R15,EV(,R15)                                              00092001
000084 05EF                         103          BALR  R14,R15                                                   00093001
                                     104 *                                                                        00094001
                                     105 *        EVALUATE ADDR OF SOURCE                                         00095001
                                     106 *        TEST IF SOURCE NUMBER IS REAL                                   00096001
                                     107 *                                                                        00097001
000086 5870 1004            00004   108 SOUINT   L     R7,4(,R1)             ADDR OF SOURCE                      00098001
00008A 9630 501A      0001A         109 SOUINTA  OI    DSF,DS2+DS3           DS2, DS3 = 1                        00099001
00008E 94FE 501A      0001A         110          NI    DSF,255-DS7           TURN OFF EOF DS7                    00100001
000092 1277                         111          LTR   R7,R7                                                     00101001
000094 4720 A03A            000B6   112          BP    INT1                                                      00102001
                                     113 *                                                                        00103001
                                     114 *        CALL CONVERSION ROUTINE                                         00104001
                                     115 *                                                                        00105001
000098 7800 7000            00000   116          LE    FPR0,0(,R7)                                               00106001
00009C 9120 C0C2      000C2         117          TM    OPTSW(R12),X'20'      LONG OR SHORT PRECISION ?           00107001
0000A0 4710 A02C            000A8   118          BO    CONVA                 SHORT PRECISION STATED              00108001
0000A4 6800 7000            00000   119          LD    FPR0,0(,R7)           LONG PRECISION STATED               00109001
0000A8 58F0 C11C            0011C   120 CONVA    L     R15,IORLST(,R12)                                          00110001
0000AC 58F0 F000            00000   121          L     R15,CI(,R15)                                              00111001
0000B0 05EF                         122          BALR  R14,R15                                                   00112001
0000B2 47F0 A03E            000BA   123          B     DSTEST                                                    00113001
                                     124 *                                                                        00114001
0000B6 5800 7000            00000   125 INT1     L     R0,0(,R7)             NUMBER IN R0                        00115001
                                     126 *                                                                        00116001
                                     127 *        DATASET OPEN ?                                                  00117001
                                     128 *                                                                        00118001
0000BA 9180 501A      0001A         129 DSTEST   TM    DSF,DS0                                                   00119001
0000BE 4710 A054            000D0   130          BO    NOCLO1                DCB IS OPEN                         00120001
0000C2 9602 501A      0001A         131          OI    DSF,DS6               DS6 = 1                             00121001
0000C6 58F0 C11C            0011C   132          L     R15,IORLST(,R12)                                          00122001
0000CA 58F0 F010            00010   133          L     R15,OP(,R15)                                              00123001
0000CE 05EF                         134          BALR  R14,R15               OPEN DATASET                        00124001
                                     135 *                                                                        00125001
                                     136 *        RECORD ACCEPT 11 DIGITS ?                                       00126001
                                     137 *        IF NOT FILL RECORD WITH BLANKS AND CALL NEXTREC                 00127001
                                     138 *                                                                        00128001
0000D0 5820 5004            00004   139 NOCLO1   L     R2,R                  CHARACTER POINTER                   00129001
0000D4 4130 200B            0000B   140          LA    R3,11(,R2)                                                00130001
0000D8 5930 5008            00008   141          C     R3,RE                                                     00131001
0000DC 47D0 A098            00114   142          BNH   NONR1                 BUFFER CAN ACCEPT 11 DIGITS         00132001
0000E0 5890 5008            00008   143          L     R9,RE                                                     00133001
0000E4 1B92                         144          SR    R9,R2                                                     00134001
0000E6 47D0 A07A            000F6   145          BNP   GETREC                                                    00135001
0000EA 9240 2000      00000         146 BLANKS   MVI   0(R2),C' '            BLANK IN BUFFER                     00136001
0000EE 4120 2001            00001   147          LA    R2,1(,R2)             INCREASE R                          00137001
0000F2 4690 A06E            000EA   148          BCT   R9,BLANKS                                                 00138001
0000F6 58F0 C11C            0011C   149 GETREC   L     R15,IORLST(,R12)                                          00139001
0000FA 58F0 F00C            0000C   150          L     R15,NX(,R15)                                              00140001
0000FE 05EF                         151          BALR  R14,R15                                                   00141001
000100 5820 5004            00004   152          L     R2,R                                                      00142001
000104 4130 200B            0000B   153          LA    R3,11(,R2)                                                00143001
000108 5930 5008            00008   154          C     R3,RE                                                     00144001
00010C 4720 A122            0019E   155          BH    OINERR                TOO SHORT RECORD LENGTH             00145001
000110 9610 501A      0001A         156          OI    DSF,DS3                                                   00146001
                                     157 *                                                                        00147001
                                     158 *        TEST SOURCE NUMBER AND CONVERT TO DECIMAL                       00148001
                                     159 *                                                                        00149001
000114 1200                         160 NONR1    LTR   R0,R0                                                     00150001
000116 4780 A102            0017E   161          BZ    OUTINT0               NUMBER IS ZERO                      00151001
00011A 4E00 A12C            001A8   162          CVD   R0,BUFF                                                   00152001
00011E F395 2001 A12E 00001 001AA   163          UNPK  1(10,R2),BUFF+2(6)                                        00153001
000124 96F0 200A      0000A         164          OI    10(R2),X'F0'          ZONE INSERTED                       00154001
                                     165 *                                                                        00155001
000128 95F0 2001      00001         166 LEAD0    CLI   1(R2),C'0'                                                00156001
00012C 4770 A0C0            0013C   167          BNE   TERMIN0                                                   00157001
000130 9240 2000      00000         168          MVI   0(R2),C' '            LEADING ZERO IS BLANKED             00158001
000134 4120 2001            00001   169          LA    R2,1(,R2)                                                 00159001
000138 47F0 A0AC            00128   170          B     LEAD0                                                     00160001
                                     171 *                                                                        00161001
00013C 1200                         172 TERMIN0  LTR   R0,R0                                                     00162001
00013E 4720 A0CE            0014A   173          BP    POSITIVE                                                  00163001
000142 9260 2000      00000         174          MVI   0(R2),C'-'            - SIGN INSERTED                     00164001
000146 47F0 A0D2            0014E   175          B     TERMIN1                                                   00165001
                                     176 *                                                                        00166001
00014A 924E 2000      00000         177 POSITIVE MVI   0(R2),C'+'            + SIGN INSERTED                     00167001
                                     178 *                                                                        00168001
00014E 1B44                         179 TERMIN1  SR    R4,R4                                                     00169001
000150 4340 5018            00018   180          IC    R4,K                  VALUE OF K IN REGISTER              00170001
000154 5930 5008            00008   181 TERMIN1A C     R3,RE                                                     00171001
000158 4780 A114            00190   182          BE    RECEND                RECORD END IS REACHED               00172001
00015C 9240 3000      00000         183          MVI   0(R3),C' '            FILL WITH BLANKS                    00173001
000160 4130 3001            00001   184          LA    R3,1(,R3)                                                 00174001
000164 4640 A0D8            00154   185          BCT   R4,TERMIN1A                                               00175001
000168 5930 5008            00008   186          C     R3,RE                                                     00176001
00016C 4780 A114            00190   187          BE    RECEND                                                    00177001
000170 5030 5004            00004   188          ST    R3,R                                                      00178001
000174 58D0 A138            001B4   189 TERMIN1B L     R13,SAVEAREA+4                                            00179001
                                     190 *                                                                        00180001
                                     191          RETURN (14,12)             RESTORE REGS AND RETURN             00181001
000178 98EC D00C            0000C   192+         LM    14,12,12(13)                    RESTORE THE REGISTERS     01-RETUR
00017C 07FE                         193+         BR    14                              RETURN                    01-RETUR
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  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                    194 *                                                                        00182001
                                    195 *        OUTINTEGER NUMBER IS 0                                          00183001
                                    196 *                                                                        00184001
00017E 9240 2000      00000         197 OUTINT0  MVI   0(R2),C' '                                                00185001
000182 D208 2001 2000 00001 00000   198          MVC   1(9,R2),0(R2)          BLANKS IN BUFFER                00186001
000188 92F0 200A      0000A         199          MVI   10(R2),C'0'            0 IN BUFFER                     00187001
00018C 47F0 A0D2            0014E   200          B     TERMIN1                                                  00188001
                                    201 *                                                                        00189001
000190 58F0 C11C            0011C   202 RECEND   L     R15,IORLST(,R12)                                         00190001
000194 58F0 F00C            0000C   203          L     R15,NX(,R15)                                             00191001
000198 05EF                         204          BALR  R14,R15                                                  00192001
00019A 47F0 A0F8            00174   205          B     TERMIN1B                                                 00193001
                                    206 *                                                                        00194001
                                    207 *        RECORD LENGTH < 11                                              00195001
                                    208 *                                                                        00196001
00019E 18DC                         209 OINERR   LR    R13,R12                                                  00197001
0001A0 47FC 0264            00264   210          B     FSAERR+38*4(R12)                                         00198001
                                    211 *                                                                        00199001
0001A4 00000000
0001A8 0000000000000000             212 BUFF     DC    D'0'                                                     00200001
                                    213 *                                                                        00201001
0001B0 0000000000000000             214 SAVEAREA DC    18F'0'                                                   00202001
                                    215 *                                                                        00203001
0001F8                              216          LTORG                                                           00204001
                                    217 *                                                                        00205001
                                    218          DSTABLE DSECT=YES                                               00206001
000000                00000 00024   219+DSTABLE  DSECT                                                          01-DSTAB
                                    220+*                                                                        01-DSTAB
000000 00000000                     221+ADCB     DC    F'0'                   -> DCB                           01-DSTAB
000004 00000000                     222+R        DC    F'0'                   CHARACTER POINTER                01-DSTAB
000008 00000000                     223+RE       DC    F'0'                                                    01-DSTAB
00000C 00000000                     224+NBB      DC    F'0'                                                    01-DSTAB
000010 00000000                     225+BB       DC    F'0'                                                    01-DSTAB
000014 0001                         226+S        DC    H'1'                   RECORD POINTER                   01-DSTAB
000016 0050                         227+P        DC    H'80'                  RECORD LENGTH                    01-DSTAB
000018 02                           228+K        DC    X'02'                  NUMBER OF BLANK DELIM CHARS      01-DSTAB
000019 00                           229+Q        DC    X'00'                  NO OF RECORDS PER SECTION        01-DSTAB
00001A 0000                         230+DSF      DC    H'00'                  DATASET FLAGS                    01-DSTAB
                                    231+*                                                                        01-DSTAB
                                    232+*        DATASET FLAGS - DSF                                             01-DSTAB
                                    233+*                                                                        01-DSTAB
                      00080         234+DS0      EQU   X'80'                  DATASET OPEN                     01-DSTAB
                      00040         235+DS1      EQU   X'40'                                                   01-DSTAB
                      00020         236+DS2      EQU   X'20'                  LAST I/O OUTPUT                  01-DSTAB
                      00010         237+DS3      EQU   X'10'                                                   01-DSTAB
                      00008         238+DS4      EQU   X'08'                                                   01-DSTAB
                      00004         239+DS5      EQU   X'04'                                                   01-DSTAB
                      00002         240+DS6      EQU   X'02'                  OPEN FOR OUTPUT                  01-DSTAB
                      00001         241+DS7      EQU   X'01'                  END OF FILE                      01-DSTAB
                                    242+*                                                                        01-DSTAB
                                    243+*        DATASET FLAGS - DSF+1                                           01-DSTAB
                                    244+*                                                                        01-DSTAB
                      00080         245+DS8      EQU   X'80'                  END OF DATA                      01-DSTAB
                      00040         246+DS9      EQU   X'40'                                                   01-DSTAB
                      00020         247+DS10     EQU   X'20'                  OPENED BY SYSACT 12              01-DSTAB
                      00010         248+DS11     EQU   X'10'                  INDICATE IHIERR-ROUT             01-DSTAB
                      00008         249+DSEOD    EQU   X'08'                                                   01-DSTAB
                      00004         250+DSIOERR  EQU   X'04'                  I/O ERROR                        01-DSTAB
                      00002         251+DS14     EQU   X'02'                  DATASET OPENED                   01-DSTAB
                      00001         252+DS15     EQU   X'01'                  CLOSE FROM IHIERR                01-DSTAB
                                    253+*                                                                        01-DSTAB
000001C 00000000                    254+NOTEADR  DC    F'0'                                                    01-DSTAB
000020 0000                         255+BL       DC    H'0'                   LRECL+ TWO ARB                   01-DSTAB
000022 0000                         256+         DC    H'0'                                                    01-DSTAB
                                    257+*                                                                        01-DSTAB
                      00024         258+DSTABLEL EQU   *-DSTABLE              L'DSTABLE ENTRY                  01-DSTAB
                                    259+*                                                                        01-DSTAB
                                    260 *                                                                        00207001
000000                00000 00120   261 FSAAREA  DSECT                                                          00208001
                                    262 *                                                                        00209001
                                    263          COPY  FSAREA                                                    00210001
                                    264=*                                                                        00001001
                                    265=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                      00002001
                                    266=*                                                                        00003001
                                    267=*        STATUS - LEVEL 2.1                                              00004001
                                    268=*                                                                        00005001
                                    269=*************************************************************************00006001
                                    270=*                                                                        00007001
                                    271=*        COMMON DATA AREA                                                00008001
                                    272=*                                                                        00009001
                                    273=*        FSAREA                                                          00010001
                                    274=*                                                                        00011001
                                    275=*************************************************************************00012001
                                    276=*                                                                        00013001
                                    277=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                      00014001
                                    278=*        MODULES DURING THE EXECUTION                                    00015001
                                    279=*                                                                        00016001
                                    280=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY                   00017001
                                    281=*        SUBROUTINES) BY R12                                             00018001
                                    282=*                                                                        00019001
                      00000         283=FSAREA   EQU   *                                                         00020001
                                    284=*                                                                        00021001
                                    285=*        SAVE AREAS                                                      00022001
                                    286=*                                                                        00023001
000000                              287=         DS    18F                    STANDARD SAVE AREA               00024001
                      00048         288=ASAVE    EQU   *-FSAREA               ALTERNATE SAVE AREA USED BY      00025001
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D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000048                             289=          DS    18F                  CERTAIN SUBROUTINES              00026001
                                   290=*                                                                     00027001
                                   291=*         MISCELLANEOUS WORK AREAS AND CONSTANTS                      00028001
                                   292=*                                                                     00029001
                         00090     293=FCTVALST  EQU   *-FSAREA             TEMPORARY STORAGE FOR            00030001
000090                             294=          DS    D                    FUNCTION VALUES                  00031001
                         00098     295=ASTLOC    EQU   *-FSAREA             DISPL FOR ADDR OF STAND LOCTN    00032001
000098 00000090                    296=          DC    A(FSAREA+FCTVALST)                                     00033001
                         0009C     297=BRRST     EQU   *-FSAREA             TEMPORARY SAVE REG BRR           00034001
                         0009C     298=HW        EQU   BRRST                TEMPORARY HALFWORD STORAGE       00035001
00009C                             299=          DS    F                                                  00036001
                         000A0     300=PROLREG   EQU   *-FSAREA             STORAGE FOR PBT AND LAT WHEN     00037001
0000A0                             301=          DS    2A                   A PROCEDURE IS FORMAL PARAM      00038001
                                   302=*                                                                     00039001
                                   303=*         HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE      00040001
                                   304=*                                                                     00041001
0000A8                             305=          DS    0H                                                 00042001
0000A8 00                          306=          DC    X'00'                                              00043001
                         000A9     307=PROLPBN   EQU   *-FSAREA             STORAGE FOR CALLED PBN           00044001
0000A9 00                          308=          DC    X'00'                                              00045001
                         000AA     309=EIGHT     EQU   *-FSAREA             CONST FOR REDUCING RAS           00046001
0000AA 0008                        310=          DC    H'8'                                               00047001
                                   311=*                                                                     00048001
0000AC                             312=          DS    0F                                                 00049001
                         000AC     313=ADSTAB    EQU   *-FSAREA             ADDR OF DSTABLE                  00050001
0000AC                             314=          DS    A                    IN THE OBJECT PROGRAM            00051001
                         000B0     315=ANOTTAB   EQU   *-FSAREA             ADDR OF NOTE TABLE               00052001
0000B0                             316=          DS    A                    (INSERTED BY THE OPEN ROUTINE)   00053001
                                   317=*                                                                     00054001
                         000B4     318=IHIFSAST  EQU   *                                                    00055001
                         000B4     319=PGOPSW    EQU   *-FSAREA             PROGRAM CHECK OLD PSW            00056001
0000B4                             320=          DS    2F                                                 00057001
                         000BC     321=FSAPICA   EQU   *-FSAREA             OLD PICA ADDR                    00058001
0000BC 00000000                    322=          DC    F'0'                                               00059001
                         000C0     323=SCRCS     EQU   *-FSAREA             SEMICOLON NUMBER                 00060001
0000C0                             324=          DS    H                                                  00061001
                         000C2     325=DTSW      EQU   *-FSAREA             OPTION SWITCHES                  00062001
                         000C2     326=OPTSW     EQU   DTSW                                               00063001
0000C2 00                          327=          DC    X'00'                DUMP-80, TRACE-40, SHORT-20      00064001
                         000C3     328=FSAERCOD  EQU   *-FSAREA             ERROR CODE FOR ERROR ROUTINE     00065001
0000C3                             329=          DS    C                                                  00066001
                                   330=*                                                                     00067001
                                   331=*         RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER           00068001
                                   332=*                                                                     00069001
0000C4                             333=          DS    0F                                                 00070001
                         000C4     334=IHIFSARS  EQU   *                                                    00071001
                         000C4     335=RASSTART  EQU   *-FSAREA             ADDR OF FIRST ENTRY IN RAS-8     00072001
0000C4                             336=          DS    F                                                  00073001
                         000C8     337=RASPT     EQU   *-FSAREA             RAS POINTER FROM TOP             00074001
0000C8                             338=          DS    F                                                  00075001
                         000CC     339=RASEND    EQU   *-FSAREA             ADDR OF LAST  ENTRY IN RAS+8     00076001
0000CC                             340=          DS    F                                                  00077001
                         000D0     341=RASPB     EQU   *-FSAREA             RAS POINTER FROM BOTTOM          00078001
0000D0                             342=          DS    F                                                  00079001
                                   343=*                                                                     00080001
                                   344=*         LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES     00081001
                                   345=*                                                                     00082001
0000D4                             346=BRLIST    DS    0F                                                 00083001
                         000D4     347=CAP1      EQU   *-FSAREA             FIRST PART CAPS                  00084001
0000D4 4700 0000               00000 348=          NOP   0                                                  00085001
                         000D8     349=CAP2      EQU   *-FSAREA             SECOND PART CAPS                 00086001
0000D8 4700 0000               00000 350=          NOP   0                                                  00087001
                         000DC     351=PROLOGP   EQU   *-FSAREA             PROLOGUE FORMAL PARAMETER ENTRY  00088001
                         000DC     352=PROLOGFP  EQU   PROLOGP                                              00089001
0000DC 4700 0000               00000 353=          NOP   0                                                  00090001
                         000E0     354=PROLOG    EQU   *-FSAREA             PROLOGUE PROGRAM USUAL ENTRY     00091001
0000E0 4700 0000               00000 355=          NOP   0                                                  00092001
                         000E4     356=RETPROG   EQU   *-FSAREA             DISPLACEMENT RETURN PROGRAM      00093001
0000E4 4700 0000               00000 357=          NOP   0                                                  00094001
                         000E8     358=EPILOGP   EQU   *-FSAREA             EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000               00000 359=          NOP   0                                                  00096001
                         000EC     360=EPILOGB   EQU   *-FSAREA             EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000               00000 361=          NOP   0                                                  00098001
                         000F0     362=EPILPR3   EQU   *-FSAREA             EPILOGUE PROGRAM ENTRY 3         00099001
0000F0 4700 0000               00000 363=          NOP   0                                                  00100001
                         000F4     364=CSWE1     EQU   *-FSAREA             FIRST PART CSWES                 00101001
0000F4 4700 0000               00000 365=          NOP   0                                                  00102001
                         000F8     366=CSWE2     EQU   *-FSAREA             SECOND PART CSWES                00103001
0000F8 4700 0000               00000 367=          NOP   0                                                  00104001
                         000FC     368=LOADPP    EQU   *-FSAREA             LOAD PRECOMPILED PROC ROUTINE    00105001
0000FC 4700 0000               00000 369=          NOP   0                                                  00106001
                         00100     370=TRACE     EQU   *-FSAREA                                           00107001
000100 D200 0000 0000 00000 00000  371=          MVC   0(0),0                                             00108001
000106 4700 0000               00000 372=          NOP   0                                                  00109001
00010A 4700 0000               00000 373=          NOP   0                                                  00110001
                         0010E     374=TERMNTE   EQU   *-FSAREA             NORMAL TERMINATION EXIT          00111001
00010E 4700 0000               00000 375=          NOP   0                                                  00112001
                         00112     376=BCR       EQU   *-FSAREA                                           00113001
000112 0700                        377=          BCR   0,0                  VARIABLE CONDITIONAL BRANCH      00114001
                         00114     378=GETMSTO   EQU   *-FSAREA                                           00115001
000114 4700 0000               00000 379=          NOP   0                                                  00116001
                                   380=*                                                                     00117001
                         00118     381=VALUCALL  EQU   *-FSAREA                                           00118001
000118 4700 0000               00000 382=          NOP   0                                                  00119001
                         0011C     383=IORLST    EQU   *-FSAREA                                           00120001
00011C 4700 0000               00000 384=          NOP   0                                                  00121001
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Active USINGs: IHIOINTE+X'7C',R10 DSTABLE,R5

D-Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.21

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                         385=*                                                          00122001
001CC                    386=FSAERR   EQU   X'1CC'              DISPL  FOR ERROR LIST  00123001
                         387=*                                                          00124001
                         388=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA      00125001
                         389=*                                                          00126001
0020C                    390=OUTOFB   EQU   FSAERR+4*16                                 00127001
00218                    391=NUMBIND  EQU   FSAERR+4*19                                 00128001
00208                    392=ARRAYBD  EQU   FSAERR+4*15                                 00129001
0026C                    393=ERROR40  EQU   FSAERR+4*40                                 00130001
00224                    394=OERR22   EQU   FSAERR+4*22                                 00131001
00210                    395=ENDLESL  EQU   FSAERR+4*17                                 00132001
00220                    396=OERR21   EQU   FSAERR+4*21                                 00133001
                         397=*                                                          00134001
                         398 *                                                          00211001
                         399 *        REGISTER EQUATES                                  00212001
                         400 *                                                          00213001
                         401          IEZREGS                                           00214001
00000                    402+R0       EQU   0                                           01-IEZRE
00001                    403+R1       EQU   1                                           01-IEZRE
00002                    404+R2       EQU   2                                           01-IEZRE
00003                    405+R3       EQU   3                                           01-IEZRE
00004                    406+R4       EQU   4                                           01-IEZRE
00005                    407+R5       EQU   5                                           01-IEZRE
00006                    408+R6       EQU   6                                           01-IEZRE
00007                    409+R7       EQU   7                                           01-IEZRE
00008                    410+R8       EQU   8                                           01-IEZRE
00009                    411+R9       EQU   9                                           01-IEZRE
0000A                    412+R10      EQU   10                                          01-IEZRE
0000B                    413+R11      EQU   11                                          01-IEZRE
0000C                    414+R12      EQU   12                                          01-IEZRE
0000D                    415+R13      EQU   13                                          01-IEZRE
0000E                    416+R14      EQU   14                                          01-IEZRE
0000F                    417+R15      EQU   15                                          01-IEZRE
                         418 *                                                          00215001
                         419          END                                               00216001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
BLANKS          4 000000EA 00000001  I                146  148B
BRRST           1 0000009C           U                297  298
BUFF            8 000001A8 00000001  D D              212  162M 163
CI              1 00000000           U                 57  121
COMMON          4 0000007C 00000001  I                101   76   78U  95   97U
CONVA           4 000000A8 00000001  I                120  118B
DSF             2 0000001A FFFFFFFF  H H              230  109M 110M 129  131M 156M
DSTABLE         1 00000000 FFFFFFFF  J                219   53U 258
DSTEST          4 000000BA 00000001  I                129  123B
DS0             1 00000080           U                234  129
DS2             1 00000020           U                236  109
DS3             1 00000010           U                237  109  156
DS6             1 00000002           U                240  131
DS7             1 00000001           U                241  110
DTSW            1 000000C2           U                325  326
EV              1 00000008           U                 59  102
FCTVALST        1 00000090           U                293  296
FPR0            1 00000000           U                 51  116M 119M
FSAERR          1 000001CC           U                386  210B 390  391  392  393  394  395  396
FSAREA          1 00000000 FFFFFFFE  U                283  288  293  295  296  297  300  307  309  313  315  319  321
                                                           323  325  328  335  337  339  341  347  349  351  354  356
                                                           358  360  362  364  366  368  370  374  376  378  381  383
GETREC          4 000000F6 00000001  I                149  145B
IHIOINAR        4 00000000 00000001  I                 65   49   71U
IHIOINTG        4 00000040 00000001  I                 84   48   90U
INT1            4 000000B6 00000001  I                125  112B
IORLST          1 0000011C           U                383  101  120  132  149  202
K               1 00000018 FFFFFFFF  X X              228  180
LEAD0           4 00000128 00000001  I                166  170B
NOCLO1          4 000000D0 00000001  I                139  130B
NONR1           2 00000114 00000001  I                160  142B
NX              1 0000000C           U                 60  150  203
OINERR          2 0000019E 00000001  I                209  155B
OP              1 00000010           U                 61  133
OPTSW           1 000000C2           U                326  117
OUTINT0         4 0000017E 00000001  I                197  161B
POSITIVE        4 0000014A 00000001  I                177  173B
PROLOGP         1 000000DC           U                351  352
R               4 00000004 FFFFFFFF  F F              222  139  152  188M
RE              4 00000008 FFFFFFFF  F F              223  141  143  154  181  186
RECEND          4 00000190 00000001  I                202  182B 187B
R0              1 00000000           U                402  125M 160M 162  172M
R1              1 00000001           U                403  108
R10             1 0000000A           U                412   72M  74   75   76M  78U  81D  95M  97U
R12             1 0000000C           U                414   91M  93   94  101  117  120  132  149  202  209  210
R13             1 0000000D           U                415   72   73M  74   75   91   92M  93   94  189M 209M
R14             1 0000000E           U                416  103M 122M 134M 151M 204M
R15             1 0000000F           U                417   71U  77D  90U  96D 101M 102M 103B 120M 121M 122B 132M 133M
                                                           134B 149M 150M 151B 202M 203M 204B
R2              1 00000002           U                404  139M 140  144  146  147M 152M 153  163  164  166  168  169M
                                                           174  177  197  198  199
R3              1 00000003           U                405  140M 141  153M 154  181  183  184M 186  188
R4              1 00000004           U                406  179M 180M 185M
R5              1 00000005           U                407   53U
R7              1 00000007           U                409  108M 111M 116  119  125
R9              1 00000009           U                411  143M 144M 148M
SAVEAREA        4 000001B0 00000001  F F              214   73   92  189
SOUINTA         4 0000008A 00000001  I                109   79B
TERMIN0         2 0000013C 00000001  I                172  167B
TERMIN1         2 0000014E 00000001  I                179  175B 200B
TERMIN1A        4 00000154 00000001  I                181  185B
TERMIN1B        4 00000174 00000001  I                189  205B
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   69   88  125M 160M 162  172M 192M
    1(1)   69   88  108  192M
    2(2)   69   88  139M 140  144  146  147M 152M 153  163  164  166  168  169M 174  177  192M 197  198  199
    3(3)   69   88  140M 141  153M 154  181  183  184M 186  188  192M
    4(4)   69   88  179M 180M 185M 192M
    5(5)   53U  69   88  192M
    6(6)   69   88  192M
    7(7)   69   88  108M 111M 116  119  125  192M
    8(8)   69   88  192M
    9(9)   69   88  143M 144M 148M 192M
   10(A)   69   72M  74   75   76M  78U  81D  88   95M  97U 192M
   11(B)   69   88  192M
   12(C)   69   88   91M  93   94  101  117  120  132  149  192M 202  209  210N
   13(D)   69   72   73M  74   75   88   91   92M  93   94  189M 192  209M
   14(E)   69   88  103M 122M 134M 151M 192M 193B 204M
   15(F)   65B  69   71U  77D  84B  88   90U  96D 101M 102M 103B 120M 121M 122B 132M 133M 134B 149M 150M 151B 192M 202M
          203M 204B
```

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

Dsect	Length	Id	Defn	Con	Member
DSTABLE	00000024	FFFFFFFF	219	4	DSTABLE
FSAAREA	00000120	FFFFFFFE	261		PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
53		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001A	188	DSTABLE,R5
71		USING	Ordinary	00000001	00000000	00001000	15	001B0	76	IHIOINAR,R15
77		DROP					15			R15
78		USING	Ordinary	00000001	0000007C	00001000	10	0000E	79	COMMON,R10
81		DROP					10			R10
90		USING	Ordinary	00000001	00000040	00001000	15	00170	95	IHIOINTG,R15
96		DROP					15			R15
97		USING	Ordinary	00000001	0000007C	00001000	10	00138	205	COMMON,R10

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIOIN PROCSTEP: X390

Primary input: lines 1 to 216 of SYSD.ALGOLFRT.ASM(IHIOIN)

SYSLIB library records read: 362

SYSUT1 work file size: 38386 bytes

SYSUT2 work file size: 17960 bytes

SYSUT3 work file size: 17280 bytes

SYSLIN file records written: 11

TXA000I Return code 0, elapsed time 0.26 seconds.

Csect   Rel Addr(hex) Length(dec)

 No uninitialized areas found

IHIOST

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIOST)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0202
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     2 *                                                                          00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                     4 *                                                                          00004001
                                     5 *        STATUS - LEVEL 2.1                                                00005001
                                     6 *                                                                          00006001
                                     7 *        FUNCTION/OPERATION -                                              00007001
                                     8 *        TRANSFER STRING DEFINED BY SECOND ACTUAL PARAMETER                00008001
                                     9 *        TO AN OUTPUT BUFFER                                               00009001
                                    10 *                                                                          00010001
                                    11 *        ENTRY POINT -                                                     00011001
                                    12 *        IHIOSTRG - FROM GENERATED OBJECT MODULE                           00012001
                                    13 *        LA    R1,PARMLIST                                                 00013001
                                    14 *        BALR  R14,R15                                                     00014001
                                    15 *        DATA PASSED BY NAME                                               00015001
                                    16 *                                                                          00016001
                                    17 *        INPUT - N/A                                                       00017001
                                    18 *                                                                          00018001
                                    19 *        OUTPUT - N/A                                                      00019001
                                    20 *                                                                          00020001
                                    21 *        EXTERNAL ROUTINES-                                                00021001
                                    22 *        IHIIOR - EVALUATE DATASET NUMBER                                  00022001
                                    23 *                 - OPEN DATASET                                           00023001
                                    24 *                 - CHANGE TO NEXT OUTPUT RECORD                           00024001
                                    25 *                                                                          00025001
                                    26 *        EXIT - NORMAL - RELOAD REGISTERS AND RETURN VIA R14               00026001
                                    27 *             - ERROR  - N/A                                               00027001
                                    28 *                                                                          00028001
                                    29 *        TABLES/WORK AREAS - N/A                                           00029001
                                    30 *                                                                          00030001
000000                 00000 00148  31 IHIOSTRG CSECT                                                            00031001
                                    32 *                                                                          00032001
                                    33 *        DISPLACEMENTS IN ADRLST IN IHIFSA                                 00033001
                                    34 *                                                                          00034001
                       00000        35 CI       EQU   0             DISPLACEMENT FOR - IHIIORCI                   00035001
                       00004        36 CL       EQU   4                                IHIIORCL                   00036001
                       00008        37 EV       EQU   8                                IHIIOREV                   00037001
                       0000C        38 NX       EQU   12                               IHIIORNX                   00038001
                       00010        39 OP       EQU   16                               IHIIOROP                   00039001
                       00014        40 OQ       EQU   20                               IHIIOROQ                   00040001
                                    41 *                                                                          00041001
                                    42          SAVE  (14,12),,'IHIOSTRG LEVEL 2.1 &SYSDATE &SYSTIME'             00042001
000000 47F0 F026             00026  43+         B     38(0,15)                          BRANCH AROUND ID       01-SAVE
000004 21                           44+         DC    AL1(33)                           LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9D6E2E3D9C7             45+         DC    CL32'IHIOSTRG LEVEL 2.1 08/17/12 13.2' IDENTIFIER        01-SAVE
000025 F1                           46+         DC    CL1'1'                            IDENTIFIER             01-SAVE
000026 90EC D00C             0000C  47+         STM   14,12,12(13)                      SAVE REGISTERS         01-SAVE
00002A 188F                         48          LR    R8,R15                                                    00043001
                 R:8  00000         49          USING IHIOSTRG,R8                                               00044001
00002C 50D0 80F8             000F8  50          ST    R13,SAVAR+4                                               00045001
000030 18CD                         51          LR    R12,R13                                                   00046001
000032 41D0 80F4             000F4  52          LA    R13,SAVAR                                                 00047001
                 R:5  00000         53          USING DSTABLE,R5                                                00048001
                                    54 *                                                                          00049001
                                    55 *        EVALUATE DATASET NUMBER                                           00050001
                                    56 *                                                                          00051001
000036 58FC 011C             0011C  57          L     R15,IORLST(R12)                                           00052001
00003A 58F0 F008             00008  58          L     R15,EV(,R15)                                              00053001
00003E 05EF                         59          BALR  R14,R15                                                   00054001
                                    60 *                                                                          00055001
                                    61 *        STORE SOURCE ADDR                                                 00056001
                                    62 *                                                                          00057001
000040 5810 1004             00004  63          L     R1,4(,R1)                                                 00058001
000044 5010 813C             0013C  64          ST    R1,ASTRING              SAVE STRING ADDR                  00059001
000048 9630 501A      0001A        65          OI    DSF,DS2+DS3             DS2,DS3=1 OUTPUT                  00060001
00004C 94FE 501A      0001A        66          NI    DSF,255-DS7             DS7=0 NO END OF DATA              00061001
000050 9180 501A      0001A        67          TM    DSF,DS0                 DATASET OPEN ?                    00062001
000054 4710 8066             00066  68          BO    OUTSTR1                 YES, BRANCH                       00063001
000058 9602 501A      0001A        69          OI    DSF,DS6                 NO, DATASET IS NOT OPEN           00064001
00005C 58FC 011C             0011C  70          L     R15,IORLST(R12)                                           00065001
000060 58F0 F010             00010  71          L     R15,OP(,R15)                                              00066001
000064 05EF                         72          BALR  R14,R15                 CALL FOR ROUTINE OPEN             00067001
000066 5820 813C             0013C  73 OUTSTR1  L     R2,ASTRING              R2 -> STRING                      00068001
00006A D201 8140 2000 00140 00000  74          MVC   STRLTH,0(R2)            MOVE L'STRING                     00069001
000070 4840 8140             00140  75          LH    R4,STRLTH                                                 00070001
000074 0640                         76          BCTR  R4,0                                                      00071001
000076 0640                         77          BCTR  R4,0                    REAL STRING LENGTH TO REGISTER    00072001
000078 1244                         78          LTR   R4,R4                   ZERO LENGTH STRING ?              00073001
00007A 4780 80B8             000B8  79          BZ    OUTSTR3                 YES, BRANCH                       00074001
00007E 4120 2002             00002  80          LA    R2,2(,R2)               R2 -> STRING                      00075001
000082 1834                         81 OUTSTR4  LR    R3,R4                                                     00076001
000084 9610 501A      0001A        82          OI    DSF,DS3                                                   00077001
000088 5A40 5004             00004  83          A     R4,R                                                      00078001
00008C 5940 5008             00008  84          C     R4,RE                                                     00079001
000090 4720 80C2             000C2  85          BH    OUTSTR2                 OVERFLOW IN CURRENT RECORD        00080001
000094 0630                         86          BCTR  R3,0                                                      00081001
000096 5890 5004             00004  87          L     R9,R                                                      00082001
00009A 4430 80EC             000EC  88          EX    R3,OUTMOV               CONTENT OF STRING TO BUFFER       00083001
00009E 4130 3001             00001  89          LA    R3,1(,R3)                                                 00084001
0000A2 5040 5004             00004  90          ST    R4,R                                                      00085001
0000A6 5940 5008             00008  91          C     R4,RE                                                     00086001
0000AA 4770 80B8             000B8  92          BNE   OUTSTR3                                                   00087001
0000AE 58FC 011C             0011C  93          L     R15,IORLST(R12)                                           00088001
0000B2 58F0 F00C             0000C  94          L     R15,NX(,R15)                                              00089001
0000B6 05EF                         95          BALR  R14,R15                 CURRENT RECORD FILLED             00090001
0000B8 58D0 80F8             000F8  96 OUTSTR3  L     R13,SAVAR+4                                               00091001
                                    97 *                                                                          00092001
```

Active USINGs: DSTABLE,R5 IHIOSTRG,R8

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     98          RETURN (14,12)              RETURN TO CALLER                00093001
0000BC 98EC D00C            0000C    99+         LM    14,12,12(13)                RESTORE THE REGISTERS  01-RETUR
0000C0 07FE                         100+         BR    14                          RETURN                 01-RETUR
                                    101 *                                                                    00094001
0000C2 5870 5008            00008   102 OUTSTR2  L     R7,RE                 RE-R AVAILIABLE, PLACE IN       00095001
0000C6 5B70 5004            00004   103          S     R7,R                  CURRENT RECORD                  00096001
0000CA 5890 5004            00004   104          L     R9,R                                                  00097001
0000CE 0670                         105          BCTR  R7,0                                                  00098001
0000D0 4470 80EC            000EC   106          EX    R7,OUTMOV                                             00099001
0000D4 4170 7001            00001   107          LA    R7,1(,R7)                                             00100001
0000D8 1843                         108          LR    R4,R3                                                 00101001
0000DA 1B47                         109          SR    R4,R7                                                 00102001
0000DC 1A27                         110          AR    R2,R7                                                 00103001
0000DE 58FC 011C            0011C   111          L     R15,IORLST(R12)                                       00104001
0000E2 58F0 F00C            0000C   112          L     R15,NX(,R15)                                          00105001
0000E6 05EF                         113          BALR  R14,R15                                               00106001
0000E8 47F0 8082            00082   114          B     OUTSTR4                                               00107001
                                    115 *                                                                    00108001
0000EC D200 9000 2000 00000 00000   116 OUTMOV    MVC   0(1,R9),0(R2)         MOVE STRING                     00109001
                                    117 *                                                                    00110001
0000F2 0000
0000F4 0000000000000000             118 SAVAR    DC    18F'0'                                                00111001
00013C 00000000                     119 ASTRING  DC    A(0)                                                  00112001
000140 0000                         120 STRLTH   DC    H'0'                                                  00113001
                                    121 *                                                                    00114001
000148                              122          LTORG                                                       00115001
                                    123 *                                                                    00116001
                                    124          DSTABLE  DSECT=YES                                          00117001
000000                00000 00024   125+DSTABLE  DSECT                                                      01-DSTAB
                                    126+*                                                                    01-DSTAB
000000 00000000                     127+ADCB     DC    F'0'                    -> DCB                        01-DSTAB
000004 00000000                     128+R        DC    F'0'                    CHARACTER POINTER             01-DSTAB
000008 00000000                     129+RE       DC    F'0'                                                  01-DSTAB
00000C 00000000                     130+NBB      DC    F'0'                                                  01-DSTAB
000010 00000000                     131+BB       DC    F'0'                                                  01-DSTAB
000014 0001                         132+S        DC    H'1'                    RECORD POINTER                01-DSTAB
000016 0050                         133+P        DC    H'80'                   RECORD LENGTH                 01-DSTAB
000018 02                           134+K        DC    X'02'                   NUMBER OF BLANK DELIM CHARS   01-DSTAB
000019 00                           135+Q        DC    X'00'                   NO OF RECORDS PER SECTION     01-DSTAB
00001A 0000                         136+DSF      DC    H'00'                   DATASET FLAGS                 01-DSTAB
                                    137+*                                                                    01-DSTAB
                                    138+*        DATASET FLAGS - DSF                                         01-DSTAB
                                    139+*                                                                    01-DSTAB
                        00080       140+DS0      EQU   X'80'                   DATASET OPEN                  01-DSTAB
                        00040       141+DS1      EQU   X'40'                                                 01-DSTAB
                        00020       142+DS2      EQU   X'20'                   LAST I/O OUTPUT               01-DSTAB
                        00010       143+DS3      EQU   X'10'                                                 01-DSTAB
                        00008       144+DS4      EQU   X'08'                                                 01-DSTAB
                        00004       145+DS5      EQU   X'04'                                                 01-DSTAB
                        00002       146+DS6      EQU   X'02'                   OPEN FOR OUTPUT               01-DSTAB
                        00001       147+DS7      EQU   X'01'                   END OF FILE                   01-DSTAB
                                    148+*                                                                    01-DSTAB
                                    149+*        DATASET FLAGS - DSF+1                                       01-DSTAB
                                    150+*                                                                    01-DSTAB
                        00080       151+DS8      EQU   X'80'                   END OF DATA                   01-DSTAB
                        00040       152+DS9      EQU   X'40'                                                 01-DSTAB
                        00020       153+DS10     EQU   X'20'                   OPENED BY SYSACT 12           01-DSTAB
                        00010       154+DS11     EQU   X'10'                   INDICATE IHIERR-ROUT          01-DSTAB
                        00008       155+DSEOD    EQU   X'08'                                                 01-DSTAB
                        00004       156+DSIOERR  EQU   X'04'                   I/O ERROR                     01-DSTAB
                        00002       157+DS14     EQU   X'02'                   DATASET OPENED                01-DSTAB
                        00001       158+DS15     EQU   X'01'                   CLOSE FROM IHIERR             01-DSTAB
                                    159+*                                                                    01-DSTAB
00001C 00000000                     160+NOTEADR  DC    F'0'                                                  01-DSTAB
000020 0000                         161+BL       DC    H'0'                    LRECL+ TWO ARB                01-DSTAB
000022 0000                         162+         DC    H'0'                                                  01-DSTAB
                                    163+*                                                                    01-DSTAB
                        00024       164+DSTABLEL EQU   *-DSTABLE               L'DSTABLE ENTRY               01-DSTAB
                                    165+*                                                                    01-DSTAB
                                    166 *                                                                    00118001
000000                00000 00120   167 FAS      DSECT                                                       00119001
                                    168 *                                                                    00120001
                                    169          COPY  FSAREA                                                00121001
                                    170=*                                                                    00001001
                                    171=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                  00002001
                                    172=*                                                                    00003001
                                    173=*        STATUS - LEVEL 2.1                                          00004001
                                    174=*                                                                    00005001
                                    175=*********************************************************************** 00006001
                                    176=*                                                                    00007001
                                    177=*        COMMON DATA AREA                                            00008001
                                    178=*                                                                    00009001
                                    179=*        FSAREA                                                      00010001
                                    180=*                                                                    00011001
                                    181=*********************************************************************** 00012001
                                    182=*                                                                    00013001
                                    183=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                  00014001
                                    184=*        MODULES DURING THE EXECUTION                                00015001
                                    185=*                                                                    00016001
                                    186=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY               00017001
                                    187=*        SUBROUTINES) BY R12                                         00018001
                                    188=*                                                                    00019001
                        00000       189=FSAREA   EQU   *                                                     00020001
                                    190=*                                                                    00021001
                                    191=*        SAVE AREAS                                                  00022001
                                    192=*                                                                    00023001
```

```
D-Loc  Object Code      Addr1 Addr2  Stmt   Source Statement                                    X390 3.1.04  2012/08/17 13.21

000000                                193=          DS    18F                    STANDARD SAVE AREA              00024001
                        00048         194=ASAVE     EQU   *-FSAREA               ALTERNATE SAVE AREA USED BY     00025001
000048                                195=          DS    18F                    CERTAIN SUBROUTINES             00026001
                                      196=*                                                                      00027001
                                      197=*         MISCELLANEOUS WORK AREAS AND CONSTANTS                       00028001
                                      198=*                                                                      00029001
                        00090         199=FCTVALST  EQU   *-FSAREA               TEMPORARY STORAGE FOR           00030001
000090                                200=          DS    D                      FUNCTION VALUES                 00031001
                        00098         201=ASTLOC    EQU   *-FSAREA               DISPL FOR ADDR OF STAND LOCTN   00032001
000098 00000090                       202=          DC    A(FSAREA+FCTVALST)                                     00033001
                        0009C         203=BRRST     EQU   *-FSAREA               TEMPORARY SAVE REG BRR          00034001
                        0009C         204=HW        EQU   BRRST                  TEMPORARY HALFWORD STORAGE      00035001
00009C                                205=          DS    F                                                      00036001
                        000A0         206=PROLREG   EQU   *-FSAREA               STORAGE FOR PBT AND LAT WHEN    00037001
0000A0                                207=          DS    2A                     A PROCEDURE IS FORMAL PARAM     00038001
                                      208=*                                                                      00039001
                                      209=*         HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE       00040001
                                      210=*                                                                      00041001
0000A8                                211=          DS    0H                                                     00042001
0000A8 00                             212=          DC    X'00'                                                  00043001
                        000A9         213=PROLPBN   EQU   *-FSAREA               STORAGE FOR CALLED PBN          00044001
0000A9 00                             214=          DC    X'00'                                                  00045001
                        000AA         215=EIGHT     EQU   *-FSAREA               CONST FOR REDUCING RAS          00046001
0000AA 0008                           216=          DC    H'8'                                                   00047001
                                      217=*                                                                      00048001
0000AC                                218=          DS    0F                                                     00049001
                        000AC         219=ADSTAB    EQU   *-FSAREA               ADDR OF DSTABLE                 00050001
0000AC                                220=          DS    A                      IN THE OBJECT PROGRAM           00051001
                        000B0         221=ANOTTAB   EQU   *-FSAREA               ADDR OF NOTE TABLE              00052001
0000B0                                222=          DS    A                      (INSERTED BY THE OPEN ROUTINE)  00053001
                                      223=*                                                                      00054001
                        000B4         224=IHIFSAST  EQU   *                                                      00055001
                        000B4         225=PGOPSW    EQU   *-FSAREA               PROGRAM CHECK OLD PSW           00056001
0000B4                                226=          DS    2F                                                     00057001
                        000BC         227=FSAPICA   EQU   *-FSAREA               OLD PICA ADDR                   00058001
0000BC 00000000                       228=          DC    F'0'                                                   00059001
                        000C0         229=SCRCS     EQU   *-FSAREA               SEMICOLON NUMBER                00060001
0000C0                                230=          DS    H                                                      00061001
                        000C2         231=DTSW      EQU   *-FSAREA               OPTION SWITCHES                 00062001
                        000C2         232=OPTSW     EQU   DTSW                                                   00063001
0000C2 00                             233=          DC    X'00'                  DUMP-80, TRACE-40, SHORT-20     00064001
                        000C3         234=FSAERCOD  EQU   *-FSAREA               ERROR CODE FOR ERROR ROUTINE    00065001
0000C3                                235=          DS    C                                                      00066001
                                      236=*                                                                      00067001
                                      237=*         RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER            00068001
                                      238=*                                                                      00069001
0000C4                                239=          DS    0F                                                     00070001
                        000C4         240=IHIFSARS  EQU   *                                                      00071001
                        000C4         241=RASSTART  EQU   *-FSAREA               ADDR OF FIRST ENTRY IN RAS-8    00072001
0000C4                                242=          DS    F                                                      00073001
                        000C8         243=RASPT     EQU   *-FSAREA               RAS POINTER FROM TOP            00074001
0000C8                                244=          DS    F                                                      00075001
                        000CC         245=RASEND    EQU   *-FSAREA               ADDR OF LAST  ENTRY IN RAS+8    00076001
0000CC                                246=          DS    F                                                      00077001
                        000D0         247=RASPB     EQU   *-FSAREA               RAS POINTER FROM BOTTOM         00078001
0000D0                                248=          DS    F                                                      00079001
                                      249=*                                                                      00080001
                                      250=*         LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES     00081001
                                      251=*                                                                      00082001
0000D4                                252=BRLIST    DS    0F                                                     00083001
                        000D4         253=CAP1      EQU   *-FSAREA               FIRST PART CAPS                 00084001
0000D4 4700 0000              00000   254=          NOP   0                                                      00085001
                        000D8         255=CAP2      EQU   *-FSAREA               SECOND PART CAPS                00086001
0000D8 4700 0000              00000   256=          NOP   0                                                      00087001
                        000DC         257=PROLOGP   EQU   *-FSAREA               PROLOGUE FORMAL PARAMETER ENTRY 00088001
                        000DC         258=PROLOGFP  EQU   PROLOGP                                                00089001
0000DC 4700 0000              00000   259=          NOP   0                                                      00090001
                        000E0         260=PROLOG    EQU   *-FSAREA               PROLOGUE PROGRAM USUAL ENTRY    00091001
0000E0 4700 0000              00000   261=          NOP   0                                                      00092001
                        000E4         262=RETPROG   EQU   *-FSAREA               DISPLACEMENT RETURN PROGRAM     00093001
0000E4 4700 0000              00000   263=          NOP   0                                                      00094001
                        000E8         264=EPILOGP   EQU   *-FSAREA               EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000              00000   265=          NOP   0                                                      00096001
                        000EC         266=EPILOGB   EQU   *-FSAREA               EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000              00000   267=          NOP   0                                                      00098001
                        000F0         268=EPILPR3   EQU   *-FSAREA               EPILOGUE PROGRAM ENTRY 3        00099001
0000F0 4700 0000              00000   269=          NOP   0                                                      00100001
                        000F4         270=CSWE1     EQU   *-FSAREA               FIRST PART CSWES                00101001
0000F4 4700 0000              00000   271=          NOP   0                                                      00102001
                        000F8         272=CSWE2     EQU   *-FSAREA               SECOND PART CSWES               00103001
0000F8 4700 0000              00000   273=          NOP   0                                                      00104001
                        000FC         274=LOADPP    EQU   *-FSAREA               LOAD PRECOMPILED PROC ROUTINE   00105001
0000FC 4700 0000              00000   275=          NOP   0                                                      00106001
                        00100         276=TRACE     EQU   *-FSAREA                                               00107001
000100 D200 0000 0000 00000 00000     277=          MVC   0(0),0                                                 00108001
000106 4700 0000              00000   278=          NOP   0                                                      00109001
00010A 4700 0000              00000   279=          NOP   0                                                      00110001
                        0010E         280=TERMNTE   EQU   *-FSAREA               NORMAL TERMINATION EXIT         00111001
00010E 4700 0000              00000   281=          NOP   0                                                      00112001
                        00112         282=BCR       EQU   *-FSAREA                                               00113001
000112 0700                           283=          BCR   0,0                    VARIABLE CONDITIONAL BRANCH     00114001
                        00114         284=GETMSTO   EQU   *-FSAREA                                               00115001
000114 4700 0000              00000   285=          NOP   0                                                      00116001
                                      286=*                                                                      00117001
                        00118         287=VALUCALL  EQU   *-FSAREA                                               00118001
000118 4700 0000              00000   288=          NOP   0                                                      00119001
```

Active USINGs: DSTABLE,R5 IHIOSTRG,R8

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                      0011C         289=IORLST   EQU   *-FSAREA                                                00120001
00011C 4700 0000            00000   290=         NOP   0                                                       00121001
                                    291=*                                                                      00122001
                      001CC         292=FSAERR   EQU   X'1CC'               DISPL  FOR ERROR LIST             00123001
                                    293=*                                                                      00124001
                                    294=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                  00125001
                                    295=*                                                                      00126001
                      0020C         296=OUTOFB   EQU   FSAERR+4*16                                           00127001
                      00218         297=NUMBIND  EQU   FSAERR+4*19                                           00128001
                      00208         298=ARRAYBD  EQU   FSAERR+4*15                                           00129001
                      0026C         299=ERROR40  EQU   FSAERR+4*40                                           00130001
                      00224         300=OERR22   EQU   FSAERR+4*22                                           00131001
                      00210         301=ENDLESL  EQU   FSAERR+4*17                                           00132001
                      00220         302=OERR21   EQU   FSAERR+4*21                                           00133001
                                    303=*                                                                      00134001
                                    304 *                                                                      00122001
                                    305 *        REGISTER EQUATES                                              00123001
                                    306 *                                                                      00124001
                                    307          IEZREGS                                                       00125001
                      00000         308+R0       EQU   0                                                     01-IEZRE
                      00001         309+R1       EQU   1                                                     01-IEZRE
                      00002         310+R2       EQU   2                                                     01-IEZRE
                      00003         311+R3       EQU   3                                                     01-IEZRE
                      00004         312+R4       EQU   4                                                     01-IEZRE
                      00005         313+R5       EQU   5                                                     01-IEZRE
                      00006         314+R6       EQU   6                                                     01-IEZRE
                      00007         315+R7       EQU   7                                                     01-IEZRE
                      00008         316+R8       EQU   8                                                     01-IEZRE
                      00009         317+R9       EQU   9                                                     01-IEZRE
                      0000A         318+R10      EQU   10                                                    01-IEZRE
                      0000B         319+R11      EQU   11                                                    01-IEZRE
                      0000C         320+R12      EQU   12                                                    01-IEZRE
                      0000D         321+R13      EQU   13                                                    01-IEZRE
                      0000E         322+R14      EQU   14                                                    01-IEZRE
                      0000F         323+R15      EQU   15                                                    01-IEZRE
                                    324 *                                                                      00126001
                                    325          END                                                           00127001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
ASTRING         4 0000013C 00000001  A A               119   64M  73
BRRST           1 0000009C           U                 203  204
DSF             2 0000001A FFFFFFFF  H H               136   65M  66M  67   69M  82M
DSTABLE         1 00000000 FFFFFFFF  J                 125   53U 164
DS0             1 00000080           U                 140   67
DS2             1 00000020           U                 142   65
DS3             1 00000010           U                 143   65   82
DS6             1 00000002           U                 146   69
DS7             1 00000001           U                 147   66
DTSW            1 000000C2           U                 231  232
EV              1 00000008           U                  37   58
FCTVALST        1 00000090           U                 199  202
FSAERR          1 000001CC           U                 292  296  297  298  299  300  301  302
FSAREA          1 00000000 FFFFFFFE  U                 189  194  199  201  202  203  206  213  215  219  221  225  227
                                                           229  231  234  241  243  245  247  253  255  257  260  262
                                                           264  266  268  270  272  274  276  280  282  284  287  289
IHIOSTRG        1 00000000 00000001  J                  31   49U
IORLST          1 0000011C           U                 289   57   70   93  111
NX              1 0000000C           U                  38   94  112
OP              1 00000010           U                  39   71
OUTMOV          6 000000EC 00000001  I                 116   88X 106X
OUTSTR1         4 00000066 00000001  I                  73   68B
OUTSTR2         4 000000C2 00000001  I                 102   85B
OUTSTR3         4 000000B8 00000001  I                  96   79B  92B
OUTSTR4         2 00000082 00000001  I                  81  114B
PROLOGP         1 000000DC           U                 257  258
R               4 00000004 FFFFFFFF  F F               128   83   87   90M 103  104
RE              4 00000008 FFFFFFFF  F F               129   84   91  102
R1              1 00000001           U                 309   63M  64
R12             1 0000000C           U                 320   51M  57   70   93  111
R13             1 0000000D           U                 321   50   51   52M  96M
R14             1 0000000E           U                 322   59M  72M  95M 113M
R15             1 0000000F           U                 323   48   57M  58M  59B  70M  71M  72B  93M  94M  95B 111M 112M
                                                          113B
R2              1 00000002           U                 310   73M  74   80M 110M 116
R3              1 00000003           U                 311   81M  86M  88   89M 108
R4              1 00000004           U                 312   75M  76M  77M  78M  81   83M  84   90   91  108M 109M
R5              1 00000005           U                 313   53U
R7              1 00000007           U                 315  102M 103M 105M 106  107M 109  110
R8              1 00000008           U                 316   48M  49U
R9              1 00000009           U                 317   87M 104M 116
SAVAR           4 000000F4 00000001  F F               118   50M  52   96
STRLTH          2 00000140 00000001  H H               120   74M  75
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   47   99M
    1(1)   47   63M  64   99M
    2(2)   47   73M  74   80M  99M 110M 116
    3(3)   47   81M  86M  88   89M  99M 108
    4(4)   47   75M  76M  77M  78M  81   83M  84   90   91   99M 108M 109M
    5(5)   47   53U  99M
    6(6)   47   99M
    7(7)   47   99M 102M 103M 105M 106  107M 109  110
    8(8)   47   48M  49U  99M
    9(9)   47   87M  99M 104M 116
   10(A)   47   99M
   11(B)   47   99M
   12(C)   47   51M  57N  70N  93N  99M 111N
   13(D)   47   50   51   52M  96M  99
   14(E)   47   59M  72M  95M  99M 100B 113M
   15(F)   43B  47   48   57M  58M  59B  70M  71M  72B  93M  94M  95B  99M 111M 112M 113B
```

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

```
DSTABLE   00000024  FFFFFFFF    125    4  DSTABLE
FAS       00000120  FFFFFFFE    167       PRIMARY INPUT
```

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
49		USING	Ordinary	00000001	00000000	00001000	8	00140	114	IHIOSTRG,R8
53		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001A	104	DSTABLE,R5

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIOST PROCSTEP: X390

Primary input: lines 1 to 127 of SYSD.ALGOLFRT.ASM(IHIOST)

SYSLIB library records read: 362

SYSUT1 work file size: 29420 bytes

SYSUT2 work file size: 17960 bytes

SYSUT3 work file size: 10160 bytes

SYSLIN file records written: 8

TXA000I Return code 0, elapsed time 0.23 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIOSTRG	000142	6

IHIOSY

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIOSY)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0206
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                                     2 *                                                                          00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                     4 *                                                                          00004001
                                     5 *        STATUS - LEVEL 2.1                                                00005001
                                     6 *                                                                          00006001
                                     7 *        FUNCTION/OPERATION -                                              00007001
                                     8 *        COMPARE NUMBER ASSIGNED TO THIRD ACTUAL PARAMETER WITH            00008001
                                     9 *        AN INTERNAL STRING AND TRANSFER CHARACTER IN                      00009001
                                    10 *        CORRESPONDING POSITION TO AN OUTPUT BUFFER                        00010001
                                    11 *                                                                          00011001
                                    12 *        ENTRY POINT -                                                     00012001
                                    13 *        IHIOSYMB - FROM GENERATED OBJECT MODULE                           00013001
                                    14 *        LA   R1,PARMLIST                                                  00014001
                                    15 *        DATA PASSED BY NAME                                               00015001
                                    16 *                                                                          00016001
                                    17 *        INPUT - N/A                                                       00017001
                                    18 *                                                                          00018001
                                    19 *        OUTPUT - N/A                                                      00019001
                                    20 *                                                                          00020001
                                    21 *        EXTERNAL ROUTINES -                                               00021001
                                    22 *        IHIIOR - EVALUATE DATASET NUMBER                                  00022001
                                    23 *               - OPEN DATASET                                             00023001
                                    24 *               - CHANGE TO NEXT OUTPUT RECORD                             00024001
                                    25 *                                                                          00025001
                                    26 *        EXITS - NORMAL - RELOAD REGISTERS AND RETURN VIA R14              00026001
                                    27 *                                                                          00027001
                                    28 *        EXITS - ERROR  - SOURCE DOES NOT MATCH STRING NO 8                00028001
                                    29 *        BRANCH TO FSA    LA  R13,IHIFSA                                   00029001
                                    30 *                         B   FSAERR+XX*4(13) XX ERROR NO                  00030001
                                    31 *                                                                          00031001
                                    32 *        TABLES/WORK AREAS - N/A                                           00032001
                                    33 *                                                                          00033001
000000                00000 00138   34 IHIOSYMB CSECT                                                           00034001
                                    35 *                                                                          00035001
                                    36 *        R3                          -> SOURCE                         00036001
                                    37 *        R4                          -> START OF STRING                00037001
                                    38 *        R8                           = INTEGER NUMBER FROM SOURCE     00038001
                                    39 *        R9                           = L'SOURCE STRING                00039001
                                    40 *        R10                         -> CHARACTER POINTER              00040001
                                    41 *                                                                          00041001
                 R:5  00000         42          USING DSTABLE,R5                                                  00042001
                                    43 *                                                                          00043001
                                    44 *        DISPLACEMENTS IN ADRLST IN IHIFSA                                 00044001
                                    45 *                                                                          00045001
                      00000         46 CI       EQU   0             DISPLACEMENT FOR - IHIIORCI                   00046001
                      00004         47 CL       EQU   4                                IHIIORCL                   00047001
                      00008         48 EV       EQU   8                                IHIIOREV                   00048001
                      0000C         49 NX       EQU   12                               IHIIORNX                   00049001
                      00010         50 OP       EQU   16                               IHIIOROP                   00050001
                      00014         51 OQ       EQU   20                               IHIIOROQ                   00051001
                                    52 *                                                                          00052001
                                    53          SAVE  (14,12),,'IHIOSYMB LEVEL 2.1 &SYSDATE &SYSTIME'             00053001
000000 47F0 F026             00026  54+         B     38(0,15)                          BRANCH AROUND ID        01-SAVE
000004 21                           55+         DC    AL1(33)                           LENGTH OF IDENTIFIER    01-SAVE
000005 C9C8C9D6E2E8D4C2             56+         DC    CL32'IHIOSYMB LEVEL 2.1 08/17/12 13.2' IDENTIFIER         01-SAVE
000025 F1                           57+         DC    CL1'1'                            IDENTIFIER              01-SAVE
000026 90EC D00C             0000C  58+         STM   14,12,12(13)                      SAVE REGISTERS          01-SAVE
                                    59 *                                                                          00054001
00002A 187F                         60          LR    R7,R15                                                      00055001
                 R:7  00000         61          USING IHIOSYMB,R7                                                 00056001
00002C 50D0 70F4             000F4  62          ST    R13,SAVEAREA+4          SAVE HIGH SAVEAREA ADDR           00057001
000030 18CD                         63          LR    R12,R13                 R12 -> FSA                        00058001
000032 41D0 70F0             000F0  64          LA    R13,SAVEAREA                                              00059001
                                    65 *                                                                          00060001
                                    66 *        EVALUATE DATASET NUMBER (EVDSN)                                   00061001
                                    67 *                                                                          00062001
000036 58F0 C11C             0011C  68          L     R15,IORLST(,R12)                                            00063001
00003A 58F0 F008             00008  69          L     R15,EV(,R15)                                                00064001
00003E 05EF                         70          BALR  R14,R15                                                     00065001
000040 5840 1004             00004  71          L     R4,4(,R1)               R4 -> STRING                      00066001
                                    72 *                                                                          00067001
                                    73 *        TEST IF DATASET IS OPEN                                           00068001
                                    74 *                                                                          00069001
000044 94FE 501A      0001A         75          NI    DSF,255-DS7             DS7 = 0                           00070001
000048 9630 501A      0001A         76          OI    DSF,DS2+DS3             DS2, DS3 = 1                      00071001
00004C 9180 501A      0001A         77          TM    DSF,DS0                 DATASET OPEN ?                    00072001
000050 4710 7062             00062  78          BO    SOURCE0                 YES, BRANCH                       00073001
000054 9602 501A      0001A         79          OI    DSF,DS6                 DS6 = 1                           00074001
000058 58F0 C11C             0011C  80          L     R15,IORLST(,R12)                                            00075001
00005C 58F0 F010             00010  81          L     R15,OP(,R15)                                                00076001
000060 05EF                         82          BALR  R14,R15                 OPEN DATASET                      00077001
000062 5830 1008             00008  83 SOURCE0  L     R3,8(,R1)               R3 -> SOURCE                      00078001
000066 1233                         84          LTR   R3,R3                   CONVERSION REQUIRED ?             00079001
000068 4720 7090             00090  85          BP    EVSOURCE                NO CONVERSION NEEEDED             00080001
00006C 9120 C0C2      000C2  86          TM    OPTSW(R12),X'20'              YES, LONG OR SHORT PREC ?         00081001
000070 4710 707C             0007C  87          BO    SOURCE1                 SHORT                             00082001
000074 6800 3000             00000  88          LD    0,0(,R3)                                                  00083001
000078 47F0 7080             00080  89          B     SOURCE1A                                                  00084001
                                    90 *                                                                          00085001
00007C 7800 3000             00000  91 SOURCE1  LE    0,0(,R3)                                                  00086001
000080 58F0 C11C             0011C  92 SOURCE1A L     R15,IORLST(,R12)                                            00087001
000084 58F0 F000             00000  93          L     R15,CI(,R15)                                                00088001
000088 05EF                         94          BALR  R14,R15                 REQUEST CONVERSION                00089001
00008A 1880                         95          LR    R8,R0                                                     00090001
00008C 47F0 7094             00094  96          B     EVSOURAA                                                  00091001
                                    97 *                                                                          00092001
```

Active USINGs: IHIOSYMB,R7 DSTABLE,R5

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000090 5880 3000            00000    98 EVSOURCE L     R8,0(,R3)            SOURCE INTEGER LOADED            00093001
000094 1288                          99 EVSOURAA LTR   R8,R8                                                 00094001
000096 4740 70E8            000E8   100          BM    ERR8                 INTEGER -VE                      00095001
00009A 58A0 5004            00004   101          L     R10,R                CHARACTER POINTER                00096001
00009E 4720 70AA            000AA   102          BP    EVSOURBB             INTEGER +VE                      00097001
0000A2 9240 A000      00000         103          MVI   0(R10),C' '          INTEGER = ZERO                   00098001
0000A6 47F0 70C2            000C2   104          B     TERMIN                                                 00099001
                                    105 *                                                                    00100001
0000AA 4890 4000            00000   106 EVSOURBB LH    R9,0(,R4)            LENGTH OF STRING                 00101001
0000AE 4180 8001            00001   107          LA    R8,1(,R8)            INTEGER INCR BY ONE              00102001
0000B2 0690                         108          BCTR  R9,0                 LENGTH DECR BY ONE               00103001
0000B4 1989                         109          CR    R8,R9                                                  00104001
0000B6 4720 70E8            000E8   110          BH    ERR8                                                   00105001
0000BA 1A84                         111          AR    R8,R4                                                  00106001
0000BC D200 A000 8000 00000 00000   112          MVC   0(1,R10),0(R8)                                         00107001
0000C2 41A0 A001            00001   113 TERMIN   LA    R10,1(,R10)                                            00108001
0000C6 59A0 5008            00008   114          C     R10,RE                                                 00109001
0000CA 47B0 70DA            000DA   115          BNL   NEXTREC                                                00110001
0000CE 50A0 5004            00004   116          ST    R10,R                                                  00111001
0000D2 18DC                         117 TERMINA  LR    R13,R12                                                00112001
                                    118 *                                                                    00113001
                                    119          RETURN (14,12)                                              00114001
0000D4 98EC D00C            0000C   120+         LM    14,12,12(13)                 RESTORE THE REGISTERS  01-RETUR
0000D8 07FE                         121+         BR    14                           RETURN                 01-RETUR
                                    122 *                                                                    00115001
0000DA 58F0 C11C            0011C   123 NEXTREC  L     R15,IORLST(,R12)                                       00116001
0000DE 58F0 F00C            0000C   124          L     R15,NX(,R15)                                           00117001
0000E2 05EF                         125          BALR  R14,R15                                                00118001
0000E4 47F0 70D2            000D2   126          B     TERMINA                                                00119001
                                    127 *                                                                    00120001
0000E8 18DC                         128 ERR8     LR    R13,R12                                                00121001
0000EA 47FC 01EC            001EC   129          B     FSAERR+8*4(R12)      SOURCE DOES NOT MATCH STRING     00122001
                                    130 *                                                                    00123001
0000EE 0000
0000F0 0000000000000000             131 SAVEAREA DC    18F'0'               MODULE SAVE AREA                 00124001
                                    132 *                                                                    00125001
000138                              133          LTORG                                                       00126001
                                    134 *                                                                    00127001
                                    135          DSTABLE  DSECT=YES                                          00128001
000000                00000 00024   136+DSTABLE  DSECT                                                      01-DSTAB
                                    137+*                                                                    01-DSTAB
000000 00000000                     138+ADCB     DC    F'0'                 -> DCB                           01-DSTAB
000004 00000000                     139+R        DC    F'0'                 CHARACTER POINTER                01-DSTAB
000008 00000000                     140+RE       DC    F'0'                                                  01-DSTAB
00000C 00000000                     141+NBB      DC    F'0'                                                  01-DSTAB
000010 00000000                     142+BB       DC    F'0'                                                  01-DSTAB
000014 0001                         143+S        DC    H'1'                 RECORD POINTER                   01-DSTAB
000016 0050                         144+P        DC    H'80'                RECORD LENGTH                    01-DSTAB
000018 02                           145+K        DC    X'02'                NUMBER OF BLANK DELIM CHARS      01-DSTAB
000019 00                           146+Q        DC    X'00'                NO OF RECORDS PER SECTION        01-DSTAB
00001A 0000                         147+DSF      DC    H'00'                DATASET FLAGS                    01-DSTAB
                                    148+*                                                                    01-DSTAB
                                    149+*        DATASET FLAGS - DSF                                         01-DSTAB
                                    150+*                                                                    01-DSTAB
                      00080         151+DS0      EQU   X'80'                DATASET OPEN                     01-DSTAB
                      00040         152+DS1      EQU   X'40'                                                 01-DSTAB
                      00020         153+DS2      EQU   X'20'                LAST I/O OUTPUT                  01-DSTAB
                      00010         154+DS3      EQU   X'10'                                                 01-DSTAB
                      00008         155+DS4      EQU   X'08'                                                 01-DSTAB
                      00004         156+DS5      EQU   X'04'                                                 01-DSTAB
                      00002         157+DS6      EQU   X'02'                OPEN FOR OUTPUT                  01-DSTAB
                      00001         158+DS7      EQU   X'01'                END OF FILE                      01-DSTAB
                                    159+*                                                                    01-DSTAB
                                    160+*        DATASET FLAGS - DSF+1                                       01-DSTAB
                                    161+*                                                                    01-DSTAB
                      00080         162+DS8      EQU   X'80'                END OF DATA                      01-DSTAB
                      00040         163+DS9      EQU   X'40'                                                 01-DSTAB
                      00020         164+DS10     EQU   X'20'                OPENED BY SYSACT 12              01-DSTAB
                      00010         165+DS11     EQU   X'10'                INDICATE IHIERR-ROUT             01-DSTAB
                      00008         166+DSEOD    EQU   X'08'                                                 01-DSTAB
                      00004         167+DSIOERR  EQU   X'04'                I/O ERROR                        01-DSTAB
                      00002         168+DS14     EQU   X'02'                DATASET OPENED                   01-DSTAB
                      00001         169+DS15     EQU   X'01'                CLOSE FROM IHIERR                01-DSTAB
                                    170+*                                                                    01-DSTAB
00001C 00000000                     171+NOTEADR  DC    F'0'                                                  01-DSTAB
000020 0000                         172+BL       DC    H'0'                 LRECL+ TWO ARB                   01-DSTAB
000022 0000                         173+         DC    H'0'                                                  01-DSTAB
                                    174+*                                                                    01-DSTAB
                      00024         175+DSTABLEL EQU   *-DSTABLE            L'DSTABLE ENTRY                  01-DSTAB
                                    176+*                                                                    01-DSTAB
                                    177 *                                                                    00129001
000000                00000 00120   178 FAS      DSECT                                                       00130001
                                    179 *                                                                    00131001
                                    180          COPY  FSAREA                                                00132001
                                    181=*                                                                    00001001
                                    182=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                  00002001
                                    183=*                                                                    00003001
                                    184=*        STATUS - LEVEL 2.1                                          00004001
                                    185=*                                                                    00005001
                                    186=*********************************************************************** 00006001
                                    187=*                                                                    00007001
                                    188=*        COMMON DATA AREA                                            00008001
                                    189=*                                                                    00009001
                                    190=*        FSAREA                                                      00010001
                                    191=*                                                                    00011001
                                    192=*********************************************************************** 00012001
```

```
                                    193=*                                                                00013001
                                    194=*       DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL               00014001
                                    195=*       MODULES DURING THE EXECUTION                             00015001
                                    196=*                                                                00016001
                                    197=*       ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY            00017001
                                    198=*       SUBROUTINES) BY R12                                      00018001
                                    199=*                                                                00019001
                         00000      200=FSAREA  EQU   *                                                  00020001
                                    201=*                                                                00021001
                                    202=*       SAVE AREAS                                               00022001
                                    203=*                                                                00023001
000000                              204=        DS    18F                   STANDARD SAVE AREA         00024001
                         00048      205=ASAVE   EQU   *-FSAREA              ALTERNATE SAVE AREA USED BY 00025001
000048                              206=        DS    18F                   CERTAIN SUBROUTINES        00026001
                                    207=*                                                                00027001
                                    208=*       MISCELLANEOUS WORK AREAS AND CONSTANTS                   00028001
                                    209=*                                                                00029001
                         00090      210=FCTVALST EQU  *-FSAREA              TEMPORARY STORAGE FOR      00030001
000090                              211=        DS    D                     FUNCTION VALUES            00031001
                         00098      212=ASTLOC  EQU   *-FSAREA              DISPL FOR ADDR OF STAND LOCTN 00032001
000098 00000090                     213=        DC    A(FSAREA+FCTVALST)                               00033001
                         0009C      214=BRRST   EQU   *-FSAREA              TEMPORARY SAVE REG BRR     00034001
                         0009C      215=HW      EQU   BRRST                 TEMPORARY HALFWORD STORAGE 00035001
00009C                              216=        DS    F                                                00036001
                         000A0      217=PROLREG EQU   *-FSAREA              STORAGE FOR PBT AND LAT WHEN 00037001
0000A0                              218=        DS    2A                    A PROCEDURE IS FORMAL PARAM 00038001
                                    219=*                                                                00039001
                                    220=*       HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE   00040001
                                    221=*                                                                00041001
0000A8                              222=        DS    0H                                               00042001
0000A8 00                           223=        DC    X'00'                                            00043001
                         000A9      224=PROLPBN EQU   *-FSAREA              STORAGE FOR CALLED PBN     00044001
0000A9 00                           225=        DC    X'00'                                            00045001
                         000AA      226=EIGHT   EQU   *-FSAREA              CONST FOR REDUCING RAS     00046001
0000AA 0008                         227=        DC    H'8'                                             00047001
                                    228=*                                                                00048001
0000AC                              229=        DS    0F                                               00049001
                         000AC      230=ADSTAB  EQU   *-FSAREA              ADDR OF DSTABLE            00050001
0000AC                              231=        DS    A                     IN THE OBJECT PROGRAM      00051001
                         000B0      232=ANOTTAB EQU   *-FSAREA              ADDR OF NOTE TABLE         00052001
0000B0                              233=        DS    A                     (INSERTED BY THE OPEN ROUTINE) 00053001
                                    234=*                                                                00054001
                         000B4      235=IHIFSAST EQU  *                                                  00055001
                         000B4      236=PGOPSW  EQU   *-FSAREA              PROGRAM CHECK OLD PSW      00056001
0000B4                              237=        DS    2F                                               00057001
                         000BC      238=FSAPICA EQU   *-FSAREA              OLD PICA ADDR              00058001
0000BC 00000000                     239=        DC    F'0'                                             00059001
                         000C0      240=SCRCS   EQU   *-FSAREA              SEMICOLON NUMBER           00060001
0000C0                              241=        DS    H                                                00061001
                         000C2      242=DTSW    EQU   *-FSAREA              OPTION SWITCHES            00062001
                         000C2      243=OPTSW   EQU   DTSW                                             00063001
0000C2 00                           244=        DC    X'00'                 DUMP-80, TRACE-40, SHORT-20 00064001
                         000C3      245=FSAERCOD EQU  *-FSAREA              ERROR CODE FOR ERROR ROUTINE 00065001
0000C3                              246=        DS    C                                                00066001
                                    247=*                                                                00067001
                                    248=*       RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER         00068001
                                    249=*                                                                00069001
0000C4                              250=        DS    0F                                               00070001
                         000C4      251=IHIFSARS EQU  *                                                  00071001
                         000C4      252=RASSTART EQU  *-FSAREA              ADDR OF FIRST ENTRY IN RAS-8 00072001
0000C4                              253=        DS    F                                                00073001
                         000C8      254=RASPT   EQU   *-FSAREA              RAS POINTER FROM TOP       00074001
0000C8                              255=        DS    F                                                00075001
                         000CC      256=RASEND  EQU   *-FSAREA              ADDR OF LAST  ENTRY IN RAS+8 00076001
0000CC                              257=        DS    F                                                00077001
                         000D0      258=RASPB   EQU   *-FSAREA              RAS POINTER FROM BOTTOM    00078001
0000D0                              259=        DS    F                                                00079001
                                    260=*                                                                00080001
                                    261=*       LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES  00081001
                                    262=*                                                                00082001
0000D4                              263=BRLIST  DS    0F                                               00083001
                         000D4      264=CAP1    EQU   *-FSAREA              FIRST PART CAPS            00084001
0000D4 4700 0000            00000   265=        NOP   0                                                00085001
                         000D8      266=CAP2    EQU   *-FSAREA              SECOND PART CAPS           00086001
0000D8 4700 0000            00000   267=        NOP   0                                                00087001
                         000DC      268=PROLOGP EQU   *-FSAREA              PROLOGUE FORMAL PARAMETER ENTRY 00088001
                         000DC      269=PROLOGFP EQU  PROLOGP                                          00089001
0000DC 4700 0000            00000   270=        NOP   0                                                00090001
                         000E0      271=PROLOG  EQU   *-FSAREA              PROLOGUE PROGRAM USUAL ENTRY 00091001
0000E0 4700 0000            00000   272=        NOP   0                                                00092001
                         000E4      273=RETPROG EQU   *-FSAREA              DISPLACEMENT RETURN PROGRAM 00093001
0000E4 4700 0000            00000   274=        NOP   0                                                00094001
                         000E8      275=EPILOGP EQU   *-FSAREA              EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000            00000   276=        NOP   0                                                00096001
                         000EC      277=EPILOGB EQU   *-FSAREA              EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000            00000   278=        NOP   0                                                00098001
                         000F0      279=EPILPR3 EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3   00099001
0000F0 4700 0000            00000   280=        NOP   0                                                00100001
                         000F4      281=CSWE1   EQU   *-FSAREA              FIRST PART CSWES           00101001
0000F4 4700 0000            00000   282=        NOP   0                                                00102001
                         000F8      283=CSWE2   EQU   *-FSAREA              SECOND PART CSWES          00103001
0000F8 4700 0000            00000   284=        NOP   0                                                00104001
                         000FC      285=LOADPP  EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE 00105001
0000FC 4700 0000            00000   286=        NOP   0                                                00106001
                         00100      287=TRACE   EQU   *-FSAREA                                         00107001
000100 D200 0000 0000 00000 00000   288=        MVC   0(0),0                                           00108001
```

Active USINGs: IHIOSYMB,R7 DSTABLE,R5

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

000106 4700 0000            00000   289=         NOP   0                                                        00109001
00010A 4700 0000            00000   290=         NOP   0                                                        00110001
                      0010E         291=TERMNTE  EQU   *-FSAREA              NORMAL TERMINATION EXIT           00111001
00010E 4700 0000            00000   292=         NOP   0                                                        00112001
                      00112         293=BCR      EQU   *-FSAREA                                                 00113001
000112 0700                         294=         BCR   0,0                  VARIABLE CONDITIONAL BRANCH       00114001
                      00114         295=GETMSTO  EQU   *-FSAREA                                                 00115001
000114 4700 0000            00000   296=         NOP   0                                                        00116001
                                    297=*                                                                       00117001
                      00118         298=VALUCALL EQU   *-FSAREA                                                 00118001
000118 4700 0000            00000   299=         NOP   0                                                        00119001
                      0011C         300=IORLST   EQU   *-FSAREA                                                 00120001
00011C 4700 0000            00000   301=         NOP   0                                                        00121001
                                    302=*                                                                       00122001
                      001CC         303=FSAERR   EQU   X'1CC'                DISPL  FOR ERROR LIST             00123001
                                    304=*                                                                       00124001
                                    305=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                   00125001
                                    306=*                                                                       00126001
                      0020C         307=OUTOFB   EQU   FSAERR+4*16                                              00127001
                      00218         308=NUMBIND  EQU   FSAERR+4*19                                              00128001
                      00208         309=ARRAYBD  EQU   FSAERR+4*15                                              00129001
                      0026C         310=ERROR40  EQU   FSAERR+4*40                                              00130001
                      00224         311=OERR22   EQU   FSAERR+4*22                                              00131001
                      00210         312=ENDLESL  EQU   FSAERR+4*17                                              00132001
                      00220         313=OERR21   EQU   FSAERR+4*21                                              00133001
                                    314=*                                                                       00134001
                                    315 *                                                                       00133001
                                    316 *        REGISTER EQUATES                                               00134001
                                    317 *                                                                       00135001
                                    318          IEZREGS                                                        00136001
                      00000         319+R0       EQU   0                                                        01-IEZRE
                      00001         320+R1       EQU   1                                                        01-IEZRE
                      00002         321+R2       EQU   2                                                        01-IEZRE
                      00003         322+R3       EQU   3                                                        01-IEZRE
                      00004         323+R4       EQU   4                                                        01-IEZRE
                      00005         324+R5       EQU   5                                                        01-IEZRE
                      00006         325+R6       EQU   6                                                        01-IEZRE
                      00007         326+R7       EQU   7                                                        01-IEZRE
                      00008         327+R8       EQU   8                                                        01-IEZRE
                      00009         328+R9       EQU   9                                                        01-IEZRE
                      0000A         329+R10      EQU   10                                                       01-IEZRE
                      0000B         330+R11      EQU   11                                                       01-IEZRE
                      0000C         331+R12      EQU   12                                                       01-IEZRE
                      0000D         332+R13      EQU   13                                                       01-IEZRE
                      0000E         333+R14      EQU   14                                                       01-IEZRE
                      0000F         334+R15      EQU   15                                                       01-IEZRE
                                    335 *                                                                       00137001
                                    336          END                                                            00138001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
BRRST           1 0000009C           U                 214  215
CI              1 00000000           U                  46   93
DSF             2 0000001A FFFFFFFF  H H               147   75M  76M  77   79M
DSTABLE         1 00000000 FFFFFFFF  J                 136   42U 175
DS0             1 00000080           U                 151   77
DS2             1 00000020           U                 153   76
DS3             1 00000010           U                 154   76
DS6             1 00000002           U                 157   79
DS7             1 00000001           U                 158   75
DTSW            1 000000C2           U                 242  243
ERR8            2 000000E8 00000001  I                 128  100B 110B
EV              1 00000008           U                  48   69
EVSOURAA        2 00000094 00000001  I                  99   96B
EVSOURBB        4 000000AA 00000001  I                 106  102B
EVSOURCE        4 00000090 00000001  I                  98   85B
FCTVALST        1 00000090           U                 210  213
FSAERR          1 000001CC           U                 303  129B 307  308  309  310  311  312  313
FSAREA          1 00000000 FFFFFFFE  U                 200  205  210  212  213  214  217  224  226  230  232  236  238
                                                           240  242  245  252  254  256  258  264  266  268  271  273
                                                           275  277  279  281  283  285  287  291  293  295  298  300
IHIOSYMB        1 00000000 00000001  J                  34   61U
IORLST          1 0000011C           U                 300   68   80   92  123
NEXTREC         4 000000DA 00000001  I                 123  115B
NX              1 0000000C           U                  49  124
OP              1 00000010           U                  50   81
OPTSW           1 000000C2           U                 243   86
PROLOGP         1 000000DC           U                 268  269
R               4 00000004 FFFFFFFF  F F               139  101  116M
RE              4 00000008 FFFFFFFF  F F               140  114
R0              1 00000000           U                 319   95
R1              1 00000001           U                 320   71   83
R10             1 0000000A           U                 329  101M 103  112  113M 114  116
R12             1 0000000C           U                 331   63M  68   80   86   92  117  123  128  129
R13             1 0000000D           U                 332   62   63   64M 117M 128M
R14             1 0000000E           U                 333   70M  82M  94M 125M
R15             1 0000000F           U                 334   60   68M  69M  70B  80M  81M  82B  92M  93M  94B 123M 124M
                                                           125B
R3              1 00000003           U                 322   83M  84M  88   91   98
R4              1 00000004           U                 323   71M 106  111
R5              1 00000005           U                 324   42U
R7              1 00000007           U                 326   60M  61U
R8              1 00000008           U                 327   95M  98M  99M 107M 109  111M 112
R9              1 00000009           U                 328  106M 108M 109
SAVEAREA        4 000000F0 00000001  F F               131   62M  64
SOURCE0         4 00000062 00000001  I                  83   78B
SOURCE1         4 0000007C 00000001  I                  91   87B
SOURCE1A        4 00000080 00000001  I                  92   89B
TERMIN          4 000000C2 00000001  I                 113  104B
TERMINA         2 000000D2 00000001  I                 117  126B
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

```
    0(0)   58   95  120M
    1(1)   58   71   83  120M
    2(2)   58  120M
    3(3)   58   83M  84M  88   91   98  120M
    4(4)   58   71M 106  111  120M
    5(5)   42U  58  120M
    6(6)   58  120M
    7(7)   58   60M  61U 120M
    8(8)   58   95M  98M  99M 107M 109  111M 112  120M
    9(9)   58  106M 108M 109  120M
   10(A)   58  101M 103  112  113M 114  116  120M
   11(B)   58  120M
   12(C)   58   63M  68   80   86   92  117  120M 123  128  129N
   13(D)   58   62   63   64M 117M 120  128M
   14(E)   58   70M  82M  94M 120M 121B 125M
   15(F)   54B  58   60   68M  69M  70B  80M  81M  82B  92M  93M  94B 120M 123M 124M 125B
```

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

Dsect	Length	Id	Defn	Con	Member
DSTABLE	00000024	FFFFFFFF	136	4	DSTABLE
FAS	00000120	FFFFFFFE	178		PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
42		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001A	116	DSTABLE,R5
61		USING	Ordinary	00000001	00000000	00001000	7	000F4	126	IHIOSYMB,R7

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIOSY PROCSTEP: X390

Primary input: lines 1 to 138 of SYSD.ALGOLFRT.ASM(IHIOSY)

SYSLIB library records read: 362

SYSUT1 work file size: 30556 bytes

SYSUT2 work file size: 17960 bytes

SYSUT3 work file size: 11040 bytes

SYSLIN file records written: 8

TXA000I Return code 0, elapsed time 0.23 seconds.

Csect   Rel Addr(hex) Length(dec)

 No uninitialized areas found

IHIOTA

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.21

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIOTA)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0210
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Active USINGs: None

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                  X390 3.1.04  2012/08/17 13.21

                                      2 *                                                            00002001
                                      3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY          00003001
                                      4 *                                                            00004001
                                      5 *        STATUS - LEVEL 2.1                                  00005001
                                      6 *                                                            00006001
                                      7 *        FUNCTION/OPERATION -                                00007001
                                      8 *        TRANSFER NUMBERS FROM ARRAY INDICATED BY SECOND     00008001
                                      9 *        PARAMETER TO OUTPUT BUFFER BY CALLING OUTINTEGER    00009001
                                     10 *        REPEATEDLY                                          00010001
                                     11 *                                                            00011001
                                     12 *        ENTRY POINT -                                       00012001
                                     13 *        IHIOTARR - FROM GENERATED OBJECT MODULE             00013001
                                     14 *                   LA    R1,PARMLIST                        00014001
                                     15 *                   BALR R14,R15                             00015001
                                     16 *                   DATA PASSED BY NAME                      00016001
                                     17 *                                                            00017001
                                     18 *        INPUT - N/A                                         00018001
                                     19 *                                                            00019001
                                     20 *        OUTPUT - N/A                                        00020001
                                     21 *                                                            00021001
                                     22 *        EXTERNAL ROUTINES -                                 00022001
                                     23 *        IHIIOR - EVALUATE DATASET NUMBER                    00023001
                                     24 *        IHIOIN - OUTINTEGER                                 00024001
                                     25 *                                                            00025001
                                     26 *        EXIT - NORMAL - RELOAD REGISTERS RETURN VIA R14     00026001
                                     27 *                                                            00027001
                                     28 *        EXIT - ERROR - N/A                                  00028001
                                     29 *                                                            00029001
                                     30 *        TABLES/WORK AREAS - N/A                             00030001
                                     31 *                                                            00031001
000000                00000 00092    32 IHIOTARR CSECT                                               00032001
                                     33 *                                                            00033001
                                     34          SAVE  (14,12),,'IHIOTARR LEVEL 2.1 &SYSDATE &SYSTIME'  00034001
000000 47F0 F026            00026    35+         B     38(0,15)               BRANCH AROUND ID        01-SAVE
000004 21                            36+         DC    AL1(33)                LENGTH OF IDENTIFIER    01-SAVE
000005 C9C8C9D6E3C1D9D9              37+         DC    CL32'IHIOTARR LEVEL 2.1 08/17/12 13.2' IDENTIFIER  01-SAVE
000025 F1                            38+         DC    CL1'1'                 IDENTIFIER              01-SAVE
000026 90EC D00C            0000C    39+         STM   14,12,12(13)           SAVE REGISTERS          01-SAVE
                                     40 *                                                            00035001
00002A 188F                          41          LR    R8,R15                                        00036001
                 R:8  00000          42          USING IHIOTARR,R8                                   00037001
00002C 18CD                          43          LR    R12,R13             R12 -> FSA                00038001
00002E 41D0 D048            00048    44          LA    R13,ASAVE(,R13)     R13 -> SECOND FSA SAVEAREA  00039001
000032 1B33                          45          SR    R3,R3                                         00040001
                                     46 *                                                            00041001
                                     47 *        EVALUATE DATASET NUMBER                             00042001
                                     48 *                                                            00043001
000034 58F0 8080            00080    49          L     R15,VIOREV                                    00044001
000038 05EF                          50          BALR  R14,R15                                       00045001
                                     51 *                                                            00046001
                                     52 *        EVALUATE SOURCE ADDR                                00047001
                                     53 *                                                            00048001
00003A BF1F 1004            00004    54          ICM   R1,B'1111',4(R1)     GET SECOND PARAMETER     00049001
00003E 47B0 804A            0004A    55          BNM   OUTT1                >= 0, BRANCH             00050001
000042 5630 8088            00088    56          O     R3,=X'80000000'      MINUS, INSERT FLAG BYTE  00051001
000046 5410 808C            0008C    57          N     R1,=X'00FFFFFF'                               00052001
00004A 5820 100C            0000C    58 OUTT1    L     R2,12(,R1)           R2 -> DESTEND+1          00053001
00004E 5870 1008            00008    59          L     R7,8(,R1)            R7 -> STARTDEST          00054001
000052 1A73                          60          AR    R7,R3                                         00055001
000054 1A23                          61          AR    R2,R3                                         00056001
                                     62 *                                                            00057001
                                     63 *        CALL ROUTINE OUTINTEGER                             00058001
                                     64 *                                                            00059001
000056 58F0 8084            00084    65 OUTT2    L     R15,VOINAR                                    00060001
00005A 05EF                          66          BALR  R14,R15                                       00061001
00005C 4A70 8090            00090    67          AH    R7,=H'4'                                      00062001
000060 4720 8070            00070    68          BP    OUTT2A                                        00063001
000064 9120 C0C2      000C2          69          TM    OPTSW(R12),X'20'                              00064001
000068 4710 8070            00070    70          BO    OUTT2A                                        00065001
00006C 4170 7004            00004    71          LA    R7,4(,R7)            INCR DEST ADDR           00066001
000070 1972                          72 OUTT2A   CR    R7,R2                                         00067001
000072 4740 8056            00056    73          BL    OUTT2                DESTEND NOT REACHED      00068001
000076 18DC                          74          LR    R13,R12                                       00069001
                                     75 *                                                            00070001
                                     76          RETURN (14,12)             RESTORE REGS AND RETURN  00071001
000078 98EC D00C            0000C    77+         LM    14,12,12(13)              RESTORE THE REGISTERS  01-RETUR
00007C 07FE                          78+         BR    14                        RETURN              01-RETUR
                                     79 *                                                            00072001
                                     80 *        EXTERNAL ADDRS                                      00073001
                                     81 *                                                            00074001
00007E 0000
000080 00000000                      82 VIOREV   DC    V(IHIIOREV)                                   00075001
000084 00000000                      83 VOINAR   DC    V(IHIIOINAR)                                  00076001
                                     84 *                                                            00077001
000088                               85          LTORG                                               00078001
000088 80000000                      86                =X'80000000'
00008C 00FFFFFF                      87                =X'00FFFFFF'
000090 0004                          88                =H'4'
                                     89 *                                                            00079001
000000                00000 00120    90 FAS      DSECT                                               00080001
                                     91 *                                                            00081001
                                     92          COPY  FSAREA                                        00082001
                                     93=*                                                            00001001
                                     94=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY          00002001
                                     95=*                                                            00003001
                                     96=*        STATUS - LEVEL 2.1                                  00004001
```

```
D-Loc  Object Code     Addr1 Addr2  Stmt   Source Statement                                      X390 3.1.04  2012/08/17 13.21

                                      97=*                                                                    00005001
                                      98=*********************************************************************** 00006001
                                      99=*                                                                    00007001
                                     100=*        COMMON DATA AREA                                            00008001
                                     101=*                                                                    00009001
                                     102=*        FSAREA                                                      00010001
                                     103=*                                                                    00011001
                                     104=*********************************************************************** 00012001
                                     105=*                                                                    00013001
                                     106=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                  00014001
                                     107=*        MODULES DURING THE EXECUTION                                00015001
                                     108=*                                                                    00016001
                                     109=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY               00017001
                                     110=*        SUBROUTINES) BY R12                                         00018001
                                     111=*                                                                    00019001
                      00000          112=FSAREA   EQU   *                                                     00020001
                                     113=*                                                                    00021001
                                     114=*        SAVE AREAS                                                  00022001
                                     115=*                                                                    00023001
000000                               116=         DS    18F                    STANDARD SAVE AREA             00024001
                      00048          117=ASAVE    EQU   *-FSAREA               ALTERNATE SAVE AREA USED BY    00025001
000048                               118=         DS    18F                    CERTAIN SUBROUTINES            00026001
                                     119=*                                                                    00027001
                                     120=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                      00028001
                                     121=*                                                                    00029001
                      00090          122=FCTVALST EQU   *-FSAREA               TEMPORARY STORAGE FOR          00030001
000090                               123=         DS    D                      FUNCTION VALUES                00031001
                      00098          124=ASTLOC   EQU   *-FSAREA               DISPL FOR ADDR OF STAND LOCTN  00032001
000098 00000090                      125=         DC    A(FSAREA+FCTVALST)                                    00033001
                      0009C          126=BRRST    EQU   *-FSAREA               TEMPORARY SAVE REG BRR         00034001
                      0009C          127=HW       EQU   BRRST                  TEMPORARY HALFWORD STORAGE     00035001
00009C                               128=         DS    F                                                     00036001
                      000A0          129=PROLREG  EQU   *-FSAREA               STORAGE FOR PBT AND LAT WHEN   00037001
0000A0                               130=         DS    2A                     A PROCEDURE IS FORMAL PARAM    00038001
                                     131=*                                                                    00039001
                                     132=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE      00040001
                                     133=*                                                                    00041001
0000A8                               134=         DS    0H                                                    00042001
0000A8 00                            135=         DC    X'00'                                                 00043001
                      000A9          136=PROLPBN  EQU   *-FSAREA               STORAGE FOR CALLED PBN         00044001
0000A9 00                            137=         DC    X'00'                                                 00045001
                      000AA          138=EIGHT    EQU   *-FSAREA               CONST FOR REDUCING RAS         00046001
0000AA 0008                          139=         DC    H'8'                                                  00047001
                                     140=*                                                                    00048001
0000AC                               141=         DS    0F                                                    00049001
                      000AC          142=ADSTAB   EQU   *-FSAREA               ADDR OF DSTABLE                00050001
0000AC                               143=         DS    A                      IN THE OBJECT PROGRAM          00051001
                      000B0          144=ANOTTAB  EQU   *-FSAREA               ADDR OF NOTE TABLE             00052001
0000B0                               145=         DS    A                      (INSERTED BY THE OPEN ROUTINE) 00053001
                                     146=*                                                                    00054001
                      000B4          147=IHIFSAST EQU   *                                                     00055001
                      000B4          148=PGOPSW   EQU   *-FSAREA               PROGRAM CHECK OLD PSW          00056001
0000B4                               149=         DS    2F                                                    00057001
                      000BC          150=FSAPICA  EQU   *-FSAREA               OLD PICA ADDR                  00058001
0000BC 00000000                      151=         DC    F'0'                                                  00059001
                      000C0          152=SCRCS    EQU   *-FSAREA               SEMICOLON NUMBER               00060001
0000C0                               153=         DS    H                                                     00061001
                      000C2          154=DTSW     EQU   *-FSAREA               OPTION SWITCHES                00062001
                      000C2          155=OPTSW    EQU   DTSW                                                  00063001
0000C2 00                            156=         DC    X'00'                  DUMP-80, TRACE-40, SHORT-20    00064001
                      000C3          157=FSAERCOD EQU   *-FSAREA               ERROR CODE FOR ERROR ROUTINE   00065001
0000C3                               158=         DS    C                                                     00066001
                                     159=*                                                                    00067001
                                     160=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER           00068001
                                     161=*                                                                    00069001
0000C4                               162=         DS    0F                                                    00070001
                      000C4          163=IHIFSARS EQU   *                                                     00071001
                      000C4          164=RASSTART EQU   *-FSAREA               ADDR OF FIRST ENTRY IN RAS-8   00072001
0000C4                               165=         DS    F                                                     00073001
                      000C8          166=RASPT    EQU   *-FSAREA               RAS POINTER FROM TOP           00074001
0000C8                               167=         DS    F                                                     00075001
                      000CC          168=RASEND   EQU   *-FSAREA               ADDR OF LAST  ENTRY IN RAS+8   00076001
0000CC                               169=         DS    F                                                     00077001
                      000D0          170=RASPB    EQU   *-FSAREA               RAS POINTER FROM BOTTOM        00078001
0000D0                               171=         DS    F                                                     00079001
                                     172=*                                                                    00080001
                                     173=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES    00081001
                                     174=*                                                                    00082001
0000D4                               175=BRLIST   DS    0F                                                    00083001
                      000D4          176=CAP1     EQU   *-FSAREA               FIRST PART CAPS                00084001
0000D4 4700 0000            00000    177=         NOP   0                                                     00085001
                      000D8          178=CAP2     EQU   *-FSAREA               SECOND PART CAPS               00086001
0000D8 4700 0000            00000    179=         NOP   0                                                     00087001
                      000DC          180=PROLOGP  EQU   *-FSAREA               PROLOGUE FORMAL PARAMETER ENTRY 00088001
                      000DC          181=PROLOGFP EQU   PROLOGP                                               00089001
0000DC 4700 0000            00000    182=         NOP   0                                                     00090001
                      000E0          183=PROLOG   EQU   *-FSAREA               PROLOGUE PROGRAM USUAL ENTRY   00091001
0000E0 4700 0000            00000    184=         NOP   0                                                     00092001
                      000E4          185=RETPROG  EQU   *-FSAREA               DISPLACEMENT RETURN PROGRAM    00093001
0000E4 4700 0000            00000    186=         NOP   0                                                     00094001
                      000E8          187=EPILOGP  EQU   *-FSAREA               EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000            00000    188=         NOP   0                                                     00096001
                      000EC          189=EPILOGB  EQU   *-FSAREA               EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000            00000    190=         NOP   0                                                     00098001
                      000F0          191=EPILPR3  EQU   *-FSAREA               EPILOGUE PROGRAM ENTRY 3       00099001
0000F0 4700 0000            00000    192=         NOP   0                                                     00100001
```

Active USINGs: IHIOTARR,R8

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.21

                      000F4         193=CSWE1    EQU   *-FSAREA              FIRST PART CSWES                00101001
0000F4 4700 0000             00000  194=         NOP   0                                                     00102001
                      000F8         195=CSWE2    EQU   *-FSAREA              SECOND PART CSWES               00103001
0000F8 4700 0000             00000  196=         NOP   0                                                     00104001
                      000FC         197=LOADPP   EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE   00105001
0000FC 4700 0000             00000  198=         NOP   0                                                     00106001
                      00100         199=TRACE    EQU   *-FSAREA                                              00107001
000100 D200 0000 0000 00000 00000  200=         MVC   0(0),0                                                00108001
000106 4700 0000             00000  201=         NOP   0                                                     00109001
00010A 4700 0000             00000  202=         NOP   0                                                     00110001
                      0010E         203=TERMNTE  EQU   *-FSAREA              NORMAL TERMINATION EXIT         00111001
00010E 4700 0000             00000  204=         NOP   0                                                     00112001
                      00112         205=BCR      EQU   *-FSAREA                                              00113001
000112 0700                         206=         BCR   0,0                  VARIABLE CONDITIONAL BRANCH     00114001
                      00114         207=GETMSTO  EQU   *-FSAREA                                              00115001
000114 4700 0000             00000  208=         NOP   0                                                     00116001
                                    209=*                                                                    00117001
                      00118         210=VALUCALL EQU   *-FSAREA                                              00118001
000118 4700 0000             00000  211=         NOP   0                                                     00119001
                      0011C         212=IORLST   EQU   *-FSAREA                                              00120001
00011C 4700 0000             00000  213=         NOP   0                                                     00121001
                                    214=*                                                                    00122001
                      001CC         215=FSAERR   EQU   X'1CC'                DISPL  FOR ERROR LIST           00123001
                                    216=*                                                                    00124001
                                    217=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                00125001
                                    218=*                                                                    00126001
                      0020C         219=OUTOFB   EQU   FSAERR+4*16                                           00127001
                      00218         220=NUMBIND  EQU   FSAERR+4*19                                           00128001
                      00208         221=ARRAYBD  EQU   FSAERR+4*15                                           00129001
                      0026C         222=ERROR40  EQU   FSAERR+4*40                                           00130001
                      00224         223=OERR22   EQU   FSAERR+4*22                                           00131001
                      00210         224=ENDLESL  EQU   FSAERR+4*17                                           00132001
                      00220         225=OERR21   EQU   FSAERR+4*21                                           00133001
                                    226=*                                                                    00134001
                                    227 *                                                                    00083001
                                    228 *        REGSITER EQUATES                                            00084001
                                    229 *                                                                    00085001
                                    230          IEZREGS                                                     00086001
                      00000         231+R0       EQU   0                                                     01-IEZRE
                      00001         232+R1       EQU   1                                                     01-IEZRE
                      00002         233+R2       EQU   2                                                     01-IEZRE
                      00003         234+R3       EQU   3                                                     01-IEZRE
                      00004         235+R4       EQU   4                                                     01-IEZRE
                      00005         236+R5       EQU   5                                                     01-IEZRE
                      00006         237+R6       EQU   6                                                     01-IEZRE
                      00007         238+R7       EQU   7                                                     01-IEZRE
                      00008         239+R8       EQU   8                                                     01-IEZRE
                      00009         240+R9       EQU   9                                                     01-IEZRE
                      0000A         241+R10      EQU   10                                                    01-IEZRE
                      0000B         242+R11      EQU   11                                                    01-IEZRE
                      0000C         243+R12      EQU   12                                                    01-IEZRE
                      0000D         244+R13      EQU   13                                                    01-IEZRE
                      0000E         245+R14      EQU   14                                                    01-IEZRE
                      0000F         246+R15      EQU   15                                                    01-IEZRE
                                    247 *                                                                    00087001
                                    248          END                                                         00088001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.21

```
=H'4'           2 00000090 00000001  H H                88   67
=X'00FFFFFF'
                4 0000008C 00000001  X X                87   57
=X'80000000'
                4 00000088 00000001  X X                86   56
ASAVE           1 00000048           U                 117   44
BRRST           1 0000009C           U                 126  127
DTSW            1 000000C2           U                 154  155
FCTVALST        1 00000090           U                 122  125
FSAERR          1 000001CC           U                 215  219  220  221  222  223  224  225
FSAREA          1 00000000 FFFFFFFF  U                 112  117  122  124  125  126  129  136  138  142  144  148  150
                                                            152  154  157  164  166  168  170  176  178  180  183  185
                                                            187  189  191  193  195  197  199  203  205  207  210  212
IHIIOREV        1 00000000 00000002  T                  82   82
IHIOINAR        1 00000000 00000003  T                  83   83
IHIOTARR        1 00000000 00000001  J                  32   42U
OPTSW           1 000000C2           U                 155   69
OUTT1           4 0000004A 00000001  I                  58   55B
OUTT2           4 00000056 00000001  I                  65   73B
OUTT2A          2 00000070 00000001  I                  72   68B  70B
PROLOGP         1 000000DC           U                 180  181
R1              1 00000001           U                 232   54M  57M  58   59
R12             1 0000000C           U                 243   43M  69   74
R13             1 0000000D           U                 244   43   44M  74M
R14             1 0000000E           U                 245   50M  66M
R15             1 0000000F           U                 246   41   49M  50B  65M  66B
R2              1 00000002           U                 233   58M  61M  72
R3              1 00000003           U                 234   45M  56M  60   61
R7              1 00000007           U                 238   59M  60M  67M  71M  72
R8              1 00000008           U                 239   41M  42U
VIOREV          4 00000080 00000001  V V                82   49
VOINAR          4 00000084 00000001  V V                83   65
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.21

0(0)	39	77M						
1(1)	39	54M	57M	58	59	77M		
2(2)	39	58M	61M	72	77M			
3(3)	39	45M	56M	60	61	77M		
4(4)	39	77M						
5(5)	39	77M						
6(6)	39	77M						
7(7)	39	59M	60M	67M	71M	72	77M	
8(8)	39	41M	42U	77M				
9(9)	39	77M						
10(A)	39	77M						
11(B)	39	77M						
12(C)	39	43M	69	74	77M			
13(D)	39	43	44M	74M	77			
14(E)	39	50M	66M	77M	78B			
15(F)	35B	39	41	49M	50B	65M	66B	77M

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.21

FAS 00000120 FFFFFFFF 90 PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.21

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04	2012/08/17 13.21
42		USING	Ordinary	00000001	00000000	00001000	8	00090	73	IHIOTARR,R8		

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIOTA PROCSTEP: X390

Primary input: lines 1 to 88 of SYSD.ALGOLFRT.ASM(IHIOTA)

SYSLIB library records read: 295

SYSUT1 work file size: 22265 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 7040 bytes

SYSLIN file records written: 6

TXA000I Return code 0, elapsed time 0.19 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHIOTARR	000092	6

IHIPTT

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.22

```
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TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHIPTT)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0214
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Active USINGs: None

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                   X390 3.1.04  2012/08/17 13.22

                                     2 *                                                                       00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                     00003001
                                     4 *                                                                       00004001
                                     5 *        STATUS - LEVEL 2.1                                             00005001
                                     6 *                                                                       00006001
                                     7 *        FUNCTION/OPERATION -                                           00007001
                                     8 *        CONSISTS ONLY OF FLOATING POINT CONSTANTS                      00008001
                                     9 *                                                                       00009001
                                    10 *        ENTRY POINT - IHIPTTAB -                                       00010001
                                    11 *                      USED TO ADDR DESIRED CONSTANT FROM               00011001
                                    12 *                      INREAL AND OUTREAL LONG                          00012001
                                    13 *                                                                       00013001
                                    14 *        INPUT - N/A                                                    00014001
                                    15 *                                                                       00015001
                                    16 *        OUTPUT - N/A                                                   00016001
                                    17 *                                                                       00017001
                                    18 *        EXTERNAL ROUTINES - N/A                                        00018001
                                    19 *                                                                       00019001
                                    20 *        EXITS - NORMAL - N/A                                           00020001
                                    21 *              - ERROR  - N/A                                           00021001
                                    22 *                                                                       00022001
                                    23 *        TABLES/WORK AREAS - N/A                                        00023001
                                    24 *                                                                       00024001
                                    25 *        NOTES -                                                        00025001
                                    26 *        CONSTANT IS ADDRESSED IN FOLLOWING WAY                         00026001
                                    27 *                 LA R15,IHIPTTAB                                       00027001
                                    28 *                 MD R1,D2(R2,15)                                       00028001
                                    29 *        DATA PASSED BY VALUE                                           00029001
                                    30 *                                                                       00030001
000000                00000 00108   31 IHIPTTAB CSECT                                                          00031001
                                    32 *                                                                       00032001
000000 0000000000000000             33          DC    D'0'                                                     00033001
000008 41A0000000000000             34          DC    DE1'1'                                                   00034001
000010 4264000000000000             35          DC    DE2'1'                                                   00035001
000018 433E800000000000             36          DC    DE3'1'                                                   00036001
000020 4427100000000000             37          DC    DE4'1'                                                   00037001
000028 45186A0000000000             38          DC    DE5'1'                                                   00038001
000030 45F4240000000000             39          DC    DE6'1'                                                   00039001
000038 4698968000000000             40          DC    DE7'1'                                                   00040001
000040 475F5E1000000000             41          DC    DE8'1'                                                   00041001
000048 4E2386F26FC10000             42          DC    DE16'1'                                                  00042001
000050 54D3C21BCECCEDA1             43          DC    DE24'1'                                                  00043001
000058 5B4EE2D6D415B85B             44          DC    DE32'1'                                                  00044001
000060 621D6329F1C35CA5             45          DC    DE40'1'                                                  00045001
000068 68AF298D050E4396             46          DC    DE48'1'                                                  00046001
000070 6F4140C78940F6A2             47          DC    DE56'1'                                                  00047001
000078 76184F03E93FF9F5             48          DC    DE64'1'                                                  00048001
000080 7C90E40FBEEA1D3A             49          DC    DE72'1'                                                  00049001
                                    50 *                                                                       00050001
000088 401999999999999A             51          DC    DE-1'1'                                                  00051001
000090 3F28F5C28F5C28F6             52          DC    DE-2'1'                                                  00052001
000098 3E4189374BC6A7F0             53          DC    DE-3'1'                                                  00053001
0000A0 3D68DB8BAC710CB3             54          DC    DE-4'1'                                                  00054001
0000A8 3CA7C5AC471B4784             55          DC    DE-5'1'                                                  00055001
0000B0 3C10C6F7A0B5ED8D             56          DC    DE-6'1'                                                  00056001
0000B8 3B1AD7F29ABCAF48             57          DC    DE-7'1'                                                  00057001
0000C0 3A2AF31DC4611874             58          DC    DE-8'1'                                                  00058001
0000C8 33734ACA5F6226F1             59          DC    DE-16'1'                                                 00059001
0000D0 2D1357C299A88EA7             60          DC    DE-24'1'                                                 00060001
0000D8 2633EC47AB514E65             61          DC    DE-32'1'                                                 00061001
0000E0 1F8B61313BBABCE3             62          DC    DE-40'1'                                                 00062001
0000E8 1917624F8A762FD8             63          DC    DE-48'1'                                                 00063001
0000F0 123EC56164AF81A3             64          DC    DE-56'1'                                                 00064001
0000F8 0BA87FEA27A539EA             65          DC    DE-64'1'                                                 00065001
000100 051C45016D841BAA             66          DC    DE-72'1'                                                 00066001
                                    67 *                                                                       00067001
                                    68          END                                                            00068001
```

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHIPTT PROCSTEP: X390

Primary input: lines 1 to 68 of SYSD.ALGOLFRT.ASM(IHIPTT)

SYSLIB library records read: 0

SYSUT1 work file size: 5951 bytes

SYSUT3 work file size: 5440 bytes

SYSLIN file records written: 7

TXA000I Return code 0, elapsed time 0.08 seconds.

Csect   Rel Addr(hex) Length(dec)

 No uninitialized areas found

IHISAT

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.22

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
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Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHISAT)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0218
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

                                    2 *                                                                          00002001
                                    3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                    4 *                                                                          00004001
                                    5 *        STATUS - LEVEL 2.1                                                00005001
                                    6 *                                                                          00006001
                                    7 *        FUNCTION/OPERATION -                                              00007001
                                    8 *        1. REDUCE THE CASE TO THE 1ST OCTANT BY USING                     00008001
                                    9 *           ATAN(-X)=-ATAN(X), ATAN(1/X)=PI/2-ATAN(X)                      00009001
                                   10 *        2. REDUCE FURTHER TO THE CASE /X/ LESS THAN TAN(PI/2) BY          00010001
                                   11 *           ATAN(X)=PI/6+ATAN((X*SQRT3-1)/(X+SQRT3)                        00011001
                                   12 *        3. FOR THE BASIC RANGE (X LESS THAN TAN(PI/12)),                  00012001
                                   13 *           USE A FRACTIONAL APPROXIMATION                                 00013001
                                   14 *                                                                          00014001
                                   15 *        ENTRY POINT -                                                     00015001
                                   16 *        IHISAT - ATAN FUNCTION, SHORT                                     00016001
                                   17 *                 LA   R1,PARMLIST                                         00017001
                                   18 *                 BALR R14,R15                                             00018001
                                   19 *                 DATA PASSED BY NAME                                      00019001
                                   20 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00020001
                                   21 *                                                                          00021001
                                   22 *        INPUT - N/A                                                       00022001
                                   23 *                                                                          00023001
                                   24 *        OUTPUT - N/A                                                      00024001
                                   25 *                                                                          00025001
                                   26 *        EXTERNAL ROUTINES - N/A                                           00026001
                                   27 *                                                                          00027001
                                   28 *        EXIT - NORMAL - RETURN VIA R14, RESULT IN FPR0                    00028001
                                   29 *                                                                          00029001
                                   30 *        EXIT - ERROR - N/A                                                00030001
                                   31 *                                                                          00031001
                                   32 *        TABLES/WORKAREAS - N/A                                            00032001
                                   33 *                                                                          00033001
000000                  00000 000E0    34 IHISATAN CSECT                                                         00034001
                                   35 *                                                                          00035001
                                   36          ENTRY IHISAT                                                      00036001
                                   37 *                                                                          00037001
                        00000      38 FPR0     EQU   0                                                           00038001
                        00002      39 FPR2     EQU   2                                                           00039001
                        00004      40 FPR4     EQU   4                                                           00040001
                        00006      41 FPR6     EQU   6                                                           00041001
                                   42 *                                                                          00042001
                                   43 *                                                                          00043001
                                   44 IHISAT   SAVE  (14,12),,'IHISATAN LEVEL 2.1 &SYSDATE &SYSTIME'             00044001
000000 47F0 F026           00026   45+IHISAT   B     38(0,15)                        BRANCH AROUND ID            01-SAVE
000004 21                          46+         DC    AL1(33)                         LENGTH OF IDENTIFIER        01-SAVE
000005 C9C8C9E2C1E3C1D5            47+         DC    CL32'IHISATAN LEVEL 2.1 08/17/12 13.2' IDENTIFIER           01-SAVE
000025 F2                          48+         DC    CL1'2'                          IDENTIFIER                  01-SAVE
000026 90EC D00C           0000C   49+         STM   14,12,12(13)                    SAVE REGISTERS              01-SAVE
                                   50 *                                                                          00045001
                R:F  00000         51          USING IHISATAN,R15                                                00046001
00002A 5810 1000           00000   52          L     R1,0(,R1)                                                   00047001
00002E 7801 0000           00000   53          LE    FPR0,0(R1)              OBTAIN ARGUMENT                     00048001
000032 7000 F0A8           000A8   54          STE   FPR0,SIGN               SAVE ARG FOR SIGN CONTROL           00049001
000036 3000                        55          LPER  FPR0,FPR0               SET SIGN POSITIVE                   00050001
000038 1B11                        56          SR    R1,R1                   R1 DENOTES THE SECTION TO WHICH     00051001
00003A 7900 F0AC           000AC   57          CE    FPR0,ONE                ANSWER BELONGS. BREAK POINTS ARE    00052001
00003E 47D0 F04E           0004E   58          BNH   REDUC                 TAN(PI/12), TAN(PI/4), TAN(5PI/12)  00053001
000042 7800 F0AC           000AC   59          LE    FPR0,ONE                ARG > 1, TAKE INVERSE               00054001
000046 3D00                        60          DER   FPR0,FPR0                                                   00055001
000048 3800                        61          LER   FPR0,FPR0                                                   00056001
00004A 4110 0008           00008   62          LA    R1,8                    SET R1 TO 8                         00057001
00004E 7900 F0B0           000B0   63 REDUC    CE    FPR0,TAN15              ARG > TAN(PI/12) ?                  00058001
000052 47D0 F06C           0006C   64          BNH   OK                      NO, BRANCH                          00059001
000056 3800                        65          LER   FPR0,FPR0               REDUCE THE ARG BY USING             00060001
000058 7C00 F0B4           000B4   66          ME    FPR0,RT3M1              ATAN(X) = PI/6+ATAN(Y)              00061001
00005C 7B00 F0AC           000AC   67          SE    FPR0,ONE                WHERE Y = (X*SQRT3-1)/(X+SQRT3)     00062001
000060 3A00                        68          AER   FPR0,FPR0                                                   00063001
000062 7A00 F0B8           000B8   69          AE    FPR0,RT3                CALC X*SQRT3-1 AS X(SQRT3-1)-1+X    00064001
000066 3D00                        70          DER   FPR0,FPR0               TO PROTECT SIGNIFICANT DIGITS       00065001
000068 4110 1004           00004   71          LA    R1,4(,R1)               INCR R1 BY 4                        00066001
00006C 3840                        72 OK       LER   FPR4,FPR0               NOW MAGNITUDE OF REDUCED ARG IS     00067001
00006E 3C00                        73          MER   FPR0,FPR0               LESS THAN TAN(PI/12)=0.26795        00068001
000070 3800                        74          LER   FPR0,FPR0                                                   00069001
000072 7C00 F0C8           000C8   75          ME    FPR0,C                  COMPUTE ANGLE BY                    00070001
000076 3860                        76          LER   FPR6,FPR0                                                   00071001
000078 7A00 F0C0           000C0   77          AE    FPR0,A                  ATAN(X)/X = D-C*XSQ+B/(XSQ+A)       00072001
00007C 7800 F0C4           000C4   78          LE    FPR0,B                                                    00073001
000080 3D00                        79          DER   FPR0,FPR0                                                   00074001
000082 3B06                        80          SER   FPR0,FPR6                                                   00075001
000084 7A00 F0CC           000CC   81          AE    FPR0,D                                                      00076001
000088 3C04                        82          MER   FPR0,FPR4                                                   00077001
00008A 5910 F0BC           000BC   83          C     R1,KF8                  DEPENDING ON THE SECTION WHICH      00078001
00008E 4740 F094           00094   84          BL    LABAA                   ANSWER BELONGS, ADD OR SUBTRACT     00079001
000092 3300                        85          LCER  FPR0,FPR0               REDUCED ANSWER FROM A BASE ANGLE    00080001
000094 7A01 F0D0           000D0   86 LABAA    AE    FPR0,ZERO(R1)                                               00081001
000098 9180 F0A8      000A8        87          TM    SIGN,X'80'              SIGN OF ANS SHOULD AGREE WITH       00082001
00009C 4780 F0A2           000A2   88          BZ    LABBB                   SIGN OF ARG                         00083001
0000A0 3300                        89          LCER  FPR0,FPR0                                                   00084001
                                   90 *                                                                          00085001
                                   91 LABBB    RETURN (14,12)                RESTORE REGS AND RETURN             00086001
0000A2                             92+LABBB    DS    0H                                                          01-RETUR
0000A2 98EC D00C           0000C   93+         LM    14,12,12(13)                    RESTORE THE REGISTERS       01-RETUR
0000A6 07FE                        94+         BR    14                              RETURN                      01-RETUR
                                   95 *                                                                          00087001
0000A8 00000000                    96 SIGN     DC    F'0'                                                        00088001
0000AC 41100000                    97 ONE      DC    X'41100000'                                                 00089001
```

Active USINGs: IHISATAN,R15

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.22

0000B0 40449851                     98 TAN15    DC    X'40449851'            TAN 15 DEGREES                 00090001
0000B4 40BB67AF                     99 RT3M1    DC    X'40BB67AF'            SQRT3-1                        00091001
0000B8 411BB67B                    100 RT3      DC    X'411BB67B'            SQRT3                          00092001
0000BC 00000008                    101 KF8      DC    F'8'                                                  00093001
0000C0 41168A5E                    102 A        DC    X'41168A5E'            1.4087812                      00094001
0000C4 408F239C                    103 B        DC    X'408F239C'            0.55913709                     00095001
0000C8 3FD35F49                    104 C        DC    X'3FD35F49'            0.051604543                    00096001
0000CC 409A6524                    105 D        DC    X'409A6524'            0.60310579                     00097001
                                   106 *                                                                    00098001
0000D0 00000000                    107 ZERO     DC    F'0'             *                                    00099001
0000D4 40860A92                    108          DC    X'40860A92'      |     PI/6                         00100001
0000D8 411921FB                    109          DC    X'411921FB'      |     PI/2                         00101001
0000DC 4110C152                    110          DC    X'4110C152'      V     PI/3                         00102001
                                   111 *                                                                    00103001
                                   112 *        REGISTER EQUATES                                            00104001
                                   113 *                                                                    00105001
                                   114          IEZREGS                                                     00106001
                        00000      115+R0       EQU   0                                                     01-IEZRE
                        00001      116+R1       EQU   1                                                     01-IEZRE
                        00002      117+R2       EQU   2                                                     01-IEZRE
                        00003      118+R3       EQU   3                                                     01-IEZRE
                        00004      119+R4       EQU   4                                                     01-IEZRE
                        00005      120+R5       EQU   5                                                     01-IEZRE
                        00006      121+R6       EQU   6                                                     01-IEZRE
                        00007      122+R7       EQU   7                                                     01-IEZRE
                        00008      123+R8       EQU   8                                                     01-IEZRE
                        00009      124+R9       EQU   9                                                     01-IEZRE
                        0000A      125+R10      EQU   10                                                    01-IEZRE
                        0000B      126+R11      EQU   11                                                    01-IEZRE
                        0000C      127+R12      EQU   12                                                    01-IEZRE
                        0000D      128+R13      EQU   13                                                    01-IEZRE
                        0000E      129+R14      EQU   14                                                    01-IEZRE
                        0000F      130+R15      EQU   15                                                    01-IEZRE
                                   131 *                                                                    00107001
                                   132          END                                                         00108001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.22

```
A               4 000000C0 00000001  X X               102   77
B               4 000000C4 00000001  X X               103   78
C               4 000000C8 00000001  X X               104   75
D               4 000000CC 00000001  X X               105   81
FPR0            1 00000000           U                  38   53M  54   55M  57   59M  60M  61M  63   65M  66M  67M  68M
                                                             69M  70M  72   73M  74M  75M  76   77M  78M  79M  80M  81M
                                                             82M  85M  86M  89M
FPR4            1 00000004           U                  40   72M  82
FPR6            1 00000006           U                  41   76M  80
IHISAT          4 00000000 00000001  I                  45   36
IHISATAN        1 00000000 00000001  J                  34   51U
KF8             4 000000BC 00000001  F F               101   83
LABAA           4 00000094 00000001  I                  86   84B
LABBB           2 000000A2 00000001  H H                92   88B
OK              2 0000006C 00000001  I                  72   64B
ONE             4 000000AC 00000001  X X                97   57   59   67
REDUC           4 0000004E 00000001  I                  63   58B
RT3             4 000000B8 00000001  X X               100   69
RT3M1           4 000000B4 00000001  X X                99   66
R1              1 00000001           U                 116   52M  53   56M  62M  71M  83   86
R15             1 0000000F           U                 130   51U
SIGN            4 000000A8 00000001  F F                96   54M  87
TAN15           4 000000B0 00000001  X X                98   63
ZERO            4 000000D0 00000001  F F               107   86
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.22

```
    0(0)   49   93M
    1(1)   49   52M  53N  56M  62M  71M  83   86N  93M
    2(2)   49   93M
    3(3)   49   93M
    4(4)   49   93M
    5(5)   49   93M
    6(6)   49   93M
    7(7)   49   93M
    8(8)   49   93M
    9(9)   49   93M
   10(A)   49   93M
   11(B)   49   93M
   12(C)   49   93M
   13(D)   49   93
   14(E)   49   93M  94B
   15(F)   45B  49   51U  93M
```

Con Source Members X390 3.1.04 2012/08/17 13.22

```
  1 SYS1.MACLIB
              IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04	2012/08/17 13.22
51		USING	Ordinary	00000001	00000000	00001000	15	000D0	88	IHISATAN,R15		

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHISAT PROCSTEP: X390

Primary input: lines 1 to 108 of SYSD.ALGOLFRT.ASM(IHISAT)

SYSLIB library records read: 161

SYSUT1 work file size: 12721 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 8640 bytes

SYSLIN file records written: 6

TXA000I Return code 0, elapsed time 0.15 seconds.

Csect   Rel Addr(hex) Length(dec)

 No uninitialized areas found

IHISEX

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.22

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHISEX)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0222
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

                                     2 *                                                                          00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                     4 *                                                                          00004001
                                     5 *        STATUS - LEVEL 2.1                                                00005001
                                     6 *                                                                          00006001
                                     7 *        FUNCTION/OPERATION -                                              00007001
                                     8 *        Y = X*LOG2(E) = 4R-S-T                                            00008001
                                     9 *        WHERE R AND S ARE INTEGERS                                        00009001
                                    10 *        T FRACTION AND BOTH S AND T ARE NON NEGATIVE                      00010001
                                    11 *        THEN E**X = 2**Y = (16**R)(2**-S)N2**-T)                          00011001
                                    12 *                                                                          00012001
                                    13 *        ENTRY POINT -                                                     00013001
                                    14 *        IHISEX - EXP FUNCTION, SHORT                                      00014001
                                    15 *                 LA   R1,PARMLIST                                         00015001
                                    16 *                 BALR R14,R15                                             00016001
                                    17 *                 DATA PASSED BY NAME                                      00017001
                                    18 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00018001
                                    19 *                                                                          00019001
                                    20 *        INPUT - N/A                                                       00020001
                                    21 *                                                                          00021001
                                    22 *        OUTPUT - N/A                                                      00022001
                                    23 *                                                                          00023001
                                    24 *        EXTERNAL ROUTINES - N/A                                           00024001
                                    25 *                                                                          00025001
                                    26 *        EXIT - NORMAL - RETURN VIA R14, RESULT IN FPR0                    00026001
                                    27 *                                                                          00027001
                                    28 *        EXIT - ERROR - IF ARGUMENT NOT POSITIVE GOTO ERROR                00028001
                                    29 *                       OUTINE VIA                                         00029001
                                    30 *                       B    FSAERR+25*4(R13)                              00030001
                                    31 *                                                                          00031001
                                    32 *        TABLES/WORKAREAS - N/A                                            00032001
                                    33 *                                                                          00033001
000000                00000 00132   34 IHISEXPT CSECT                                                           00034001
                                    35 *                                                                          00035001
                                    36          ENTRY IHISEX                                                      00036001
                                    37 *                                                                          00037001
                      00000         38 FPR0     EQU   0                        RESULT REGISTER                    00038001
                                    39 *                                                                          00039001
                                    40 IHISEX   SAVE  (14,12),,'IHISEXPT LEVEL 2.1 &SYSDATE &SYSTIME'             00040001
000000 47F0 F026            00026   41+IHISEX   B     38(0,15)                     BRANCH AROUND ID       01-SAVE
000004 21                           42+         DC    AL1(33)                      LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9E2C5E7D7E3             43+         DC    CL32'IHISEXPT LEVEL 2.1 08/17/12 13.2' IDENTIFIER   01-SAVE
000025 F2                           44+         DC    CL1'2'                       IDENTIFIER             01-SAVE
000026 90EC D00C            0000C   45+         STM   14,12,12(13)                 SAVE REGISTERS         01-SAVE
                                    46 *                                                                          00041001
                  R:F   00000       47          USING IHISEXPT,R15                                                00042001
00002A 5810 1000            00000   48          L     R1,0(,R1)                                                   00043001
00002E 7800 1000            00000   49          LE    FPR0,0(,R1)            OBTAIN ARGUMENT                      00044001
000032 7900 F0FC            000FC   50          CE    FPR0,MAX               > MAX ?                              00045001
000036 4720 F0F2            000F2   51          BH    ERROR                  YES, ERROR                           00046001
00003A 7900 F100            00100   52          CE    FPR0,MIN               > MIN ?                              00047001
00003E 4720 F048            00048   53          BH    OK1                    YES, ACCEPTABLE                      00048001
000042 3B00                         54          SER   FPR0,FPR0              VERY SMALL, GIVE 0 AS ANSWER         00049001
000044 47F0 F0EC            000EC   55          B     EXIT                                                        00050001
                                    56 *                                                                          00051001
000048 5810 1000            00000   57 OK1      L     R1,0(,R1)              PICK UP ARGUMENT AGAIN               00052001
00004C 8D00 0008            00008   58          SLDL  R0,8                                                        00053001
000050 5400 F108            00108   59          N     R0,MASK                =X'0000007F' CHARACTERISTIC OF X     00054001
000054 4900 F130            00130   60          CH    R0,SMALL               R0 > 57 ?                            00055001
000058 4720 F064            00064   61          BH    OK2                    YES, BRANCH                          00056001
00005C 7800 F104            00104   62          LE    FPR0,ONE               NO, ABS VALUE OF X < 2**-28          00057001
                                    63 *                                     GIVE 1 AS RESULT                     00058001
000060 47F0 F0EC            000EC   64          B     EXIT                   THIS AVOIDS SHIFT TROUBLE            00059001
                                    65 *                                                                          00060001
000064 8810 0001            00001   66 OK2      SRL   R1,1                   NORMAL CASE MANTISSA OF X IN R1      00061001
000068 8900 0002            00002   67          SLL   R0,2                   B0 -4*CHARACTERISTIC                 00062001
00006C 1320                         68          LCR   R2,R0                                                       00063001
00006E 5C00 F10C            0010C   69          M     R0,LOG2E               LOG E BASE 2 IN B1, PROD IN B2       00064001
000072 8C00 211F            0011F   70          SRDL  R0,287(R2)             B33  /R/ IN R0, /S+T/ IN R1          00065001
000076 3200                         71          LTER  FPR0,FPR0                                                   00066001
000078 47D0 F084            00084   72          BNP   OK3                    X NOT POSITIVE, BRANCH               00067001
00007C 5700 F110            00110   73          X     R0,ALLF                X POSITIVE, -R = -R(R'+1) IN R0      00068001
000080 5710 F110            00110   74          X     R1,ALLF                S+T = 4-(S'+T') IN R1                00069001
000084 8900 0018            00018   75 OK3      SLL   R0,24                                                       00070001
000088 1820                         76          LR    R2,R0                  SAVE -R IN R2 B7, CHAR MODIFIER      00071001
00008A 8D00 0002            00002   77          SLDL  R0,2                   S IN R0 LOW, T IN R1 HIGH            00072001
00008E 1830                         78          LR    R3,R0                  SAVE S IN R3, FOR SHIFT COUNT        00073001
000090 8810 0004            00004   79          SRL   R1,4                   T                    (B3)            00074001
000094 1861                         80          LR    R6,R1                  SAVE T       IN R6   (B3)            00075001
000096 1C01                         81          MR    R0,R1                  T*T                  (B7)            00076001
000098 1850                         82          LR    R5,R0                                                       00077001
00009A 5C40 F11C            0011C   83          M     R4,C                   C*T*T        IN R4   (B4)            00078001
00009E 5A00 F114            00114   84          A     R0,A                                                        00079001
0000A2 1850                         85          LR    R5,R0                  A+T*T        IN R5   (B7)            00080001
0000A4 5800 F118            00118   86          L     R0,B                                                        00081001
0000A8 1D05                         87          DR    R0,R5                  B/(A+T*T)    IN R1   (B3)            00082001
0000AA 1B16                         88          SR    R1,R6                                                       00083001
0000AC 8810 0001            00001   89          SRL   R1,1                   -T+B/(A+T*T) IN R1   (B4)            00084001
0000B0 5A10 F120            00120   90          A     R1,D                                                        00085001
0000B4 1A14                         91          AR    R1,R4                  C*T*T+D-T+B/(A+T*T)  (B4)            00086001
0000B6 1846                         92          LR    R4,R6                                                       00087001
0000B8 8840 0002            00002   93          SRL   R4,2                   2*T                  (B6)            00088001
0000BC 1D41                         94          DR    R4,R1                  2*T/(C*T*T+D-T+B/(A+T*T))   (B1)     00089001
0000BE 5A50 F124            00124   95          A     R5,FXONE               2**(-T) NOW READY IN  B1             00090001
0000C2 8850 3000            00000   96          SRL   R5,0(R3)               (2**-S)(2**-T) READY (B1)            00091001
0000C6 5A50 F128            00128   97          A     R5,FUDGE               ROUND AND                            00092001
```

Active USINGs: IHISEXPT,R15

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                          X390 3.1.04  2012/08/17 13.22

0000CA 5950 F124            00124    98          C     R5,FXONE              FLOAT THIS NUMBER                00093001
0000CE 4740 F0DA            000DA    99          BL    OK4                                                    00094001
0000D2 5850 F104            00104   100          L     R5,ONE                                                 00095001
0000D6 47F0 F0E2            000E2   101          B     JOIN                                                   00096001
                                    102 *                                                                     00097001
0000DA 8850 0006            00006   103 OK4      SRL   R5,6                                                   00098001
0000DE 5650 F124            00124   104          O     R5,FXONE              BASE CHARACTERISTIC              00099001
0000E2 1B52                         105 JOIN     SR    R5,R2                 ADJUST CHARACTERISTIC WITH -R    00100001
0000E4 5050 F12C            0012C   106          ST    R5,BUFF                                                00101001
0000E8 7800 F12C            0012C   107          LE    FPR0,BUFF                                              00102001
                                    108 *                                                                     00103001
                                    109 EXIT     RETURN (14,12)              RESTORE REGS AND RETURN          00104001
0000EC                              110+EXIT     DS    0H                                                     01-RETUR
0000EC 98EC D00C            0000C   111+         LM    14,12,12(13)                  RESTORE THE REGISTERS    01-RETUR
0000F0 07FE                         112+         BR    14                            RETURN                   01-RETUR
                                    113 *                                                                     00105001
0000F2 58D0 D004            00004   114 ERROR    L     R13,4(,R13)           RESTORE FSA ADDR                 00106001
0000F6 47FD 022C            0022C   115          B     FSAERR+24*4(R13)      PARAM > 174.673                  00107001
                                    116 *                                                                     00108001
                      001CC         117 FSAERR   EQU   X'1CC'                                                 00109001
                                    118 *                                                                     00110001
0000FA 0000
0000FC                              119          DC    0F'0'                                                  00111001
0000FC 42AEAC4F                     120 MAX      DC    X'42AEAC4F'           174.673                          00112001
000100 C2B437E0                     121 MIN      DC    X'C2B437E0'           -180.218                         00113001
000104 41100000                     122 ONE      DC    X'41100000'                                            00114001
000108 0000007F                     123 MASK     DC    X'0000007F'                                            00115001
00010C 5C551D95                     124 LOG2E    DC    X'5C551D95'           LOG E BASE 2    B1               00116001
000110 FFFFFFFF                     125 ALLF     DC    X'FFFFFFFF'                                            00117001
000114 576AE119                     126 A        DC    X'576AE119'           87.4174972      B7               00118001
000118 269F8E6B                     127 B        DC    X'269F8E6B'           617.972269      B11              00119001
00011C B9059003                     128 C        DC    X'B9059003'           -0.034657359    B-4              00120001
000120 B05CFCE3                     129 D        DC    X'B05CFCE3'           -9.95459578     B4               00121001
000124 40000000                     130 FXONE    DC    X'40000000'           1. B1  ALSO BASE CHARACTERISTIC   00122001
000128 00000020                     131 FUDGE    DC    X'00000020'                                            00123001
00012C 00000000                     132 BUFF     DC    F'0'                                                   00124001
000130 0039                         133 SMALL    DC    H'57'                                                  00125001
                                    134 *                                                                     00126001
                                    135 *        REGISTER EQUATES                                             00127001
                                    136 *                                                                     00128001
                                    137          IEZREGS                                                      00129001
                      00000         138+R0       EQU   0                                                      01-IEZRE
                      00001         139+R1       EQU   1                                                      01-IEZRE
                      00002         140+R2       EQU   2                                                      01-IEZRE
                      00003         141+R3       EQU   3                                                      01-IEZRE
                      00004         142+R4       EQU   4                                                      01-IEZRE
                      00005         143+R5       EQU   5                                                      01-IEZRE
                      00006         144+R6       EQU   6                                                      01-IEZRE
                      00007         145+R7       EQU   7                                                      01-IEZRE
                      00008         146+R8       EQU   8                                                      01-IEZRE
                      00009         147+R9       EQU   9                                                      01-IEZRE
                      0000A         148+R10      EQU   10                                                     01-IEZRE
                      0000B         149+R11      EQU   11                                                     01-IEZRE
                      0000C         150+R12      EQU   12                                                     01-IEZRE
                      0000D         151+R13      EQU   13                                                     01-IEZRE
                      0000E         152+R14      EQU   14                                                     01-IEZRE
                      0000F         153+R15      EQU   15                                                     01-IEZRE
                                    154 *                                                                     00130001
                                    155          END                                                          00131001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.22

```
A               4 00000114 00000001  X X               126   84
ALLF            4 00000110 00000001  X X               125   73   74
B               4 00000118 00000001  X X               127   86
BUFF            4 0000012C 00000001  F F               132  106M 107
C               4 0000011C 00000001  X X               128   83
D               4 00000120 00000001  X X               129   90
ERROR           4 000000F2 00000001  I                 114   51B
EXIT            2 000000EC 00000001  H H               110   55B  64B
FPR0            1 00000000           U                  38   49M  50   52   54M  62M  71M 107M
FSAERR          1 000001CC           U                 117  115B
FUDGE           4 00000128 00000001  X X               131   97
FXONE           4 00000124 00000001  X X               130   95   98  104
IHISEX          4 00000000 00000001  I                  41   36
IHISEXPT        1 00000000 00000001  J                  34   47U
JOIN            2 000000E2 00000001  I                 105  101B
LOG2E           4 0000010C 00000001  X X               124   69
MASK            4 00000108 00000001  X X               123   59
MAX             4 000000FC 00000001  X X               120   50
MIN             4 00000100 00000001  X X               121   52
OK1             4 00000048 00000001  I                  57   53B
OK2             4 00000064 00000001  I                  66   61B
OK3             4 00000084 00000001  I                  75   72B
OK4             4 000000DA 00000001  I                 103   99B
ONE             4 00000104 00000001  X X               122   62  100
R0              1 00000000           U                 138   58M  59M  60   67M  68   69M  70M  73M  75M  76   77M  78
                                                              81M  82   84M  85   86M  87M
R1              1 00000001           U                 139   48M  49   57M  66M  74M  79M  80   81   88M  89M  90M  91M
                                                              94
R13             1 0000000D           U                 151  114M 115
R15             1 0000000F           U                 153   47U
R2              1 00000002           U                 140   68M  70   76M 105
R3              1 00000003           U                 141   78M  96
R4              1 00000004           U                 142   83M  91   92M  93M  94M
R5              1 00000005           U                 143   82M  85M  87   95M  96M  97M  98  100M 103M 104M 105M 106
R6              1 00000006           U                 144   80M  88   92
SMALL           2 00000130 00000001  H H               133   60
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.22

```
    0(0)   45   58M  59M  60   67M  68   69M  70M  73M  75M  76   77M  78   81M  82   84M  85   86M  87M 111M
    1(1)   45   48M  49   57M  58M  66M  69M  70M  74M  77M  79M  80   81M  87M  88M  89M  90M  91M  94  111M
    2(2)   45   68M  70   76M 105  111M
    3(3)   45   78M  96  111M
    4(4)   45   83M  91   92M  93M  94M 111M
    5(5)   45   82M  83M  85M  87   94M  95M  96M  97M  98  100M 103M 104M 105M 106  111M
    6(6)   45   80M  88   92  111M
    7(7)   45  111M
    8(8)   45  111M
    9(9)   45  111M
   10(A)   45  111M
   11(B)   45  111M
   12(C)   45  111M
   13(D)   45  111  114M 115N
   14(E)   45  111M 112B
   15(F)   41B  45   47U 111M
```

Con Source Members X390 3.1.04 2012/08/17 13.22

1 SYS1.MACLIB
IEZREGS RETURN SAVE
2 SYSD.TOOLS.MACLIB
3 SYSD.ALGOLFRT.ASM
4 SYSD.ALGOLFRT.MACLIB
5 SYS1.AMODGEN

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04 2012/08/17 13.22
47		USING	Ordinary	00000001	00000000	00001000	15	00130	107	IHISEXPT,R15	

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHISEX PROCSTEP: X390

Primary input: lines 1 to 131 of SYSD.ALGOLFRT.ASM(IHISEX)

SYSLIB library records read: 161

SYSUT1 work file size: 14878 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 10480 bytes

SYSLIN file records written: 8

TXA000I Return code 0, elapsed time 0.16 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHISEXPT	000132	6

IHISLO

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.22

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHISLO)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0226
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

                                     2 *                                                                          00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                     4 *                                                                          00004001
                                     5 *        STATUS - LEVEL 2.1                                                00005001
                                     6 *                                                                          00006001
                                     7 *        FUNCTION/OPERATION -                                              00007001
                                     8 *        WRITE X = M*16**P, M MANTISSA                                     00008001
                                     9 *        PICK A BASE VALUE A DEPENDING ON SIZE OF M                        00009001
                                    10 *        WRITE Z = (M-A)/(M+A)                                             00010001
                                    11 *        THEN LOG(X) = P*LOG(16) + LOG(A) + LOG((1+Z)/(1-Z))               00011001
                                    12 *                                                                          00012001
                                    13 *        ENTRY POINT -                                                     00013001
                                    14 *        IHISLO - LOG FUNCTION, SHORT                                      00014001
                                    15 *                 LA   R1,PARMLIST                                         00015001
                                    16 *                 BALR R14,R15                                             00016001
                                    17 *                 DATA PASSED BY NAME                                      00017001
                                    18 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00018001
                                    19 *                                                                          00019001
                                    20 *        INPUT - N/A                                                       00020001
                                    21 *                                                                          00021001
                                    22 *        OUTPUT - N/A                                                      00022001
                                    23 *                                                                          00023001
                                    24 *        EXTERNAL ROUTINES - N/A                                           00024001
                                    25 *                                                                          00025001
                                    26 *        EXIT - NORMAL - RETURN VIA R14, RESULT IN FPR0                    00026001
                                    27 *                                                                          00027001
                                    28 *        EXIT - ERROR - IF ARGUMENT NOT POSITIVE GOTO ERROR                00028001
                                    29 *                       OUTINE VIA                                         00029001
                                    30 *                       B    FSAERR+25*4(R13)                              00030001
                                    31 *                                                                          00031001
                                    32 *        TABLES/WORKAREAS - N/A                                            00032001
                                    33 *                                                                          00033001
000000                00000 000E4   34 IHISLOGM CSECT                                                            00034001
                                    35 *                                                                          00035001
                                    36         ENTRY IHISLO                                                       00036001
                                    37 *                                                                          00037001
                      00000         38 FPR0    EQU   0                      RESULT REGISTER                       00038001
                      00002         39 FPR2    EQU   2                      SCRATCH REGISTER                      00039001
                                    40 *                                                                          00040001
                                    41 IHISLO  SAVE  (14,12),,'IHISLOGM LEVEL 2.1 &SYSDATE &SYSTIME'              00041001
000000 47F0 F026             00026 42+IHISLO  B     38(0,15)                        BRANCH AROUND ID       01-SAVE
000004 21                           43+        DC    AL1(33)                         LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9E2D3D6C7D4             44+        DC    CL32'IHISLOGM LEVEL 2.1 08/17/12 13.2' IDENTIFIER      01-SAVE
000025 F2                           45+        DC    CL1'2'                          IDENTIFIER             01-SAVE
000026 90EC D00C             0000C 46+        STM   14,12,12(13)                    SAVE REGISTERS         01-SAVE
                                    47 *                                                                          00042001
                 R:F  00000         48         USING IHISLOGM,R15                                                 00043001
00002A 5810 1000             00000 49         L     R1,0(,R1)                                                    00044001
00002E BF0F 1000             00000 50         ICM   R0,B'1111',0(R1)        OBTAIN ARGUMENT                      00045001
000032 47D0 F0B0             000B0 51         BNP   ERROR                   ARG 0 OR NEGATIVE, ERROR             00046001
000036 8C00 0018             00018 52         SRDL  R0,24                                                        00047001
00003A 8810 0008             00008 53         SRL   R1,8                                                         00048001
00003E 5010 F0B4             000B4 54         ST    R1,ARG                  STORE MANTISSA M ALONE               00049001
000042 9640 F0B4      000B4        55         OI    ARG,X'40'               FLOAT IT                             00050001
000046 8900 0002             00002 56         SLL   R0,2                    4*CHAR IN R0                         00051001
00004A 4000 F0BA             000BA 57         STH   R0,IPART+2              SAVE THIS IN FLOAT FORM              00052001
00004E 1BEE                        58         SR    R14,R14                 SET R14 TO O,4 OR 8                  00053001
000050 8810 0015             00015 59         SRL   R1,21                   DEFINE A TO BE 1, 1/4, OR 1/16       00054001
                                    60 *                                     IF M IS IN                           00055001
000054 43E1 F0BC             000BC 61         IC    R14,TABLE(R1)          (1/2,1),(2/8,1/2),OR IN (J/16,1/8)   00056001
000058 7800 F0B4             000B4 62         LE    FPR0,ARG                OBTAIN  Z = (M-A)/(M+A)              00057001
00005C 3820                        63         LER   FPR2,FPR0                                                    00058001
00005E 7B0E F0C4             000C4 64         SE    FPR0,ONE(R14)                                                00059001
000062 7A2E F0C4             000C4 65         AE    FPR2,ONE(R14)           POSSIBLY ONLY 21 SIGNIF BPTS         00060001
000066 3D02                        66         DER   FPR0,FPR2                                                    00061001
000068 7000 F0B4             000B4 67         STE   FPR0,ARG                Z READY, STORE IT AT ARG             00062001
00006C 3C00                        68         MER   FPR0,FPR0               Z**2                                 00063001
00006E 7820 F0D4             000D4 69         LE    FPR2,C4                 COMPUTE LOG((1+Z)/(1-Z)) USING       00064001
000072 3C20                        70         MER   FPR2,FPR0              CHEBYSHEV INTERPOLATION POLYNOMIAL    00065001
000074 7A20 F0D8             000D8 71         AE    FPR2,C3                                                      00066001
000078 3C20                        72         MER   FPR2,FPR0                                                    00067001
00007A 7A20 F0DC             000DC 73         AE    FPR2,C2                                                      00068001
00007E 3C20                        74         MER   FPR2,FPR0                                                    00069001
000080 7A20 F0E0             000E0 75         AE    FPR2,C1                                                      00070001
000084 3C20                        76         MER   FPR2,FPR0                                                    00071001
000086 7800 F0B4             000B4 77         LE    FPR0,ARG                                                     00072001
00008A 3C20                        78         MER   FPR2,FPR0                                                    00073001
00008C 3A20                        79         AER   FPR2,FPR0                                                    00074001
00008E 3A20                        80         AER   FPR2,FPR0                                                    00075001
000090 7800 F0B8             000B8 81         LE    FPR0,IPART              4*(P+64)                             00076001
000094 88E0 0001             00001 82         SRL   R14,1                   0,2 OR 4 = - LOG(A) BASE 2           00077001
000098 41E0 E100             00100 83         LA    R14,256(,R14)           4*64-LOG2(A)                         00078001
00009C 40E0 F0BA             000BA 84         STH   R14,IPART+2             STORE THIS AND FLOAT IT              00079001
0000A0 7B00 F0B8             000B8 85         SE    FPR0,IPART              4*P+LOG2(A)                          00080001
0000A4 7C00 F0D0             000D0 86         ME    FPR0,LOGE2                                                   00081001
0000A8 2A02                        87         ADR   FPR0,FPR2               NATURAL LOG READY                    00082001
                                    88 *                                                                          00083001
                                    89         RETURN (14,12)                RESTORE REGISTERS AND RETURN         00084001
0000AA 98EC D00C             0000C 90+        LM    14,12,12(13)                    RESTORE THE REGISTERS  01-RETUR
0000AE 07FE                        91+        BR    14                              RETURN                 01-RETUR
                                    92 *                                                                          00085001
0000B0 47FD 0230             00230 93 ERROR    B     FSAERR+25*4(R13)        PARAMETER ZERO OR NEGATIVE           00086001
                                    94 *                                                                          00087001
                      001CC         95 FSAERR  EQU   X'1CC'                                                     00088001
                                    96 *                                                                          00089001
0000B4 00000000                     97 ARG     DC    F'0'                                                       00090001
```

Active USINGs: IHISLOGM,R15

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

0000B8 46000000                     98 IPART    DC    X'46000000'                                                 00091001
                                    99 *                                                                          00092001
0000BC 0804040400000000            100 TABLE    DC    X'0804040400000000'                                         00093001
                                   101 *                                                                          00094001
0000C4 41100000                    102 ONE      DC    X'41100000'         *   1   FOLLOWING 3 CONSTANTS MUST   00095001
0000C8 40400000                    103          DC    X'40400000'         |   1/4       BE CONSECUTIVE          00096001
0000CC 40100000                    104          DC    X'40100000'         V   1/16                              00097001
                                   105 *                                                                          00098001
0000D0 40B17219                    106 LOGE2    DC    X'40B17219'             LOG(2) BASE E + FUDGE 1         00099001
0000D4 4048157B                    107 C4       DC    X'4048157B'             0.28157778                      00100001
0000D8 4047973F                    108 C3       DC    X'4047973F'             0.27965158                      00101001
0000DC 40667685                    109 C2       DC    X'40667685'             0.40024595                      00102001
0000E0 40AAAA71                    110 C1       DC    X'40AAAA71'             0.66666322                      00103001
                                   111 *                                                                          00104001
                                   112 *        REGISTER EQUATES                                                  00105001
                                   113 *                                                                          00106001
                                   114          IEZREGS                                                           00107001
                    00000          115+R0       EQU   0                                                         01-IEZRE
                    00001          116+R1       EQU   1                                                         01-IEZRE
                    00002          117+R2       EQU   2                                                         01-IEZRE
                    00003          118+R3       EQU   3                                                         01-IEZRE
                    00004          119+R4       EQU   4                                                         01-IEZRE
                    00005          120+R5       EQU   5                                                         01-IEZRE
                    00006          121+R6       EQU   6                                                         01-IEZRE
                    00007          122+R7       EQU   7                                                         01-IEZRE
                    00008          123+R8       EQU   8                                                         01-IEZRE
                    00009          124+R9       EQU   9                                                         01-IEZRE
                    0000A          125+R10      EQU   10                                                        01-IEZRE
                    0000B          126+R11      EQU   11                                                        01-IEZRE
                    0000C          127+R12      EQU   12                                                        01-IEZRE
                    0000D          128+R13      EQU   13                                                        01-IEZRE
                    0000E          129+R14      EQU   14                                                        01-IEZRE
                    0000F          130+R15      EQU   15                                                        01-IEZRE
                                   131 *                                                                          00108001
                                   132          END                                                               00109001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.22

```
ARG             4 000000B4 00000001  F F                97   54M  55M  62   67M  77
C1              4 000000E0 00000001  X X               110   75
C2              4 000000DC 00000001  X X               109   73
C3              4 000000D8 00000001  X X               108   71
C4              4 000000D4 00000001  X X               107   69
ERROR           4 000000B0 00000001  I                  93   51B
FPR0            1 00000000           U                  38   62M  63   64M  66M  67   68M  70   72   74   76   77M  78
                                                             79   80   81M  85M  86M  87M
FPR2            1 00000002           U                  39   63M  65M  66   69M  70M  71M  72M  73M  74M  75M  76M  78M
                                                             79M  80M  87
FSAERR          1 000001CC           U                  95   93B
IHISLO          4 00000000 00000001  I                  42   36
IHISLOGM        1 00000000 00000001  J                  34   48U
IPART           4 000000B8 00000001  X X                98   57M  81   84M  85
LOGE2           4 000000D0 00000001  X X               106   86
ONE             4 000000C4 00000001  X X               102   64   65
R0              1 00000000           U                 115   50M  52M  56M  57
R1              1 00000001           U                 116   49M  50   53M  54   59M  61
R13             1 0000000D           U                 128   93
R14             1 0000000E           U                 129   58M  61M  64   65   82M  83M  84
R15             1 0000000F           U                 130   48U
TABLE           8 000000BC 00000001  X X               100   61
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.22

```
    0(0)   46   50M  52M  56M  57   90M
    1(1)   46   49M  50   52M  53M  54   59M  61N  90M
    2(2)   46   90M
    3(3)   46   90M
    4(4)   46   90M
    5(5)   46   90M
    6(6)   46   90M
    7(7)   46   90M
    8(8)   46   90M
    9(9)   46   90M
   10(A)   46   90M
   11(B)   46   90M
   12(C)   46   90M
   13(D)   46   90   93N
   14(E)   46   58M  61M  64N  65N  82M  83M  84   90M  91B
   15(F)   42B  46   48U  90M
```

Con Source Members X390 3.1.04 2012/08/17 13.22

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04	2012/08/17 13.22
48		USING	Ordinary	00000001	00000000	00001000	15	000E0	86	IHISLOGM,R15		

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHISLO PROCSTEP: X390

Primary input: lines 1 to 109 of SYSD.ALGOLFRT.ASM(IHISLO)

SYSLIB library records read: 161

SYSUT1 work file size: 12623 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 8720 bytes

SYSLIN file records written: 7

TXA000I Return code 0, elapsed time 0.15 seconds.

Csect	Rel Addr(hex)	Length(dec)
IHISLOGM	0000E4	4

IHISOR

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.22

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHISOR)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0230
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

                                    2 *                                                                          00002001
                                    3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                    4 *                                                                          00004001
                                    5 *        STATUS - LEVEL 2.1                                                00005001
                                    6 *                                                                          00006001
                                    7 *        FUNCTION/OPERATION -                                              00007001
                                    8 *        CONVERT BINARY ARITHMETIC VALUE FROM SECOND PARAMETER             00008001
                                    9 *        TO ZONED DECIMAL FORM AND TRANSFER TO AN OUTPUT BUFFER            00009001
                                   10 *                                                                          00010001
                                   11 *        ENTRY POINTS -                                                    00011001
                                   12 *        IHISOREL - FROM GENERATED OBJECT MODULE                           00012001
                                   13 *                   LA   R1,PARMLIST                                       00013001
                                   14 *                   BALR R14,R15                                           00014001
                                   15 *                   DATA PASSED BY NAME                                    00015001
                                   16 *        IHISORAR - FROM ARRAY MODULE IHIOAR                               00016001
                                   17 *                   LA   R7,DATA                                           00017001
                                   18 *                   BALR R14,R15                                           00018001
                                   19 *                   DATA PASSED BY NAME                                    00019001
                                   20 *                                                                          00020001
                                   21 *        INPUT - N/A                                                       00021001
                                   22 *                                                                          00022001
                                   23 *        OUTPUT - N/A                                                      00023001
                                   24 *                                                                          00024001
                                   25 *        EXTERNAL ROUTINES -                                               00025001
                                   26 *        IHIIOR - EVALUATE DATA SET NUMBER                                 00026001
                                   27 *               - OPEN DATA SET                                            00027001
                                   28 *               - CHANGE TO NEXT OUTPUT RECORD                             00028001
                                   29 *        IHIFSA - CNVIR - CONVERT INTEGER TO REAL SHORT                    00029001
                                   30 *                                                                          00030001
                                   31 *        EXIT - NORMAL - RELOAD REGISTERS AND RETURN VIA R14               00031001
                                   32 *                                                                          00032001
                                   33 *        EXIT - ERROR - TOO LONG RECORD NO 38                              00033001
                                   34 *                       BRANCH TO IHIFSA                                  00034001
                                   35 *                       L   R13,IHIFSA                                    00035001
                                   36 *                       B FSAERR+XX*4(R13) XX ERROR NO                    00036001
                                   37 *                                                                          00037001
                                   38 *        TABLES - PTTAB - POWER OF TEN TABLE, SHORT PREC                   00038001
                                   39 *                                                                          00039001
                                   40 *        NOTES -                                                           00040001
                                   41 *        LINKING TO IHISORAR DEVIATES FROM STANDARD                        00041001
                                   42 *                                                                          00042001
000000                00000 00380  43 IHISOREA CSECT                                                           00043001
                                   44 *                                                                          00044001
                                   45          ENTRY IHISOREL                                                    00045001
                                   46          ENTRY IHISORAR                                                    00046001
                                   47 *                                                                          00047001
                 R:5  00000        48          USING DSTABLE,R5                                                  00048001
                                   49 *                                                                          00049001
                      00000        50 FPR0     EQU   0                       FLOATING-POINT NUMBER               00050001
                                   51 *                                                                          00051001
                                   52 *        R2                            EXPONENT > 8                        00052001
                                   53 *        R3                            EXPONENT < 8                        00053001
                                   54 *        R4                            CHARACTER POINTER                   00054001
                                   55 *        R7                            -> SOURCE                           00055001
                                   56 *        R8                            BLANK COUNTER                       00056001
                                   57 *        R9                            DECIMAL EXPONENT                    00057001
                                   58 *        R10                           -> POWER TEN TABLE                  00058001
                                   59 *                                                                          00059001
                                   60 *        DISPLACEMENTS IN ADRLST IN IHIFSA                                 00060001
                                   61 *                                                                          00061001
                      00000        62 CI       EQU   0             DISPLACEMENT FOR - IHIIORCI                   00062001
                      00004        63 CL       EQU   4                              IHIIORCL                     00063001
                      00008        64 EV       EQU   8                              IHIIOREV                     00064001
                      0000C        65 NX       EQU   12                             IHIIORNX                     00065001
                      00010        66 OP       EQU   16                             IHIIOROP                     00066001
                      00014        67 OQ       EQU   20                             IHIIOROQ                     00067001
                                   68 *                                                                          00068001
                                   69 IHISORAR SAVE  (14,12),,'IHISORAR LEVEL 2.1 &SYSDATE &SYSTIME'             00069001
000000 47F0 F026           00026  70+IHISORAR B     38(0,15)                        BRANCH AROUND ID       01-SAVE
000004 21                         71+         DC    AL1(33)                         LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9E2D6D9C1D9           72+         DC    CL32'IHISORAR LEVEL 2.1 08/17/12 13.2' IDENTIFIER    01-SAVE
000025 F2                         73+         DC    CL1'2'                          IDENTIFIER             01-SAVE
000026 90EC D00C           0000C  74+         STM   14,12,12(13)                    SAVE REGISTERS         01-SAVE
                                   75 *                                                                          00070001
                 R:F  00000        76          USING IHISORAR,R15                                                00071001
00002A 18BD                       77          LR    R11,R13                 CHAIN SAVE AREAS                    00072001
00002C 41D0 F338           00338  78          LA    R13,SAVEAREA                                                00073001
000030 50B0 D004           00004  79          ST    R11,4(,R13)                                                 00074001
000034 50D0 B008           00008  80          ST    R13,8(,R11)                                                 00075001
000038 41B0 F07C           0007C  81          LA    R11,COMMON                                                  00076001
                                  82          DROP  R15                                                         00077001
                 R:B  0007C       83          USING COMMON,R11                                                  00078001
00003C 47F0 B00E           0008A  84          B     SOUFLPA                                                     00079001
                                   85 *                                                                          00080001
                                   86          DROP  R11                                                         00081001
                                   87 *                                                                          00082001
                                   88 IHISOREL SAVE  (14,12),,'IHISOREL LEVEL 2.1 &SYSDATE &SYSTIME'             00083001
000040 47F0 F026           00026  89+IHISOREL B     38(0,15)                        BRANCH AROUND ID       01-SAVE
000044 21                         90+         DC    AL1(33)                         LENGTH OF IDENTIFIER   01-SAVE
000045 C9C8C9E2D6D9C5D3           91+         DC    CL32'IHISOREL LEVEL 2.1 08/17/12 13.2' IDENTIFIER    01-SAVE
000065 F2                         92+         DC    CL1'2'                          IDENTIFIER             01-SAVE
000066 90EC D00C           0000C  93+         STM   14,12,12(13)                    SAVE REGISTERS         01-SAVE
                                   94 *                                                                          00084001
                 R:F  00040        95          USING IHISOREL,R15                                                00085001
00006A 18CD                       96          LR    R12,R13                 R12 -> FSA  STORAGE AREA TO FSA     00086001
00006C 41D0 F2F8           00338  97          LA    R13,SAVEAREA                                                00087001
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Active USINGs: IHISOREA+X'40',R15 DSTABLE,R5

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.22

```
000070 50C0 D004            00004    98          ST    R12,4(,R13)                                        00088001
000074 50D0 C008            00008    99          ST    R13,8(,R12)                                        00089001
000078 41B0 F03C            0007C   100          LA    R11,COMMON                                         00090001
                                    101          DROP  R15                                                00091001
                R:B 0007C           102          USING COMMON,R11                                         00092001
                                    103 *                                                                 00093001
                                    104 *        EVALUATE DATASET NUMBER (EVDSN)                          00094001
                                    105 *                                                                 00095001
00007C 58F0 C11C            0011C   106 COMMON   L     R15,IORLST(,R12)                                   00096001
000080 58F0 F008            00008   107          L     R15,EV(,R15)                                       00097001
000084 05EF                         108          BALR  R14,R15                                            00098001
000086 5870 1004            00004   109 SOUFLP   L     R7,4(,R1)              R7 -> SOURCE                00099001
00008A 9630 501A      0001A         110 SOUFLPA  OI    DSF,DS2+DS3            DS2, DS3 = 1                00100001
00008E 94FE 501A      0001A         111          NI    DSF,255-DS7            DS7 = 0                     00101001
000092 1277                         112          LTR   R7,R7                                              00102001
000094 4720 B036            000B2   113          BP    REAL1                                              00103001
                                    114 *                                                                 00104001
                                    115 *        CALL CONVERSION ROUTINE (LOADED IN FSA)                  00105001
                                    116 *                                                                 00106001
000098 90ED D008            00008   117          STM   R14,R13,8(R13)         SAVE REGS                   00107001
00009C 182D                         118          LR    R2,R13                 R2 -> SAVEAREA              00108001
00009E 58E0 7000            00000   119          L     14,0(,R7)              INTEGER INTO R14            00109001
0000A2 417C 0120            00120   120          LA    R7,ACNVIRD(R12)                                    00110001
0000A6 18DC                         121          LR    R13,R12                R13 -> FSA                  00111001
0000A8 0587                         122          BALR  R8,R7                  CALL CONVERSION ROUTINE     00112001
0000AA 98ED 2008            00008   123          LM    R14,R13,8(R2)          RESTORE REGS                00113001
0000AE 47F0 B03A            000B6   124          B     REAL1A                 NUMBER IN FPR0 AFTER CONVERSION 00114001
                                    125 *                                                                 00115001
0000B2 7800 7000            00000   126 REAL1    LE    FPR0,0(,R7)            NUMBER IN FPR0              00116001
0000B6 9180 501A      0001A         127 REAL1A   TM    DSF,DS0                DATASET OPEN ?              00117001
0000BA 4710 B050            000CC   128          BO    NOCLO                  YES, BRANCH                 00118001
0000BE 9602 501A      0001A         129          OI    DSF,DS6                DS6 = 1 OPEN FOR OUTPUT     00119001
0000C2 58F0 C11C            0011C   130          L     R15,IORLST(,R12)                                   00120001
0000C6 58F0 F010            00010   131          L     R15,OP(,R15)                                       00121001
0000CA 05EF                         132          BALR  R14,R15                CALL OPEN ROUTINE           00122001
0000CC 5840 5004            00004   133 NOCLO    L     R4,R                   CHARACTER POINTER           00123001
0000D0 4180 400D            0000D   134          LA    R8,13(,R4)                                         00124001
0000D4 5980 5008            00008   135          C     R8,RE                  BUFFER CAN ACCEPT 13 DIGITS ? 00125001
0000D8 47D0 B094            00110   136          BNH   NONEXREC               YES, BRANCH                 00126001
0000DC 5880 5008            00008   137          L     R8,RE                                              00127001
0000E0 1B84                         138          SR    R8,R4                                              00128001
0000E2 47D0 B076            000F2   139          BNP   CALLNXT                NO, REQUEST NEW RECORD      00129001
0000E6 9240 4000      00000         140 BLANKS   MVI   0(R4),C' '             BLANK IN BUFFER             00130001
0000EA 4140 4001            00001   141          LA    R4,1(,R4)              INCR R                      00131001
0000EE 4680 B06A            000E6   142          BCT   R8,BLANKS                                          00132001
0000F2 58F0 C11C            0011C   143 CALLNXT  L     R15,IORLST(,R12)                                   00133001
0000F6 58F0 F00C            0000C   144          L     R15,NX(,R15)                                       00134001
0000FA 05EF                         145          BALR  R14,R15                GET NEXT RECORD             00135001
0000FC 5840 5004            00004   146          L     R4,R                                               00136001
000100 4180 400D            0000D   147          LA    R8,13(,R4)                                         00137001
000104 5980 5008            00008   148          C     R8,RE                                              00138001
000108 4720 B204            00280   149          BH    ORSERR                 TOO SHORT RECORD LENGTH     00139001
00010C 9610 501A      0001A         150          OI    DSF,DS3                                            00140001
000110 4190 0007            00007   151 NONEXREC LA    R9,7                                               00141001
000114 3200                         152          LTER  FPR0,FPR0              NUMBER ZERO ?               00142001
000116 4770 B0B0            0012C   153          BNZ   NOT0                   NO, BRANCH                  00143001
00011A 9240 4000      00000         154          MVI   0(R4),C' '             NUMBER IS ZERO              00144001
00011E D20B 4001 4000 00001 00000   155          MVC   1(12,R4),0(R4)                                     00145001
000124 92F0 4001      00001         156          MVI   1(R4),C'0'                                         00146001
000128 47F0 B1A8            00224   157          B     TERMIN                                             00147001
                                    158 *                                                                 00148001
00012C 924E 4000      00000         159 NOT0     MVI   0(R4),C'+'             ZONE IS INSERTED            00149001
000130 4720 B0BE            0013A   160          BP    EXPLOOP                                            00150001
000134 9260 4000      00000         161          MVI   0(R4),C'-'                                         00151001
000138 3300                         162          LCER  FPR0,FPR0                                          00152001
00013A 7000 B230            002AC   163 EXPLOOP  STE   FPR0,CHAR                                         00153001
00013E 1B33                         164          SR    R3,R3                                              00154001
000140 4330 B230            002AC   165          IC    R3,CHAR                                            00155001
000144 9200 B22D      002A9         166          MVI   SE,0                                               00156001
000148 5B30 B210            0028C   167          S     R3,KF70                                            00157001
00014C 4720 B0DE            0015A   168          BP    EXPLOAA                                            00158001
000150 4780 B14C            001C8   169          BZ    EXP0                   EXPONENT = 78               00159001
000154 9280 B22D      002A9         170          MVI   SE,X'80'                                           00160001
000158 1333                         171          LCR   R3,R3                                              00161001
00015A 4C30 B214            00290   172 EXPLOAA  MH    R3,LOG2                                            00162001
00015E 4A30 B216            00292   173          AH    R3,ROUND                                           00163001
000162 8830 000E            000E0   174          SRL   R3,14                                              00164001
000166 5930 B210            0028C   175          C     R3,KF70                                            00165001
00016A 47D0 B0F6            00172   176          BNH   EXPLOBB                                            00166001
00016E 5830 B210            0028C   177          L     R3,KF70                EXPONENT = 70               00167001
000172 9180 B22D      002A9         178 EXPLOBB  TM    SE,X'80'                                           00168001
000176 41A0 B238            002B4   179          LA    R10,PTTAB-4            R10 -> PTTAB-4              00169001
00017A 4780 B108            00184   180          BZ    EXPLOCC                                            00170001
00017E 1B93                         181          SR    R9,R3                                              00171001
000180 47F0 B10E            0018A   182          B     EXPLODD                                            00172001
000184 41A0 A040            00040   183 EXPLOCC  LA    R10,64(,R10)                                       00173001
000188 1A93                         184          AR    R9,R3                                              00174001
00018A 1823                         185 EXPLODD  LR    R2,R3                                              00175001
00018C 1B33                         186          SR    R3,R3                  CLEAR REGISTER              00176001
00018E 8E20 0003            00003   187          SRDA  R2,3                                               00177001
000192 8B20 0003            00003   188          SLA   R2,3                                               00178001
000196 4780 B13A            001B6   189 TESTEXP1 BZ    EXP1LS8                                            00179001
00019A 5920 B20C            00288   190          C     R2,KF72                                            00180001
00019E 4740 B132            001AE   191          BL    EXP1LS8A               EXPONENT NEGATIVE           00181001
0001A2 7C00 A040            00040   192          ME    FPR0,64(,R10)                                      00182001
0001A6 5B20 B20C            00288   193          S     R2,KF72                                            00183001
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Active USINGs: IHISOREA+X'7C',R11 DSTABLE,R5

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.22

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0001AA 47F0 B11A            00196   194          B     TESTEXP1                                          00184001
                                    195 *                                                                00185001
0001AE 8820 0001            00001   196 EXP1LS8A SRL   R2,1                                             00186001
0001B2 7C02 A01C            0001C   197          ME    FPR0,28(R2,R10)                                   00187001
0001B6 8830 001B            0001B   198 EXP1LS8  SRL   R3,27                EXPONENT MULTIPLIED FOUR    00188001
0001BA 1233                         199          LTR   R3,R3                                             00189001
0001BC 4780 B0BE            0013A   200          BZ    EXPLOOP                                           00190001
0001C0 7C03 A000            00000   201          ME    FPR0,0(R3,R10)                                    00191001
0001C4 47F0 B0BE            0013A   202          B     EXPLOOP                                           00192001
                                    203 *                                                                00193001
0001C8 7900 B218            00294   204 EXP0     CE    FPR0,TENP7              NUMBER > 10**7 ?          00194001
0001CC 47B0 B1EA            00266   205          BNL   DIG8                    YES, BRANCH               00195001
0001D0 9200 B230      002AC         206 EXP0AA   MVI   CHAR,0                                            00196001
0001D4 5830 B230            002AC   207          L     R3,CHAR                                           00197001
0001D8 4E30 B234            002B0   208          CVD   R3,BUFF                 INTEGER CONVERTED         00198001
0001DC F384 4001 B237 00001 002B3   209          UNPK  1(9,R4),BUFF+3(5)                                 00199001
0001E2 96F0 4009      00009         210          OI    9(R4),X'F0'                                       00200001
0001E6 95F0 4002      00002         211          CLI   2(R4),C'0'              LEADING ZERO ?            00201001
0001EA 4770 B17A            001F6   212          BNE   TRANSAA                                           00202001
0001EE 0690                         213          BCTR  R9,0                                              00203001
0001F0 D206 4002 4003 00002 00003   214          MVC   2(7,R4),3(R4)                                     00204001
0001F6 D200 4001 4002 00001 00002   215 TRANSAA  MVC   1(1,R4),2(R4)                                     00205001
0001FC 924B 4002      00002         216          MVI   2(R4),C'.'              DECIMAL POINT INSERTED    00206001
000200 927D 4009      00009         217          MVI   9(R4),C''''             APOSTROPHE INSERTED       00207001
000204 4E90 B234            002B0   218 DECEXP   CVD   R9,BUFF                                           00208001
000208 F321 400A B23A 0000A 002B6   219          UNPK  10(3,R4),BUFF+6(2)                                00209001
00020E 1299                         220          LTR   R9,R9                                             00210001
000210 47B0 B1A0            0021C   221          BNM   DECEXPAA                                          00211001
000214 9260 400A      0000A         222          MVI   10(R4),C'-'             EXPONENT SIGN IS NEGATIVE 00212001
000218 47F0 B1A4            00220   223          B     DECEXPBB                                          00213001
                                    224 *                                                                00214001
00021C 924E 400A      0000A         225 DECEXPAA MVI   10(R4),C'+'                                       00215001
000220 96F0 400C      0000C         226 DECEXPBB OI    12(R4),X'F0'               ZONE INSERTED EXPONENT 00216001
000224 4140 400D            0000D   227 TERMIN   LA    R4,13(,R4)                                        00217001
000228 1B88                         228          SR    R8,R8                                             00218001
00022A 4380 5018            00018   229          IC    R8,K                                              00219001
00022E 5940 5008            00008   230 TERMINAA C     R4,RE                                             00220001
000232 4780 B1DC            00258   231          BE    RECEND                                            00221001
000236 9240 4000      00000         232          MVI   0(R4),C' '                                        00222001
00023A 4140 4001            00001   233          LA    R4,1(,R4)                                         00223001
00023E 4680 B1B2            0022E   234          BCT   R8,TERMINAA                                       00224001
000242 5940 5008            00008   235          C     R4,RE                                             00225001
000246 4780 B1DC            00258   236          BE    RECEND                                            00226001
00024A 5040 5004            00004   237          ST    R4,R                                              00227001
00024E 58D0 B2C0            0033C   238 TERMINBB L     R13,SAVEAREA+4                                    00228001
                                    239 *                                                                00229001
                                    240          RETURN (14,12)                RESTORE CALLERS REGS AND RETURN 00230001
000252 98EC D00C            0000C   241+         LM    14,12,12(13)                  RESTORE THE REGISTERS 01-RETUR
000256 07FE                         242+         BR    14                            RETURN                01-RETUR
                                    243 *                                                                00231001
000258 58F0 C11C            0011C   244 RECEND   L     R15,IORLST(,R12)                                  00232001
00025C 58F0 F00C            0000C   245          L     R15,NX(,R15)                                      00233001
000260 05EF                         246          BALR  R14,R15                                           00234001
000262 47F0 B1D2            0024E   247          B     TERMINBB                                          00235001
                                    248 *                                                                00236001
000266 7E00 B21C            00298   249 DIG8     AU    FPR0,FIVE                                         00237001
00026A 7000 B230            002AC   250          STE   FPR0,CHAR                                         00238001
00026E 7900 B220            0029C   251          CE    FPR0,TWOP24B                                      00239001
000272 4740 B154            001D0   252          BL    EXP0AA                                            00240001
000276 D208 4001 B224 00001 002A0   253          MVC   1(9,R4),TWOP24           NUMBER GE 10**7          00241001
00027C 47F0 B188            00204   254          B     DECEXP                                            00242001
                                    255 *                                                                00243001
000280 18DC                         256 ORSERR   LR    13,R12                                            00244001
000282 47FC 0264            00264   257          B     FSAERR+38*4(R12)                                  00245001
                                    258 *                                                                00246001
                      00120         259 ACNVIRD  EQU   X'120'                                           00247001
                                    260 *                                                                00248001
                                    261 *        INTERNAL CONSTANTS AND STORAGE                          00249001
                                    262 *                                                                00250001
000286 0000
000288 00000048                     263 KF72     DC    F'72'                                             00251001
00028C 00000046                     264 KF70     DC    F'70'                                             00252001
000290 4D10                         265 LOG2     DC    H'19728'                                          00253001
000292 2000                         266 ROUND    DC    H'8192'                                           00254001
000294 46989680                     267 TENP7    DC    X'46989680'                                       00255001
000298 46000005                     268 FIVE     DC    X'46000005'                                       00256001
00029C 47100000                     269 TWOP24B  DC    X'47100000'                                       00257001
0002A0 F14BF6F7F7F7F2F2             270 TWOP24   DC    C'1.677722''                                      00258001
0002A9 00                           271 SE       DC    X'00'                                             00259001
0002AA 0000
0002AC 00000000                     272 CHAR     DC    E'0'                                              00260001
0002B0 0000000000000000             273 BUFF     DC    D'0'                                              00261001
                                    274 *                                                                00262001
                                    275 *        POWER OF TEN TABLE SHORT PRECISION                      00263001
                                    276 *                                                                00264001
0002B8 41A00000                     277 PTTAB    DC    EE1'1'                                            00265001
0002BC 42640000                     278          DC    EE2'1'                                            00266001
0002C0 433E8000                     279          DC    EE3'1'                                            00267001
0002C4 44271000                     280          DC    EE4'1'                                            00268001
0002C8 45186A00                     281          DC    EE5'1'                                            00269001
0002CC 45F42400                     282          DC    EE6'1'                                            00270001
0002D0 46989680                     283          DC    EE7'1'                                            00271001
0002D4 475F5E10                     284          DC    EE8'1'                                            00272001
0002D8 4E2386F2                     285          DC    EE16'1'                                           00273001
0002DC 54D3C21C                     286          DC    EE24'1'                                           00274001
0002E0 5B4EE2D7                     287          DC    EE32'1'                                           00275001
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Active USINGs: IHISOREA+X'7C',R11 DSTABLE,R5

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.22

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0002E4 621D632A                    288          DC    EE40'1'                                    00276001
0002E8 68AF298D                    289          DC    EE48'1'                                    00277001
0002EC 6F4140C8                    290          DC    EE56'1'                                    00278001
0002F0 76184F04                    291          DC    EE64'1'                                    00279001
0002F4 7C90E410                    292          DC    EE72'1'                                    00280001
0002F8 4019999A                    293          DC    EE-1'1'                                    00281001
0002FC 3F28F5C3                    294          DC    EE-2'1'                                    00282001
000300 3E418937                    295          DC    EE-3'1'                                    00283001
000304 3D68DB8C                    296          DC    EE-4'1'                                    00284001
000308 3CA7C5AC                    297          DC    EE-5'1'                                    00285001
00030C 3C10C6F8                    298          DC    EE-6'1'                                    00286001
000310 3B1AD7F3                    299          DC    EE-7'1'                                    00287001
000314 3A2AF31E                    300          DC    EE-8'1'                                    00288001
000318 33734ACA                    301          DC    EE-16'1'                                   00289001
00031C 2D1357C3                    302          DC    EE-24'1'                                   00290001
000320 2633EC48                    303          DC    EE-32'1'                                   00291001
000324 1F8B6131                    304          DC    EE-40'1'                                   00292001
000328 19176250                    305          DC    EE-48'1'                                   00293001
00032C 123EC561                    306          DC    EE-56'1'                                   00294001
000330 0BA87FEA                    307          DC    EE-64'1'                                   00295001
000334 051C4501                    308          DC    EE-72'1'                                   00296001
                                   309 *                                                         00297001
000338 0000000000000000            310 SAVEAREA DC    18F'0'                                     00298001
                                   311 *                                                         00299001
000380                             312          LTORG                                            00300001
                                   313 *                                                         00301001
                                   314          DSTABLE DSECT=YES                                00302001
000000             00000 00024     315+DSTABLE  DSECT                                            01-DSTAB
                                   316+*                                                         01-DSTAB
000000 00000000                    317+ADCB     DC    F'0'                  -> DCB                01-DSTAB
000004 00000000                    318+R        DC    F'0'                  CHARACTER POINTER     01-DSTAB
000008 00000000                    319+RE       DC    F'0'                                        01-DSTAB
00000C 00000000                    320+NBB      DC    F'0'                                        01-DSTAB
000010 00000000                    321+BB       DC    F'0'                                        01-DSTAB
000014 0001                        322+S        DC    H'1'                  RECORD POINTER        01-DSTAB
000016 0050                        323+P        DC    H'80'                 RECORD LENGTH         01-DSTAB
000018 02                          324+K        DC    X'02'                 NUMBER OF BLANK DELIM CHARS 01-DSTAB
000019 00                          325+Q        DC    X'00'                 NO OF RECORDS PER SECTION 01-DSTAB
00001A 0000                        326+DSF      DC    H'00'                 DATASET FLAGS         01-DSTAB
                                   327+*                                                         01-DSTAB
                                   328+*        DATASET FLAGS - DSF                              01-DSTAB
                                   329+*                                                         01-DSTAB
                   00080           330+DS0      EQU   X'80'                 DATASET OPEN          01-DSTAB
                   00040           331+DS1      EQU   X'40'                                       01-DSTAB
                   00020           332+DS2      EQU   X'20'                 LAST I/O OUTPUT       01-DSTAB
                   00010           333+DS3      EQU   X'10'                                       01-DSTAB
                   00008           334+DS4      EQU   X'08'                                       01-DSTAB
                   00004           335+DS5      EQU   X'04'                                       01-DSTAB
                   00002           336+DS6      EQU   X'02'                 OPEN FOR OUTPUT       01-DSTAB
                   00001           337+DS7      EQU   X'01'                 END OF FILE           01-DSTAB
                                   338+*                                                         01-DSTAB
                                   339+*        DATASET FLAGS - DSF+1                            01-DSTAB
                                   340+*                                                         01-DSTAB
                   00080           341+DS8      EQU   X'80'                 END OF DATA           01-DSTAB
                   00040           342+DS9      EQU   X'40'                                       01-DSTAB
                   00020           343+DS10     EQU   X'20'                 OPENED BY SYSACT 12   01-DSTAB
                   00010           344+DS11     EQU   X'10'                 INDICATE IHIERR-ROUT  01-DSTAB
                   00008           345+DSEOD    EQU   X'08'                                       01-DSTAB
                   00004           346+DSIOERR  EQU   X'04'                 I/O ERROR             01-DSTAB
                   00002           347+DS14     EQU   X'02'                 DATASET OPENED        01-DSTAB
                   00001           348+DS15     EQU   X'01'                 CLOSE FROM IHIERR     01-DSTAB
                                   349+*                                                         01-DSTAB
00001C 00000000                    350+NOTEADR  DC    F'0'                                       01-DSTAB
000020 0000                        351+BL       DC    H'0'                  LRECL+ TWO ARB        01-DSTAB
000022 0000                        352+         DC    H'0'                                       01-DSTAB
                                   353+*                                                         01-DSTAB
                   00024           354+DSTABLEL EQU   *-DSTABLE             L'DSTABLE ENTRY       01-DSTAB
                                   355+*                                                         01-DSTAB
                                   356 *                                                         00303001
000000             00000 00120     357 FAS      DSECT                                            00304001
                                   358 *                                                         00305001
                                   359          COPY  FSAREA                                     00306001
                                   360=*                                                         00001001
                                   361=*        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY       00002001
                                   362=*                                                         00003001
                                   363=*        STATUS - LEVEL 2.1                               00004001
                                   364=*                                                         00005001
                                   365=*********************************************************** 00006001
                                   366=*                                                         00007001
                                   367=*        COMMON DATA AREA                                 00008001
                                   368=*                                                         00009001
                                   369=*        FSAREA                                           00010001
                                   370=*                                                         00011001
                                   371=*********************************************************** 00012001
                                   372=*                                                         00013001
                                   373=*        DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL       00014001
                                   374=*        MODULES DURING THE EXECUTION                     00015001
                                   375=*                                                         00016001
                                   376=*        ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY    00017001
                                   377=*        SUBROUTINES) BY R12                              00018001
                                   378=*                                                         00019001
                   00000           379=FSAREA   EQU   *                                          00020001
                                   380=*                                                         00021001
                                   381=*        SAVE AREAS                                       00022001
                                   382=*                                                         00023001
000000                             383=         DS    18F                   STANDARD SAVE AREA    00024001
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Active USINGs: IHISOREA+X'7C',R11 DSTABLE,R5

D-Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.22

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                    00048         384=ASAVE    EQU   *-FSAREA              ALTERNATE SAVE AREA USED BY      00025001
000048                            385=         DS    18F                   CERTAIN SUBROUTINES              00026001
                                  386=*                                                                    00027001
                                  387=*        MISCELLANEOUS WORK AREAS AND CONSTANTS                      00028001
                                  388=*                                                                    00029001
                    00090         389=FCTVALST EQU   *-FSAREA              TEMPORARY STORAGE FOR            00030001
000090                            390=         DS    D                     FUNCTION VALUES                  00031001
                    00098         391=ASTLOC   EQU   *-FSAREA              DISPL FOR ADDR OF STAND LOCTN    00032001
000098 00000090                   392=         DC    A(FSAREA+FCTVALST)                                     00033001
                    0009C         393=BRRST    EQU   *-FSAREA              TEMPORARY SAVE REG BRR           00034001
                    0009C         394=HW       EQU   BRRST                 TEMPORARY HALFWORD STORAGE       00035001
00009C                            395=         DS    F                                                    00036001
                    000A0         396=PROLREG  EQU   *-FSAREA              STORAGE FOR PBT AND LAT WHEN     00037001
0000A0                            397=         DS    2A                    A PROCEDURE IS FORMAL PARAM      00038001
                                  398=*                                                                    00039001
                                  399=*        HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE       00040001
                                  400=*                                                                    00041001
0000A8                            401=         DS    0H                                                   00042001
0000A8 00                         402=         DC    X'00'                                                00043001
                    000A9         403=PROLPBN  EQU   *-FSAREA              STORAGE FOR CALLED PBN           00044001
0000A9 00                         404=         DC    X'00'                                                00045001
                    000AA         405=EIGHT    EQU   *-FSAREA              CONST FOR REDUCING RAS           00046001
0000AA 0008                       406=         DC    H'8'                                                 00047001
                                  407=*                                                                    00048001
0000AC                            408=         DS    0F                                                   00049001
                    000AC         409=ADSTAB   EQU   *-FSAREA              ADDR OF DSTABLE                  00050001
0000AC                            410=         DS    A                     IN THE OBJECT PROGRAM            00051001
                    000B0         411=ANOTTAB  EQU   *-FSAREA              ADDR OF NOTE TABLE               00052001
0000B0                            412=         DS    A                     (INSERTED BY THE OPEN ROUTINE)   00053001
                                  413=*                                                                    00054001
                    000B4         414=IHIFSAST EQU   *                                                     00055001
                    000B4         415=PGOPSW   EQU   *-FSAREA              PROGRAM CHECK OLD PSW            00056001
0000B4                            416=         DS    2F                                                   00057001
                    000BC         417=FSAPICA  EQU   *-FSAREA              OLD PICA ADDR                    00058001
0000BC 00000000                   418=         DC    F'0'                                                 00059001
                    000C0         419=SCRCS    EQU   *-FSAREA              SEMICOLON NUMBER                 00060001
0000C0                            420=         DS    H                                                    00061001
                    000C2         421=DTSW     EQU   *-FSAREA              OPTION SWITCHES                  00062001
                    000C2         422=OPTSW    EQU   DTSW                                                   00063001
0000C2 00                         423=         DC    X'00'                 DUMP-80, TRACE-40, SHORT-20      00064001
                    000C3         424=FSAERCOD EQU   *-FSAREA              ERROR CODE FOR ERROR ROUTINE     00065001
0000C3                            425=         DS    C                                                    00066001
                                  426=*                                                                    00067001
                                  427=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER            00068001
                                  428=*                                                                    00069001
0000C4                            429=         DS    0F                                                   00070001
                    000C4         430=IHIFSARS EQU   *                                                     00071001
                    000C4         431=RASSTART EQU   *-FSAREA              ADDR OF FIRST ENTRY IN RAS-8     00072001
0000C4                            432=         DS    F                                                    00073001
                    000C8         433=RASPT    EQU   *-FSAREA              RAS POINTER FROM TOP             00074001
0000C8                            434=         DS    F                                                    00075001
                    000CC         435=RASEND   EQU   *-FSAREA              ADDR OF LAST  ENTRY IN RAS+8     00076001
0000CC                            436=         DS    F                                                    00077001
                    000D0         437=RASPB    EQU   *-FSAREA              RAS POINTER FROM BOTTOM          00078001
0000D0                            438=         DS    F                                                    00079001
                                  439=*                                                                    00080001
                                  440=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES     00081001
                                  441=*                                                                    00082001
0000D4                            442=BRLIST   DS    0F                                                   00083001
                    000D4         443=CAP1     EQU   *-FSAREA              FIRST PART CAPS                  00084001
0000D4 4700 0000          00000   444=         NOP   0                                                    00085001
                    000D8         445=CAP2     EQU   *-FSAREA              SECOND PART CAPS                 00086001
0000D8 4700 0000          00000   446=         NOP   0                                                    00087001
                    000DC         447=PROLOGP  EQU   *-FSAREA              PROLOGUE FORMAL PARAMETER ENTRY  00088001
                    000DC         448=PROLOGFP EQU   PROLOGP                                             00089001
0000DC 4700 0000          00000   449=         NOP   0                                                    00090001
                    000E0         450=PROLOG   EQU   *-FSAREA              PROLOGUE PROGRAM USUAL ENTRY     00091001
0000E0 4700 0000          00000   451=         NOP   0                                                    00092001
                    000E4         452=RETPROG  EQU   *-FSAREA              DISPLACEMENT RETURN PROGRAM      00093001
0000E4 4700 0000          00000   453=         NOP   0                                                    00094001
                    000E8         454=EPILOGP  EQU   *-FSAREA              EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000          00000   455=         NOP   0                                                    00096001
                    000EC         456=EPILOGB  EQU   *-FSAREA              EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000          00000   457=         NOP   0                                                    00098001
                    000F0         458=EPILPR3  EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3         00099001
0000F0 4700 0000          00000   459=         NOP   0                                                    00100001
                    000F4         460=CSWE1    EQU   *-FSAREA              FIRST PART CSWES                 00101001
0000F4 4700 0000          00000   461=         NOP   0                                                    00102001
                    000F8         462=CSWE2    EQU   *-FSAREA              SECOND PART CSWES                00103001
0000F8 4700 0000          00000   463=         NOP   0                                                    00104001
                    000FC         464=LOADPP   EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE    00105001
0000FC 4700 0000          00000   465=         NOP   0                                                    00106001
                    00100         466=TRACE    EQU   *-FSAREA                                             00107001
000100 D200 0000 0000 00000 00000   467=         MVC   0(0),0                                               00108001
000106 4700 0000          00000   468=         NOP   0                                                    00109001
00010A 4700 0000          00000   469=         NOP   0                                                    00110001
                    0010E         470=TERMNTE  EQU   *-FSAREA              NORMAL TERMINATION EXIT          00111001
00010E 4700 0000          00000   471=         NOP   0                                                    00112001
                    00112         472=BCR      EQU   *-FSAREA                                             00113001
000112 0700                       473=         BCR   0,0                   VARIABLE CONDITIONAL BRANCH      00114001
                    00114         474=GETMSTO  EQU   *-FSAREA                                             00115001
000114 4700 0000          00000   475=         NOP   0                                                    00116001
                                  476=*                                                                    00117001
                    00118         477=VALUCALL EQU   *-FSAREA                                             00118001
000118 4700 0000          00000   478=         NOP   0                                                    00119001
                    0011C         479=IORLST   EQU   *-FSAREA                                             00120001
```

Active USINGs: IHISOREA+X'7C',R11 DSTABLE,R5

```
D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

00011C 4700 0000            00000   480=          NOP   0                                                        00121001
                                    481=*                                                                        00122001
                            001CC   482=FSAERR    EQU   X'1CC'                DISPL  FOR ERROR LIST             00123001
                                    483=*                                                                        00124001
                                    484=*         DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA                   00125001
                                    485=*                                                                        00126001
                            0020C   486=OUTOFB    EQU   FSAERR+4*16                                              00127001
                            00218   487=NUMBIND   EQU   FSAERR+4*19                                              00128001
                            00208   488=ARRAYBD   EQU   FSAERR+4*15                                              00129001
                            0026C   489=ERROR40   EQU   FSAERR+4*40                                              00130001
                            00224   490=OERR22    EQU   FSAERR+4*22                                              00131001
                            00210   491=ENDLESL   EQU   FSAERR+4*17                                              00132001
                            00220   492=OERR21    EQU   FSAERR+4*21                                              00133001
                                    493=*                                                                        00134001
                                    494 *                                                                        00307001
                                    495 *         REGISTER EQUATES                                               00308001
                                    496 *                                                                        00309001
                                    497           IEZREGS                                                        00310001
                            00000   498+R0        EQU   0                                                        01-IEZRE
                            00001   499+R1        EQU   1                                                        01-IEZRE
                            00002   500+R2        EQU   2                                                        01-IEZRE
                            00003   501+R3        EQU   3                                                        01-IEZRE
                            00004   502+R4        EQU   4                                                        01-IEZRE
                            00005   503+R5        EQU   5                                                        01-IEZRE
                            00006   504+R6        EQU   6                                                        01-IEZRE
                            00007   505+R7        EQU   7                                                        01-IEZRE
                            00008   506+R8        EQU   8                                                        01-IEZRE
                            00009   507+R9        EQU   9                                                        01-IEZRE
                            0000A   508+R10       EQU   10                                                       01-IEZRE
                            0000B   509+R11       EQU   11                                                       01-IEZRE
                            0000C   510+R12       EQU   12                                                       01-IEZRE
                            0000D   511+R13       EQU   13                                                       01-IEZRE
                            0000E   512+R14       EQU   14                                                       01-IEZRE
                            0000F   513+R15       EQU   15                                                       01-IEZRE
                                    514 *                                                                        00311001
                                    515           END                                                            00312001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.22

```
ACNVIRD         1 00000120          U                 259  120
BLANKS          4 000000E6 00000001 I                 140  142B
BRRST           1 0000009C          U                 393  394
BUFF            8 000002B0 00000001 D D               273  208M 209  218M 219
CALLNXT         4 000000F2 00000001 I                 143  139B
CHAR            4 000002AC 00000001 E E               272  163M 165  206M 207  250M
COMMON          4 0000007C 00000001 I                 106   81   83U 100  102U
DECEXP          4 00000204 00000001 I                 218  254B
DECEXPAA        4 0000021C 00000001 I                 225  221B
DECEXPBB        4 00000220 00000001 I                 226  223B
DIG8            4 00000266 00000001 I                 249  205B
DSF             2 0000001A FFFFFFFF H H               326  110M 111M 127  129M 150M
DSTABLE         1 00000000 FFFFFFFF J                 315   48U 354
DS0             1 00000080          U                 330  127
DS2             1 00000020          U                 332  110
DS3             1 00000010          U                 333  110  150
DS6             1 00000002          U                 336  129
DS7             1 00000001          U                 337  111
DTSW            1 000000C2          U                 421  422
EV              1 00000008          U                  64  107
EXPLOAA         4 0000015A 00000001 I                 172  168B
EXPLOBB         4 00000172 00000001 I                 178  176B
EXPLOCC         4 00000184 00000001 I                 183  180B
EXPLODD         2 0000018A 00000001 I                 185  182B
EXPLOOP         4 0000013A 00000001 I                 163  160B 200B 202B
EXP0            4 000001C8 00000001 I                 204  169B
EXP0AA          4 000001D0 00000001 I                 206  252B
EXP1LS8         4 000001B6 00000001 I                 198  189B
EXP1LS8A        4 000001AE 00000001 I                 196  191B
FCTVALST        1 00000090          U                 389  392
FIVE            4 00000298 00000001 X X               268  249
FPR0            1 00000000          U                  50  126M 152M 162M 163  192M 197M 201M 204  249M 250  251
FSAERR          1 000001CC          U                 482  257B 486  487  488  489  490  491  492
FSAREA          1 00000000 FFFFFFFE U                 379  384  389  391  392  393  396  403  405  409  411  415  417
                                                           419  421  424  431  433  435  437  443  445  447  450  452
                                                           454  456  458  460  462  464  466  470  472  474  477  479
IHISORAR        4 00000000 00000001 I                  70   46   76U
IHISOREL        4 00000040 00000001 I                  89   45   95U
IORLST          1 0000011C          U                 479  106  130  143  244
K               1 00000018 FFFFFFFF X X               324  229
KF70            4 0000028C 00000001 F F               264  167  175  177
KF72            4 00000288 00000001 F F               263  190  193
LOG2            2 00000290 00000001 H H               265  172
NOCLO           4 000000CC 00000001 I                 133  128B
NONEXREC        4 00000110 00000001 I                 151  136B
NOT0            4 0000012C 00000001 I                 159  153B
NX              1 0000000C          U                  65  144  245
OP              1 00000010          U                  66  131
ORSERR          2 00000280 00000001 I                 256  149B
PROLOGP         1 000000DC          U                 447  448
PTTAB           4 000002B8 00000001 E E               277  179
R               4 00000004 FFFFFFFF F F               318  133  146  237M
RE              4 00000008 FFFFFFFF F F               319  135  137  148  230  235
REAL1           4 000000B2 00000001 I                 126  113B
REAL1A          4 000000B6 00000001 I                 127  124B
RECEND          4 00000258 00000001 I                 244  231B 236B
ROUND           2 00000292 00000001 H H               266  173
R1              1 00000001          U                 499  109
R10             1 0000000A          U                 508  179M 183M 192  197  201
R11             1 0000000B          U                 509   77M  79   80   81M  83U  86D 100M 102U
R12             1 0000000C          U                 510   96M  98   99  106  120  121  130  143  244  256  257
R13             1 0000000D          U                 511   77   78M  79   80   96   97M  98   99  117  118  121M 123M
                                                           238M
R14             1 0000000E          U                 512  108M 117  123M 132M 145M 246M
R15             1 0000000F          U                 513   76U  82D  95U 101D 106M 107M 108B 130M 131M 132B 143M 144M
                                                           145B 244M 245M 246B
R2              1 00000002          U                 500  118M 123  185M 187M 188M 190  193M 196M 197
R3              1 00000003          U                 501  164M 165M 167M 171M 172M 173M 174M 175  177M 181  184  185
                                                           186M 198M 199M 201  207M 208
R4              1 00000004          U                 502  133M 134  138  140  141M 146M 147  154  155  156  159  161
                                                           209  210  211  214  215  216  217  219  222  225  226  227M
                                                           230  232  233M 235  237  253
R5              1 00000005          U                 503   48U
R7              1 00000007          U                 505  109M 112M 119  120M 122B 126
R8              1 00000008          U                 506  122M 134M 135  137M 138M 142M 147M 148  228M 229M 234M
R9              1 00000009          U                 507  151M 181M 184M 213M 218  220M
SAVEAREA        4 00000338 00000001 F F               310   78   97  238
SE              1 000002A9 00000001 X X               271  166M 170M 178
SOUFLPA         4 0000008A 00000001 I                 110   84B
TENP7           4 00000294 00000001 X X               267  204
TERMIN          4 00000224 00000001 I                 227  157B
TERMINAA        4 0000022E 00000001 I                 230  234B
TERMINBB        4 0000024E 00000001 I                 238  247B
TESTEXP1        4 00000196 00000001 I                 189  194B
TRANSAA         6 000001F6 00000001 I                 215  212B
TWOP24          9 000002A0 00000001 C C               270  253
TWOP24B         4 0000029C 00000001 X X               269  251
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.22

```
    0(0)   74   93  117  123M 241M
    1(1)   74   93  109  117  123M 241M
    2(2)   74   93  117  118M 123M 185M 187M 188M 190  193M 196M 197N 241M
    3(3)   74   93  117  123M 164M 165M 167M 171M 172M 173M 174M 175  177M 181  184  185  186M 187M 198M 199M 201N 207M
           208  241M
    4(4)   74   93  117  123M 133M 134  138  140  141M 146M 147  154  155  156  159  161  209  210  211  214  215  216
           217  219  222  225  226  227M 230  232  233M 235  237  241M 253
    5(5)   48U  74   93  117  123M 241M
    6(6)   74   93  117  123M 241M
    7(7)   74   93  109M 112M 117  119  120M 122B 123M 126  241M
    8(8)   74   93  117  122M 123M 134M 135  137M 138M 142M 147M 148  228M 229M 234M 241M
    9(9)   74   93  117  123M 151M 181M 184M 213M 218  220M 241M
   10(A)   74   93  117  123M 179M 183M 192  197  201  241M
   11(B)   74   77M  79   80   81M  83U  86D  93  100M 102U 117  123M 241M
   12(C)   74   93   96M  98   99  106  117  120N 121  123M 130  143  241M 244  256  257N
   13(D)   74   77   78M  79   80   93   96   97M  98   99  117  118  121M 123M 238M 241  256M
   14(E)   74   93  108M 117  119M 123M 132M 145M 241M 242B 246M
   15(F)   70B  74   76U  82D  89B  93   95U 101D 106M 107M 108B 117  123M 130M 131M 132B 143M 144M 145B 241M 244M 245M
           246B
```

Dsect Length Id Defn Con Member X390 3.1.04 2012/08/17 13.22

Dsect	Length	Id	Defn	Con	Member
DSTABLE	00000024	FFFFFFFF	315	4	DSTABLE
FAS	00000120	FFFFFFFE	357		PRIMARY INPUT

Con Source Members X390 3.1.04 2012/08/17 13.22

```
  1 SYS1.MACLIB
               IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
48		USING	Ordinary	FFFFFFFF	00000000	00001000	5	0001A	237	DSTABLE,R5
76		USING	Ordinary	00000001	00000000	00001000	15	00338	81	IHISORAR,R15
82		DROP					15			R15
83		USING	Ordinary	00000001	0000007C	00001000	11	0000E	84	COMMON,R11
86		DROP					11			R11
95		USING	Ordinary	00000001	00000040	00001000	15	002F8	100	IHISOREL,R15
101		DROP					15			R15
102		USING	Ordinary	00000001	0000007C	00001000	11	002C0	254	COMMON,R11

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHISOR PROCSTEP: X390

Primary input: lines 1 to 312 of SYSD.ALGOLFRT.ASM(IHISOR)

SYSLIB library records read: 362

SYSUT1 work file size: 48115 bytes

SYSUT2 work file size: 17960 bytes

SYSUT3 work file size: 24960 bytes

SYSLIN file records written: 18

TXA000I Return code 0, elapsed time 0.33 seconds.

Csect   Rel Addr(hex) Length(dec)

 No uninitialized areas found

IHISSC

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.22

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHISSC)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0234
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                    X390 3.1.04  2012/08/17 13.22

                                      2 *                                                                00002001
                                      3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY              00003001
                                      4 *                                                                00004001
                                      5 *        STATUS - LEVEL 2.1                                      00005001
                                      6 *                                                                00006001
                                      7 *        FUNCTION/OPERATION -                                    00007001
                                      8 *        1. DIVIDE MAGNITUDE OF ARG BY PI/4 TO FIND OCTANT AND   00008001
                                      9 *           FRACTION                                             00009001
                                     10 *        2. IF COSINE ADD 2 TO OCTANT NUMBER                     00010001
                                     11 *           IF SINE FOR NEGATIVE ARG, ADD 4 TO OCTANT NUMBER      00011001
                                     12 *        3. COMPUTE SINE OR COSINE OF FRACTION*PI/4 DEPENDING ON 00012001
                                     13 *           THE OCTANT                                           00013001
                                     14 *        4. IF OCTANT NUMBER IS FOR LOWER PLANE MAKE SIGN MINUS  00014001
                                     15 *                                                                00015001
                                     16 *        ENTRY POINTS -                                          00016001
                                     17 *        IHISSCC - COSINE FUNCTION, SHORT                        00017001
                                     18 *        IHISSCS - SINE FUNCTION, SHORT                          00018001
                                     19 *                  LA   R1,PARMLIST                              00019001
                                     20 *                  BALR R14,R15                                  00020001
                                     21 *                  DATA PASSED BY NAME                           00021001
                                     22 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE  00022001
                                     23 *                                                                00023001
                                     24 *        INPUT - N/A                                             00024001
                                     25 *                                                                00025001
                                     26 *        OUTPUT - N/A                                            00026001
                                     27 *                                                                00027001
                                     28 *        EXTERNAL ROUTINES - N/A                                 00028001
                                     29 *                                                                00029001
                                     30 *        EXIT - NORMAL - RETURN VIA R14, RESULT IN FPR0          00030001
                                     31 *                                                                00031001
                                     32 *        EXIT - ERROR -                                          00032001
                                     33 *        IF ABS(ARG) ¬< PI*2**18 GOTO ERROR ROUTINE VIA          00033001
                                     34 *                                  B     FSAERR+26*4(R13)        00034001
                                     35 *                                                                00035001
                                     36 *        TABLES/WORKAREAS - N/A                                  00036001
                                     37 *                                                                00037001
000000                00000 0013C    38 IHISSCSN CSECT                                                   00038001
                                     39 *                                                                00039001
                                     40          ENTRY IHISSCC                                           00040001
                                     41          ENTRY IHISSCS                                           00041001
                                     42 *                                                                00042001
                      00000          43 FPR0     EQU   0                     RESULT REGISTER             00043001
                      00002          44 FPR2     EQU   2                     SCRATCH REGISTERS           00044001
                      00004          45 FPR4     EQU   4                                                 00045001
                                     46 *                                                                00046001
                                     47 IHISSCC  SAVE  (14,12),,'IHISSCC  LEVEL 2.1 &SYSDATE &SYSTIME'   00047001
000000 47F0 F026            00026    48+IHISSCC  B     38(0,15)                        BRANCH AROUND ID    01-SAVE
000004 21                            49+         DC    AL1(33)                         LENGTH OF IDENTIFIER 01-SAVE
000005 C9C8C9E2E2C3C340              50+         DC    CL32'IHISSCC  LEVEL 2.1 08/17/12 13.2' IDENTIFIER   01-SAVE
000025 F2                            51+         DC    CL1'2'                          IDENTIFIER          01-SAVE
000026 90EC D00C            0000C    52+         STM   14,12,12(13)                    SAVE REGISTERS      01-SAVE
                                     53 *                                                                00048001
                 R:F  00000          54          USING IHISSCC,R15                                       00049001
00002A 41A0 F07C            0007C    55          LA    R10,COMMON                                        00050001
                                     56          DROP  R15                                               00051001
                 R:A  0007C          57          USING COMMON,R10                                        00052001
00002E 9202 A097      00113          58          MVI   CRANK+3,X'02'         FOR COSINE, OCTANT CRANK IS 2 00053001
000032 5810 1000            00000    59          L     R1,0(,R1)             COS(X) = SIN(PI/2+X)        00054001
000036 47F0 A000            0007C    60          B     COMMON                                            00055001
                                     61 *                                                                00056001
                                     62          DROP  R10                                               00057001
                                     63 *                                                                00058001
                                     64 IHISSCS  SAVE  (14,12),,'IHISSCS  LEVEL 2.1 &SYSDATE &SYSTIME'   00059001
00003A 47F0 F026            00026    65+IHISSCS  B     38(0,15)                        BRANCH AROUND ID    01-SAVE
00003E 21                            66+         DC    AL1(33)                         LENGTH OF IDENTIFIER 01-SAVE
00003F C9C8C9E2E2C3E240              67+         DC    CL32'IHISSCS  LEVEL 2.1 08/17/12 13.2' IDENTIFIER   01-SAVE
00005F F2                            68+         DC    CL1'2'                          IDENTIFIER          01-SAVE
000060 90EC D00C            0000C    69+         STM   14,12,12(13)                    SAVE REGISTERS      01-SAVE
                                     70 *                                                                00060001
                 R:F  0003A          71          USING IHISSCS,R15                                       00061001
000064 41A0 F042            0007C    72          LA    R10,COMMON                                        00062001
                                     73          DROP  R15                                               00063001
                 R:A  0007C          74          USING COMMON,R10                                        00064001
000068 9200 A097      00113          75          MVI   CRANK+3,X'00'         OCTANT CRANK IS 0 IF +ARG   00065001
00006C 5810 1000            00000    76          L     R1,0(,R1)             OCTANT CRANK IS 4 IF -ARG   00066001
000070 9180 1000      00000          77          TM    0(R1),X'80'           SIN(-X) = SIN(PI+X)         00067001
000074 4780 A000            0007C    78          BZ    COMMON                                            00068001
000078 9204 A097      00113          79          MVI   CRANK+3,X'04'                                     00069001
00007C 2B00                          80 COMMON   SDR   FPR0,FPR0             CLEAR FPR0 DOUBLE           00070001
00007E 2B22                          81          SDR   FPR2,FPR2             CLEAR FPR2 DOUBLE           00071001
000080 7800 1000            00000    82          LE    FPR0,0(,R1)           OBTAIN ARGUMENT             00072001
000084 3000                          83          LPER  FPR0,FPR0             CONSIDER ARGUMENT TO BE POSITIVE 00073001
000086 7900 A098            00114    84          CE    FPR0,MAX              /X/ >= PI*2**18 ?           00074001
00008A 47B0 A07C            000F8    85          BNL   ERROR                 YES, ERROR                  00075001
00008E 6C00 A084            00100    86          MD    FPR0,FOVPI            MULTIPLY BY 4/PI (LONG FORM) 00076001
000092 7900 A0B4            00130    87          CE    FPR0,ONE              < 1 ?                       00077001
000096 4740 A026            000A2    88          BL    SMALL                 YES, BRANCH                 00078001
00009A 6E00 A08C            00108    89          AW    FPR0,CH46             PROD CHAR OF 46, UNNORMALIZED 00079001
00009E 3820                          90          LER   FPR2,FPR0             INT PART OF PROD TO FPR2, UNNORM 00080001
0000A0 2B02                          91          SDR   FPR0,FPR2             FRACT PART OF PROD TO FPR0, NORM 00081001
0000A2 7E20 A094            00110    92 SMALL    AU    FPR2,CRANK            ADD OCTANT CRANK TO FPR2, UNNORM 00082001
0000A6 7020 A0BC            00138    93          STE   FPR2,OCTNT            SAVE IT                     00083001
                                     94 *                                    LAST 3 BITS ARE MODIFIED OCTANT 00084001
0000AA 9101 A0BF      0013B          95          TM    OCTNT+3,X'01'         IF ODD OCTANT, TAKE COMPLEMENT 00085001
0000AE 4780 A03C            000B8    96          BZ    EVEN                  OF FRACTION TO OBTAIN THE   00086001
0000B2 7B00 A0B4            00130    97          SE    FPR0,ONE              MOFIFIED FRACTION R         00087001
```

Active USINGs: IHISSCSN+X'7C',R10

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

0000B6 3000                        98          LPER  FPR0,FPR0                                                    00088001
0000B8 1B11                        99 EVEN     SR    R1,R1              R1 = 0 FOR COSINE POLYNOMIAL              00089001
0000BA 9103 A0BF      0013B       100          TM    OCTNT+3,X'03'      THIS IS FOR OCTANT 2,3,6, OR 7            00090001
0000BE 4740 A04A            000C6 101          BM    LABAA              IF OCTANT 1,4,5, OR 8, USE SINE           00091001
0000C2 4110 0004            00004 102          LA    R1,4               POLYNOMIAL, R1 = 4                        00092001
0000C6 3840                       103 LABAA    LER   FPR4,FPR0                                                    00093001
0000C8 3C00                       104          MER   FPR0,FPR0          COMPUTE SIN OR COS OF MODIFIED            00094001
0000CA 3820                       105          LER   FPR2,FPR0          FRACTION USING PROPER CHEBYSHEV           00095001
0000CC 7C01 A09C            00118 106          ME    FPR0,C3(R1)        INTERPOLATION POLYNOMIAL                  00096001
0000D0 7A01 A0A4            00120 107          AE    FPR0,C2(R1)                                                  00097001
0000D4 3C02                       108          MER   FPR0,FPR2                                                    00098001
0000D6 7A01 A0AC            00128 109          AE    FPR0,C1(R1)                                                  00099001
0000DA 3C02                       110          MER   FPR0,FPR2                                                    00100001
0000DC 7A01 A0B4            00130 111          AE    FPR0,C0(R1)        SIN(R)/R  OR COS(R) READY                 00101001
0000E0 1211                       112          LTR   R1,R1                                                        00102001
0000E2 4780 A06C            000E8 113          BZ    LABBB                                                        00103001
0000E6 3C04                       114          MER   FPR0,FPR4          IF SINE POLYNOMIAL, MULTIPLY R            00104001
0000E8 9104 A0BF      0013B       115 LABBB    TM    OCTNT+3,X'04'                                                00105001
0000EC 4780 A076            000F2 116          BZ    LABCC              IF MODIFIED OCTANT IS IN                  00106001
0000F0 3100                       117          LNER  FPR0,FPR0          LOWER PLANE, SIGN IS NEGATIVE             00107001
                                  118 *                                                                           00108001
                                  119 LABCC    RETURN (14,12)           RESTORE CALLERS REGS AND RETURN           00109001
0000F2                            120+LABCC    DS    0H                                                           01-RETUR
0000F2 98EC D00C            0000C 121+         LM    14,12,12(13)                 RESTORE THE REGISTERS           01-RETUR
0000F6 07FE                       122+         BR    14                           RETURN                          01-RETUR
                                  123 *                                                                           00110001
0000F8 47FD 0234            00234 124 ERROR    B     FSAERR+26*4(13)                                              00111001
                                  125 *                                                                           00112001
                      001CC       126 FSAERR   EQU   X'1CC'                                                      00113001
                                  127 *                                                                           00114001
0000FC 00000000
000100                            128          DC    0D'0'                                                        00115001
000100 41145F306DC9C830           129 FOVPI    DC    X'41145F306DC9C830'                                          00116001
000108 4600000000000000           130 CH46     DC    X'4600000000000000'                                          00117001
000110 46000000                   131 CRANK    DC    X'46000000'                                                  00118001
000114 45C90FDB                   132 MAX      DC    X'45C90FDB'                                                  00119001
                                  133 *                                                                           00120001
000118 BE14E5E0                   134 C3       DC    X'BE14E5E0'          *   -0.00031888   C3                  00121001
00011C BD25B368                   135          DC    X'BD25B368'          |   -0.00003595   S3                  00122001
000120 3F40EBD6                   136 C2       DC    X'3F40EBD6'          |    0.01584991   C2                  00123001
000124 3EA32F62                   137          DC    X'3EA32F62'          |    0.00249001   S2                  00124001
000128 C04EF4E5                   138 C1       DC    X'C04EF4E5'          |   -0.30842425   C1 + FUDGE 1        00125001
00012C C014ABBC                   139          DC    X'C014ABBC'          |   -0.08074543   S1                  00126001
000130 41100000                   140 C0       DC    X'41100000'          |    1.0          C0                  00127001
000134 40C90FDB                   141          DC    X'40C90FDB'          V    0.78539816   S0                  00128001
                      00130       142 ONE      EQU   C0                                                       00129001
                                  143 *                                                                           00130001
000138 00000000                   144 OCTNT    DC    F'0'                                                         00131001
                                  145 *                                                                           00132001
                                  146 *        REGISTER EQUATES                                                   00133001
                                  147 *                                                                           00134001
                                  148          IEZREGS                                                            00135001
                      00000       149+R0       EQU   0                                                          01-IEZRE
                      00001       150+R1       EQU   1                                                          01-IEZRE
                      00002       151+R2       EQU   2                                                          01-IEZRE
                      00003       152+R3       EQU   3                                                          01-IEZRE
                      00004       153+R4       EQU   4                                                          01-IEZRE
                      00005       154+R5       EQU   5                                                          01-IEZRE
                      00006       155+R6       EQU   6                                                          01-IEZRE
                      00007       156+R7       EQU   7                                                          01-IEZRE
                      00008       157+R8       EQU   8                                                          01-IEZRE
                      00009       158+R9       EQU   9                                                          01-IEZRE
                      0000A       159+R10      EQU   10                                                         01-IEZRE
                      0000B       160+R11      EQU   11                                                         01-IEZRE
                      0000C       161+R12      EQU   12                                                         01-IEZRE
                      0000D       162+R13      EQU   13                                                         01-IEZRE
                      0000E       163+R14      EQU   14                                                         01-IEZRE
                      0000F       164+R15      EQU   15                                                         01-IEZRE
                                  165 *                                                                           00136001
                                  166          END                                                                00137001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.22

```
CH46            8 00000108 00000001  X X               130   89
COMMON          2 0000007C 00000001  I                  80   55   57U  60B  72   74U  78B
CRANK           4 00000110 00000001  X X               131   58M  75M  79M  92
C0              4 00000130 00000001  X X               140  111  142
C1              4 00000128 00000001  X X               138  109
C2              4 00000120 00000001  X X               136  107
C3              4 00000118 00000001  X X               134  106
ERROR           4 000000F8 00000001  I                 124   85B
EVEN            2 000000B8 00000001  I                  99   96B
FOVPI           8 00000100 00000001  X X               129   86
FPR0            1 00000000           U                  43   80M  82M  83M  84   86M  87   89M  90   91M  97M  98M 103
                                                             104M 105  106M 107M 108M 109M 110M 111M 114M 117M
FPR2            1 00000002           U                  44   81M  90M  91   92M  93  105M 108  110
FPR4            1 00000004           U                  45  103M 114
FSAERR          1 000001CC           U                 126  124B
IHISSCC         4 00000000 00000001  I                  48   40   54U
IHISSCS         4 0000003A 00000001  I                  65   41   71U
LABAA           2 000000C6 00000001  I                 103  101B
LABBB           4 000000E8 00000001  I                 115  113B
LABCC           2 000000F2 00000001  H H               120  116B
MAX             4 00000114 00000001  X X               132   84
OCTNT           4 00000138 00000001  F F               144   93M  95  100  115
ONE             4 00000130 00000001  U                 142   87   97
R1              1 00000001           U                 150   59M  76M  77   82   99M 102M 106  107  109  111  112M
R10             1 0000000A           U                 159   55M  57U  62D  72M  74U
R15             1 0000000F           U                 164   54U  56D  71U  73D
SMALL           4 000000A2 00000001  I                  92   88B
```

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.22

```
    0(0)   52   69  121M
    1(1)   52   59M  69   76M  77   82   99M 102M 106N 107N 109N 111N 112M 121M
    2(2)   52   69  121M
    3(3)   52   69  121M
    4(4)   52   69  121M
    5(5)   52   69  121M
    6(6)   52   69  121M
    7(7)   52   69  121M
    8(8)   52   69  121M
    9(9)   52   69  121M
   10(A)   52   55M  57U  62D  69   72M  74U 121M
   11(B)   52   69  121M
   12(C)   52   69  121M
   13(D)   52   69  121  124N
   14(E)   52   69  121M 122B
   15(F)   48B  52   54U  56D  65B  69   71U  73D 121M
```

Con Source Members X390 3.1.04 2012/08/17 13.22

```
  1 SYS1.MACLIB
              IEZREGS  RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
  5 SYS1.AMODGEN
```

Stmt Level Action Type Id Address Range Reg Max Last Text X390 3.1.04 2012/08/17 13.22

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
54		USING	Ordinary	00000001	00000000	00001000	15	0007C	55	IHISSCC,R15
56		DROP					15			R15
57		USING	Ordinary	00000001	0000007C	00001000	10	00097	60	COMMON,R10
62		DROP					10			R10
71		USING	Ordinary	00000001	0000003A	00001000	15	00042	72	IHISSCS,R15
73		DROP					15			R15
74		USING	Ordinary	00000001	0000007C	00001000	10	000BF	116	COMMON,R10

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHISSC PROCSTEP: X390

Primary input: lines 1 to 137 of SYSD.ALGOLFRT.ASM(IHISSC)

SYSLIB library records read: 161

SYSUT1 work file size: 16439 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 10960 bytes

SYSLIN file records written: 8

TXA000I Return code 0, elapsed time 0.16 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHISSCSN	00013C	4

IHISSQ

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.22

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHISSQ)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0238
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

                                     2 *                                                                          00002001
                                     3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                     4 *                                                                          00004001
                                     5 *        STATUS - LEVEL 2.1                                                00005001
                                     6 *                                                                          00006001
                                     7 *        FUNCTION/OPERATION -                                              00007001
                                     8 *        WRITE X = M*16**(2P-Q), M MANTISSA, Q=0 OR 1                      00008001
                                     9 *        THEN SQRT(X) = SQRT(M*16**-Q)*16**P                               00009001
                                    10 *                                                                          00010001
                                    11 *        ENTRY POINT -                                                     00011001
                                    12 *        IHISSQ - SQRT FUNCTION, SHORT                                     00012001
                                    13 *                 LA   R1,PARMLIST                                         00013001
                                    14 *                 BALR R14,R15                                             00014001
                                    15 *                 DATA PASSED BY NAME                                      00015001
                                    16 *        THE MODULE IS ENTERED FROM THE GENERATED OBJECT MODULE            00016001
                                    17 *                                                                          00017001
                                    18 *        INPUT - N/A                                                       00018001
                                    19 *                                                                          00019001
                                    20 *        OUTPUT - N/A                                                      00020001
                                    21 *                                                                          00021001
                                    22 *        EXTERNAL ROUTINES - N/A                                           00022001
                                    23 *                                                                          00023001
                                    24 *        EXIT - NORMAL -                                                   00024001
                                    25 *        RETURN VIA R14, RESULT IN FPR0                                    00025001
                                    26 *                                                                          00026001
                                    27 *        EXIT - ERROR -                                                    00027001
                                    28 *        IF ARGUMENT NEGATIVE GOTO ERROR ROUTINE VIA                       00028001
                                    29 *        B   FSAERR+23*4(R13)                                              00029001
                                    30 *                                                                          00030001
                                    31 *        TABLES/WORKAREAS - N/A                                            00031001
                                    32 *                                                                          00032001
000000              00000 000C4     33 IHISSQRT CSECT                                                             00033001
                                    34 *                                                                          00034001
                                    35          ENTRY IHISSQ                                                      00035001
                                    36 *                                                                          00036001
                    00000           37 FPR0     EQU   0                     RESULT REGISTER                       00037001
                    00002           38 FPR2     EQU   2                     SCRATCH REGISTERS                     00038001
                    00004           39 FPR4     EQU   4                                                           00039001
                                    40 *                                                                          00040001
                                    41 IHISSQ   SAVE  (14,12),,'IHISSQRT LEVEL 2.1 &SYSDATE &SYSTIME'             00041001
000000 47F0 F026            00026   42+IHISSQ   B     38(0,15)                        BRANCH AROUND ID        01-SAVE
000004 21                           43+         DC    AL1(33)                         LENGTH OF IDENTIFIER    01-SAVE
000005 C9C8C9E2E2D8D9E3             44+         DC    CL32'IHISSQRT LEVEL 2.1 08/17/12 13.2' IDENTIFIER       01-SAVE
000025 F2                           45+         DC    CL1'2'                          IDENTIFIER              01-SAVE
000026 90EC D00C            0000C   46+         STM   14,12,12(13)                    SAVE REGISTERS          01-SAVE
                                    47 *                                                                          00042001
                R:F  00000          48          USING IHISSQRT,R15                                                00043001
00002A 5810 1000            00000   49          L     R1,0(,R1)                                                   00044001
00002E 5800 1000            00000   50          L     R0,0(,R1)               OBTAIN ARGUMENT                     00045001
000032 7840 1000            00000   51          LE    FPR4,0(,R1)                                                 00046001
000036 1200                         52          LTR   R0,R0                                                       00047001
000038 4780 F08A            0008A   53          BZ    ZRANS                   ARG IS 0, RESULT IS 0               00048001
00003C 4740 F090            00090   54          BM    ERROR                   NEGATIVE ARG, ERROR                 00049001
000040 5E00 F0A4            000A4   55          AL    R0,BIAS                 ADD X'41' TO CHAR                   00050001
000044 8C00 0019            00019   56          SRDL  R0,25                                                       00051001
000048 8900 0018            00018   57          SLL   R0,24                   CHAR OF RESULT IS READY             00052001
00004C 18E0                         58          LR    R14,R0                  KEEP IT IN R14                      00053001
00004E 1211                         59          LTR   R1,R1                   SIGN BIT OF R1 = 1-Q                00054001
000050 4740 F058            00058   60          BM    LABAA                                                       00055001
000054 5AE0 F0A8            000A8   61          A     R14,FOUR                Q=1,ADD 4 (B31) TO R14 FOR INDEX    00056001
000058 8810 0003            00003   62 LABAA    SRL   R1,3                    SCALE 1+M (Q=0) OR M (Q=1) TO B3    00057001
00005C 5A1E F0BC            000BC   63          A     R1,C(R14)               OBTAIN FIRST APPROXIMATION BY       00058001
                                    64 *                                      A HYPERBOLIC FIT OF THE             00059001
000060 580E F0B4            000B4   65          L     R0,B(R14)               RESPECTIVE INTERVAL                 00060001
000064 1D01                         66          DR    R0,R1                   Q=1, INTERPRET M AS M/16 (B-1)      00061001
000066 5A1E F0AC            000AC   67          A     R1,A(R14)                                                   00062001
00006A 1A1E                         68          AR    R1,R14                  ADD ON CHAR TO COMPLETE FIRST       00063001
00006C 5010 F0A0            000A0   69          ST    R1,BUFF                 APPROXIMATION                       00064001
000070 3804                         70          LER   FPR0,FPR4               GIVE 2 PASSES OF NEWTON-RAPHSON     00065001
000072 7D00 F0A0            000A0   71          DE    FPR0,BUFF               ITERATION                           00066001
000076 7A00 F0A0            000A0   72          AE    FPR0,BUFF                                                   00067001
00007A 3400                         73          HER   FPR0,FPR0                                                   00068001
00007C 3D40                         74          DER   FPR4,FPR0                                                   00069001
00007E 3B40                         75          SER   FPR4,FPR0               Y2 =(Y1+X/Y1)/2 = (X/Y1-Y1)/2+Y1     00070001
000080 3444                         76          HER   FPR4,FPR4               USE THE LATTER TO PROTECT           00071001
000082 3A04                         77          AER   FPR0,FPR4               LAST DIGIT                          00072001
                                    78 *                                                                          00073001
                                    79 FIN      RETURN (14,12)                RESTORE REGS AND RETURN             00074001
000084                              80+FIN      DS    0H                                                        01-RETUR
000084 98EC D00C            0000C   81+         LM    14,12,12(13)                    RESTORE THE REGISTERS   01-RETUR
000088 07FE                         82+         BR    14                              RETURN                  01-RETUR
                                    83 *                                                                          00075001
00008A 3B00                         84 ZRANS    SER   FPR0,FPR0                                                   00076001
00008C 47F0 F084            00084   85          B     FIN                                                         00077001
                                    86 *                                                                          00078001
000090 8900 0001            00001   87 ERROR    SLL   R0,1                                                        00079001
000094 1200                         88          LTR   R0,R0                   NEGATIVE ZERO ?                     00080001
000096 4780 F08A            0008A   89          BZ    ZRANS                                                       00081001
00009A 47FD 0228            00228   90          B     FSAERR+23*4(R13)        NEGATIVE PARAMETER                  00082001
                                    91 *                                                                          00083001
                    001CC           92 FSAERR   EQU   X'1CC'                                                    00084001
                                    93 *                                                                          00085001
00009E 0000
0000A0 00000000                     94 BUFF     DC    F'0'                                                        00086001
0000A4 41000000                     95 BIAS     DC    X'41000000'                                                 00087001
0000A8 00000004                     96 FOUR     DC    F'4'                                                        00088001
```

Active USINGs: IHISSQRT,R15

```
  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

0000AC 01CE9FE0                    97 A        DC    X'01CE9FE0'            1.8071270   A0 (B7)              00089001
0000B0 006DC57C                    98          DC    X'006DC57C'            0.4287950   A1 (B7) MINUS 4(B31) 00090001
0000B4 FFE6C37D                    99 B        DC    X'FFE6C37D'           -1.5772732   B0 (B11)             00091001
0000B8 FFFA82EB                   100          DC    X'FFFA82EB'           -0.0214398   B1 (B7)              00092001
0000BC FF44546F                   101 C        DC    X'FF44546F'            0.95418214  C0 (B3) MINUS 1(B3)  00093001
0000C0 0E0A7419                   102          DC    X'0E0A7419'            0.0548470   C1 (B-1)             00094001
                                  103 *                                                                     00095001
                                  104 *        REGISTER EQUATES                                             00096001
                                  105 *                                                                     00097001
                                  106          IEZREGS                                                      00098001
                       00000      107+R0       EQU   0                                                      01-IEZRE
                       00001      108+R1       EQU   1                                                      01-IEZRE
                       00002      109+R2       EQU   2                                                      01-IEZRE
                       00003      110+R3       EQU   3                                                      01-IEZRE
                       00004      111+R4       EQU   4                                                      01-IEZRE
                       00005      112+R5       EQU   5                                                      01-IEZRE
                       00006      113+R6       EQU   6                                                      01-IEZRE
                       00007      114+R7       EQU   7                                                      01-IEZRE
                       00008      115+R8       EQU   8                                                      01-IEZRE
                       00009      116+R9       EQU   9                                                      01-IEZRE
                       0000A      117+R10      EQU   10                                                     01-IEZRE
                       0000B      118+R11      EQU   11                                                     01-IEZRE
                       0000C      119+R12      EQU   12                                                     01-IEZRE
                       0000D      120+R13      EQU   13                                                     01-IEZRE
                       0000E      121+R14      EQU   14                                                     01-IEZRE
                       0000F      122+R15      EQU   15                                                     01-IEZRE
                                  123 *                                                                     00099001
                                  124          END                                                          00100001
```

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.22

Symbol	Length	Value	Id	Type	Asm	Program	Defn	References
A	4	000000AC	00000001	X	X		97	67
B	4	000000B4	00000001	X	X		99	65
BIAS	4	000000A4	00000001	X	X		95	55
BUFF	4	000000A0	00000001	F	F		94	69M 71 72
C	4	000000BC	00000001	X	X		101	63
ERROR	4	00000090	00000001	I			87	54B
FIN	2	00000084	00000001	H	H		80	85B
FOUR	4	000000A8	00000001	F	F		96	61
FPR0	1	00000000		U			37	70M 71M 72M 73M 74 75 77M 84M
FPR4	1	00000004		U			39	51M 70 74M 75M 76M 77
FSAERR	1	000001CC		U			92	90B
IHISSQ	4	00000000	00000001	I			42	35
IHISSQRT	1	00000000	00000001	J			33	48U
LABAA	4	00000058	00000001	I			62	60B
R0	1	00000000		U			107	50M 52M 55M 56M 57M 58 65M 66M 87M 88M
R1	1	00000001		U			108	49M 50 51 59M 62M 63M 66 67M 68M 69
R13	1	0000000D		U			120	90
R14	1	0000000E		U			121	58M 61M 63 65 67 68
R15	1	0000000F		U			122	48U
ZRANS	2	0000008A	00000001	I			84	53B 89B

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.22

0(0)	46	50M	52M	55M	56M	57M	58	65M	66M	81M	87M	88M
1(1)	46	49M	50	51	56M	59M	62M	63M	66M	67M	68M	69	81M
2(2)	46	81M										
3(3)	46	81M										
4(4)	46	81M										
5(5)	46	81M										
6(6)	46	81M										
7(7)	46	81M										
8(8)	46	81M										
9(9)	46	81M										
10(A)	46	81M										
11(B)	46	81M										
12(C)	46	81M										
13(D)	46	81	90N									
14(E)	46	58M	61M	63N	65N	67N	68	81M	82B			
15(F)	42B	46	48U	81M								

Con Source Members X390 3.1.04 2012/08/17 13.22

1 SYS1.MACLIB
IEZREGS RETURN SAVE
2 SYSD.TOOLS.MACLIB
3 SYSD.ALGOLFRT.ASM
4 SYSD.ALGOLFRT.MACLIB
5 SYS1.AMODGEN

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text	X390 3.1.04 2012/08/17 13.22
48		USING	Ordinary	00000001	00000000	00001000	15	000BC	89	IHISSQRT,R15	

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHISSQ PROCSTEP: X390

Primary input: lines 1 to 100 of SYSD.ALGOLFRT.ASM(IHISSQ)

SYSLIB library records read: 161

SYSUT1 work file size: 11676 bytes

SYSUT2 work file size: 14137 bytes

SYSUT3 work file size: 8000 bytes

SYSLIN file records written: 6

TXA000I Return code 0, elapsed time 0.14 seconds.

Csect	Rel Addr(hex)	Length(dec)
IHISSQRT	0000C4	4

IHISYS

LEVEL

V2.M01

 X390 3.1.04 2012/08/17 13.22

```
TLC002I Tachyon Legacy Assembler is licensed to Thomas Armstrong
TLC011I License expires on 2012/10/17 at 01:00

Command Line Parameters-  -PARM("LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT")
                          -S1//DDN:SYSUT1
                          -S2//DDN:SYSUT2
                          -S3//DDN:SYSUT3
                          -SN//DDN:SYSLIN
                          -SL//DDN:SYSLIB
                          -ST//DDN:SYSPRINT
                          -SH//DDN:SYSPUNCH
                          -SA//DDN:SYSADATA
                          -SM1


Options for this Assembly       Source
-------------------------       --------------------------------
  AControl(ALign,NoLibMac)      (default)
NoAData                         (default)
  AdataLevel(5)                 (default)
NoCompaT                        (default)
  DXref                         (default)
NoEsd                           Command Line
  Flag(0,ALign,ConT,EXlitw,NoImpLen,PUsh,ReCord,NoSUbstr,Using0,NoPage0,NoBrpage0,NoREnt,UsingDup,UsingZero,UsingMult,Ra
2,HLasm,NoTRunc,NoIndeX)        (default)
NoFOld                          (default)
  IDR('X390ASM   3104')         (default)
NoINFO                          Command Line
  LAnguage(EN)                  (default)
  LineCount(101)                Command Line
  List(121)                     (default)
  MsgLevel(0,0)                 Command Line
  MXref(Source)                 (default)
  Object(Omf)                   Command Line
  OPtable(Uni,NoList)           (default)
  PARM(LOAD,ASA,SZ(3M),LC(101),NE,NOINFO,ML(0,0),XREF(SHORT),NRL,NT)
                                Command Line
NoPControl                      (default)
  PRintctl(Asa)                 //DDN:SYSPRINT
  ProcesS(NoBatch,NoDbcs,NoPestop,Thread,NoWarn0)
                                (default)
NoProFile                       (default)
NoRLd                           Command Line
  RXref(NoCr,Gr,NoFr)           (default)
  SiZe(3145728)                 Command Line
NoSUppress                      (default)
  SysadatA(//DDN:SYSADATA)      Command Line
  SysLib(//DDN:SYSLIB)          Command Line
  SysliN(//DDN:SYSLIN)          Command Line
NoSysParm                       (default)
  SysprinT(//DDN:SYSPRINT)      Command Line
  SyspuncH(//DDN:SYSPUNCH)      Command Line
  SystemId('MVS 3.8')           (default)
  SysterM(1)                    Command Line
  Sysut1(//DDN:SYSUT1)          Command Line
  Sysut2(//DDN:SYSUT2)          Command Line
  Sysut3(//DDN:SYSUT3)          Command Line
NoTerm                          Command Line
NoTEst                          (default)
  TypeCheck(Magnitude,Register) (default)
NoUsingLimit                    (default)
  UsingMap                      (default)
  Xref(Short)                   Command Line


DDNAMEs     File/Data Set Names
--------    -------------------
SYSIN       SYSD.ALGOLFRT.ASM(IHISYS)
SYSLIB      SYS1.MACLIB
            SYSD.TOOLS.MACLIB
            SYSD.ALGOLFRT.ASM
            SYSD.ALGOLFRT.MACLIB
            SYS1.AMODGEN
SYSLIN      SYS12230.T132141.RA000.T1BLD.OBJECT
SYSPRINT    JES2.JOB09284.SO0242
SYSUT1      SYS12230.T132141.RA000.T1BLD.SYSUT1
SYSUT2      SYS12230.T132141.RA000.T1BLD.SYSUT2
SYSUT3      SYS12230.T132141.RA000.T1BLD.SYSUT3
```

Active USINGs: None

```
Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

                                    2 *                                                                          00002001
                                    3 *        COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                        00003001
                                    4 *                                                                          00004001
                                    5 *        STATUS - LEVEL 2.1                                                00005001
                                    6 *                                                                          00006001
                                    7 *        FUNCTION/OPERATION -                                              00007001
                                    8 *        CONSISTS OF 15 ROUTINES WITH DIFFERENT ACTIONS ON DATASET         00008001
                                    9 *        WHICH DEPENDING ON SECOND PARAMETER IN SYSACT                     00009001
                                   10 *                                                                          00010001
                                   11 *        ENTRY POINTS -                                                    00011001
                                   12 *        IHISYSCT - FROM GENERATED OBJECT MODULE                           00012001
                                   13 *                   LA   R1,PARMLIST                                      00013001
                                   14 *                   BALR R14,R15                                          00014001
                                   15 *                   DATA PASSED BY NAME                                   00015001
                                   16 *                                                                          00016001
                                   17 *        INPUT - SYSACT4 READS TWO RECORDS AFTER REPOSITIONING             00017001
                                   18 *                                                                          00018001
                                   19 *        OUTPUT - N/A                                                      00019001
                                   20 *                                                                          00020001
                                   21 *        EXTERNAL ROUTINES -                                               00021001
                                   22 *        IHIIOR - EVALUATE DATASET NUMBER                                  00022001
                                   23 *               - OPEN DATASET                                             00023001
                                   24 *               - CHANGE TO NEXT RECORD                                    00024001
                                   25 *               - CLOSE DATASET                                            00025001
                                   26 *               - CONVERT REAL TO INTEGER                                  00026001
                                   27 *                                                                          00027001
                                   28 *        EXITS - NORMAL - RELOAD REGISTERS RETURN VIA R14                  00028001
                                   29 *              - ERROR  -                                                  00029001
                                   30 *                DATASET NUMBER OUT OF RANGE                  NO 0      00030001
                                   31 *                INCOMPATIBLE ACTIONS ON SAME DATASET         NO 2      00031001
                                   32 *                INPUT REQUEST BEYOND END OF DATASET          NO 5      00032001
                                   33 *                UNDEFINED FUNCTION NUMBER                    NO 9      00033001
                                   34 *                DATASET CLOSED                               NO 10     00034001
                                   35 *                DATASET OPEN                                 NO 11     00035001
                                   36 *                QUANTITY IN SYSACT PROCEDURE MUST BE A VARIABLE NO 12  00036001
                                   37 *                QUANTITY IN SYSACT PROCEDURE OUT OF RANGE    NO 13     00037001
                                   38 *                BACKWARD REPOSITIONING NOT DEFINED           NO 14     00038001
                                   39 *                BRANCH TO IHIFSA                                       00039001
                                   40 *                          L  R13,IHIFSA                                00040001
                                   41 *                          B  FSAERR+XX*4(R13)       XX  ERROR NO       00041001
                                   42 *                                                                       00042001
                                   43 *        TABLES/WORK AREAS - N/A                                        00043001
                                   44 *                                                                       00044001
                                   45 *        ATTRIBUTES - SERIALLY REUSABLE                                 00045001
                                   46 *                                                                       00046001
                                   47 *        NOTES -                                                        00047001
                                   48 *        THE OPERATION OF THIS MODULE DOES NOT DEPEND UPON A            00048001
                                   49 *        SPECIAL INTERNAL REPRESENTATION OF THE EXTERNAL                00049001
                                   50 *        CHARACTER SET                                                  00050001
                                   51 *                                                                       00051001
                                   52 *        REGISTERS                                                      00052001
                                   53 *        R1  -> PARAMETER LIST                                          00053001
                                   54 *        R5  -> DSTABLE ENTRY FOR DATASET                               00054001
                                   55 *        R6   = DATASET NUMBER                                          00055001
                                   56 *        R8  -> DCB AND DECB                                            00056001
                                   57 *        R12 -> FSA                                                     00057001
                                   58 *        R13 -> SAVE AREA IN FSA                                        00058001
                                   59 *        R14 -> RETURN                                                  00059001
                                   60 *        R15 -> ROUTINE SYSACT                                          00060001
                                   61 *                                                                       00061001
000000                 00000 0077C 62 IHISYSCT CSECT                                                          00062001
                                   63 *                                                                       00063001
                                   64 *        FLOATING POINT REGISTER                                        00064001
                                   65 *                                                                       00065001
                       00000       66 FR0      EQU   0                                                        00066001
                                   67 *                                                                       00067001
                                   68 *        DISPLACEMENTS IN ADRLST IN IHIFSA                              00068001
                                   69 *                                                                       00069001
                                   70 *                                      DISPLACEMENT FOR -               00070001
                       00000       71 CI       EQU   0                       IHIIORCI                         00071001
                       00004       72 CL       EQU   4                       IHIIORCL                         00072001
                       00008       73 EV       EQU   8                       IHIIOREV                         00073001
                       0000C       74 NX       EQU   12                      IHIIORNX                         00074001
                       00010       75 OP       EQU   16                      IHIIOROP                         00075001
                       00014       76 OQ       EQU   20                      IHIIOROQ                         00076001
                                   77 *                                                                       00077001
                                   78          SAVE  (14,12),,'IHISYSCT LEVEL 2.1 &SYSDATE &SYSTIME'          00078001
000000 47F0 F026             00026 79+         B     38(0,15)                      BRANCH AROUND ID       01-SAVE
000004 21                          80+         DC    AL1(33)                       LENGTH OF IDENTIFIER   01-SAVE
000005 C9C8C9E2E8E2C3E3            81+         DC    CL32'IHISYSCT LEVEL 2.1 08/17/12 13.2' IDENTIFIER    01-SAVE
000025 F2                          82+         DC    CL1'2'                        IDENTIFIER             01-SAVE
000026 90EC D00C             0000C 83+         STM   14,12,12(13)                  SAVE REGISTERS         01-SAVE
                                   84 *                                                                       00079001
00002A 187F                        85          LR    R7,R15                        LOAD BASE REGISTER       00080001
                 R:7  00000        86          USING IHISYSCT,R7                                              00081001
00002C 18CD                        87          LR    R12,R13                       ADDR OF FIXED STORAGE AREA 00082001
                                   88 *                                           TO R12                     00083001
00002E 50D0 76EC             006EC 89          ST    R13,SAVEAR+4                                             00084001
000032 41D0 76E8             006E8 90          LA    R13,SAVEAR                                               00085001
000036 58F0 C11C             0011C 91          L     R15,IORLST(,R12)              R15 -> COMMON I/O ROUTINES 00086001
00003A 58F0 F008             00008 92          L     R15,EV(,R15)                  EVALUATE DATASET NUMBER    00087001
00003E 05EF                        93          BALR  R14,R15                                                  00088001
                                   94 *                                                                       00089001
                                   95 *        ON RETURN -                                                    00090001
                                   96 *        R6  = DATASET NUMBER                                           00091001
                                   97 *        R5 -> DSTABLE ENTRY                                            00092001
```

```
  Active USINGs: IHISYSCT,R7

  Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                  X390 3.1.04  2012/08/17 13.22

                                    98 *                                                                    00093001
                R:5  00000          99          USING DSTABLE,R5                                            00094001
                                   100 *                                                                    00095001
                                   101 *        EVALUATE SECOND PARAMETER FUNCTION                          00096001
                                   102 *                                                                    00097001
000040 BF2F 1004            00004  103          ICM   R2,B'1111',4(R1)                                      00098001
000044 47B0 706A            0006A  104          BNM   SYS1                                                  00099001
000048 9120 C0C2      000C2        105          TM    OPTSW(R12),X'20'          CONVERSION TO INTEGER TEST PRE  00100001
00004C 4710 7058            00058  106          BO    SYS11                     SHORT                       00101001
000050 6800 2000            00000  107          LD    FR0,0(,R2)                LONG                        00102001
000054 47F0 705C            0005C  108          B     SYS11A                                                00103001
                                   109 *                                                                    00104001
000058 7800 2000            00000  110 SYS11    LE    FR0,0(,R2)                                            00105001
00005C 58F0 C11C            0011C  111 SYS11A   L     R15,IORLST(,R12)                                      00106001
000060 58F0 F000            00000  112          L     R15,CI(,R15)                                          00107001
000064 05EF                        113          BALR  R14,R15                   CONVERT TO INTEGER          00108001
000066 47F0 706E            0006E  114          B     SYS1A                                                 00109001
                                   115 *                                                                    00110001
00006A 5800 2000            00000  116 SYS1     L     R0,0(,R2)                                             00111001
00006E 1220                        117 SYS1A    LTR   R2,R0                                                 00112001
000070 47D0 70B0            000B0  118          BNP   SYSERR9                   ZERO OR NEG, FUNCT OUT OF RANGE  00113001
000074 5920 7730            00730  119          C     R2,=F'15'                 EXCEED FUNCTION RANGE       00114001
000078 4720 70B0            000B0  120          BH    SYSERR9                   YES, FUNCTION OUT OF RANGE  00115001
00007C 8B20 0002            00002  121          SLA   R2,2                      CONVERT TO OFFSET           00116001
000080 5832 773C            0073C  122          L     R3,SYSVECT(R2)            R3 -> REQUESTED SYSACT ROUTINE  00117001
                                   123 *                                                                    00118001
                                   124 *        EVALUATE THIRD PARAMETER QUANTITY                           00119001
                                   125 *                                                                    00120001
000084 1B99                        126          SR    R9,R9                     ZERO REG USED AS FLAG       00121001
000086 5820 1008            00008  127          L     R2,8(,R1)                                             00122001
00008A 8920 0001            00001  128          SLL   R2,1                                                  00123001
00008E 1222                        129          LTR   R2,R2                                                 00124001
000090 4740 7098            00098  130          BM    SYS11B                                                00125001
000094 4190 9001            00001  131          LA    R9,1(,R9)                 QUANTITY IS A VARIABLE      00126001
000098 8820 0001            00001  132 SYS11B   SRL   R2,1                                                  00127001
00009C 5420 7734            00734  133          N     R2,=X'00FFFFFF'                                       00128001
0000A0 5840 2000            00000  134          L     R4,0(,R2)                                             00129001
                                   135 *                                                                    00130001
                                   136 *        R3 -> REQUESTED SYSSACT                                     00131001
                                   137 *        R2 -> QUANTITY                                              00132001
                                   138 *        R4  = QUANTITY                                              00133001
                                   139 *        R9 EQUAL ONE IF QUANTITY IS A VARIABLE ELSE ZERO            00134001
                                   140 *                                                                    00135001
0000A4 07F3                        141          BR    R3                        BRANCH TO SYSACT ROUTINE    00136001
                                   142 *                                                                    00137001
0000A6 58D0 76EC            006EC  143 RETSYS   L     R13,SAVEAR+4                                          00138001
                                   144 *                                                                    00139001
                                   145          RETURN (14,12)                  RESTORE CALLERS REGS AND RETURN  00140001
0000AA 98EC D00C            0000C  146+         LM    14,12,12(13)                      RESTORE THE REGISTERS  01-RETUR
0000AE 07FE                        147+         BR    14                                RETURN              01-RETUR
                                   148 *                                                                    00141001
0000B0 18DC                        149 SYSERR9  LR    R13,R12                   UNDEFINED FUNCTION NUMBER ERR9  00142001
0000B2 47FC 01F0            001F0  150          B     FSAERR+9*4(R12)                                       00143001
                                   151 *                                                                    00144001
                                   152 *        BRANCH TO NEXTREC IN IHIIOR                                 00145001
                                   153 *                                                                    00146001
0000B6 58FC 011C            0011C  154 NXREC    L     R15,IORLST(R12)                                       00147001
0000BA 58FF 000C            0000C  155          L     R15,NX(R15)                                           00148001
0000BE 07FF                        156          BR    R15                                                   00149001
                                   157 *                                                                    00150001
                                   158 *----------------------------------------------------------------------- 00151001
                                   159 *        ROUTINE SYSACT1                                             00152001
                                   160 *----------------------------------------------------------------------- 00153001
                                   161 *                                                                    00154001
                                   162 *        QUANTITY = R                                                00155001
                                   163 *                                                                    00156001
0000C0 9180 501A      0001A        164 SYSACT1  TM    DSF,DS0                                               00157001
0000C4 4710 70CE            000CE  165          BO    SYS1T1                                                00158001
0000C8 18DC                        166 SYSCLOSD LR    R13,R12                   DATASET IS CLOSED ERROR 10  00159001
0000CA 47FC 01F4            001F4  167          B     FSAERR+10*4(R12)                                      00160001
                                   168 *                                                                    00161001
0000CE 1299                        169 SYS1T1   LTR   R9,R9                                                 00162001
0000D0 4720 70DA            000DA  170          BP    SYS1T2                                                00163001
0000D4 18DC                        171 SYSCONST LR    R13,R12                   QUANTITY SHOULD BE A VARIABLE  00164001
0000D6 47FC 01FC            001FC  172          B     FSAERR+12*4(R12)          ERROR12                     00165001
                                   173 *                                                                    00166001
0000DA 5840 5004            00004  174 SYS1T2   L     R4,R                                                  00167001
0000DE 5B40 5008            00008  175          S     R4,RE                                                 00168001
0000E2 4A40 5016            00016  176          AH    R4,P                                                  00169001
0000E6 4140 4001            00001  177          LA    R4,1(,R4)                                             00170001
0000EA 5040 2000            00000  178          ST    R4,0(,R2)                                             00171001
0000EE 47F0 70A6            000A6  179          B     RETSYS                                                00172001
                                   180 *                                                                    00173001
                                   181 *----------------------------------------------------------------------- 00174001
                                   182 *        ROUTINE SYSACT2                                             00175001
                                   183 *----------------------------------------------------------------------- 00176001
                                   184 *                                                                    00177001
                                   185 *        R = QUANTITY                                                00178001
                                   186 *                                                                    00179001
0000F2 1244                        187 SYSACT2  LTR   R4,R4                                                 00180001
0000F4 4720 70FC            000FC  188          BP    SYSACT2A                                              00181001
0000F8 47F0 7104            00104  189          B     SYS2T1                                                00182001
                                   190 *                                                                    00183001
0000FC 4940 5016            00016  191 SYSACT2A CH    R4,P                                                  00184001
000100 47D0 710A            0010A  192          BNH   SYS2T1+6                                              00185001
000104 18DC                        193 SYS2T1   LR    R13,R12                                               00186001
```

Active USINGs: DSTABLE,R5 IHISYSCT,R7

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.22

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000106 47FC 0200            00200   194          B     FSAERR+13*4(R12)       QUANTITY OUT OF RANGE ERROR 13   00187001
                                    195 *                                                                       00188001
00010A 9180 501A      0001A         196          TM    DSF,DS0                                                  00189001
00010E 4780 70C8            000C8   197          BZ    SYSCLOSD               DATASET IS CLOSED                 00190001
000112 1834                         198          LR    R3,R4                                                    00191001
000114 5A30 5008            00008   199          A     R3,RE                                                    00192001
000118 4B30 5016            00016   200          SH    R3,P                                                     00193001
00011C 0630                         201          BCTR  R3,0                                                     00194001
00011E 5B30 5004            00004   202          S     R3,R                                                     00195001
000122 4720 71A6            001A6   203          BP    SYS2T2                                                   00196001
                                    204 *                                                                       00197001
                                    205 *        NEW CHARACTER POINTER LESS OR EQUAL R                          00198001
                                    206 *                                                                       00199001
000126 9120 501A      0001A         207          TM    DSF,DS2                                                  00200001
00012A 4710 716C            0016C   208          BO    SYS2T3                                                   00201001
00012E 9120 501B      0001B         209          TM    DSF+1,DS10             DATASET OPENED BY SYSACT 12 ?     00202001
000132 4710 7162            00162   210          BO    SYS2T30                                                  00203001
000136 9101 501A      0001A         211          TM    DSF,DS7                EOD BEEN REACHED ?                00204001
00013A 4710 7402            00402   212          BO    SYSEOD                                                   00205001
00013E 45E0 70B6            000B6   213          BAL   R14,NXREC              LAST I/O PROCEDURE WAS INPUT      00206001
000142 9101 501A      0001A         214          TM    DSF,DS7                END OF DATA REACHED ?             00207001
000146 4780 7150            00150   215          BZ    SYS2T1A                                                  00208001
00014A 1834                         216          LR    R3,R4                  QUANTITY = 1 ?                    00209001
00014C 4630 7402            00402   217          BCT   R3,SYSEOD              NO, INPUT REQUEST BEYOND EOD      00210001
000150 5A40 5008            00008   218 SYS2T1A  A     R4,RE                                                    00211001
000154 4B40 5016            00016   219          SH    R4,P                   ASSIGN A NEW VALUE TO CHARACTER   00212001
000158 0640                         220          BCTR  R4,0                                                     00213001
00015A 5040 5004            00004   221          ST    R4,R                                                     00214001
00015E 47F0 70A6            000A6   222          B     RETSYS                                                   00215001
                                    223 *                                                                       00216001
000162 1266                         224 SYS2T30  LTR   R6,R6                   DATASET NUMBER = 0 ?              00217001
000164 4780 75CA            005CA   225          BZ    SYSINCOM               YES, BRANCH                       00218001
000168 9620 501A      0001A         226          OI    DSF,DS2                                                  00219001
                                    227 *                                                                       00220001
                                    228 *        LAST I/O PROCEDURE WAS OUTPUT                                  00221001
                                    229 *                                                                       00222001
00016C 5830 5008            00008   230 SYS2T3   L     R3,RE                                                    00223001
000170 5B30 5004            00004   231          S     R3,R                                                     00224001
000174 4780 717E            0017E   232          BZ    SYS2T31                                                  00225001
000178 41F0 76D4            006D4   233          LA    R15,SYBLANK            FILL RECORD WITH BLANKS           00226001
00017C 05EF                         234          BALR  R14,R15                                                  00227001
00017E 45E0 70B6            000B6   235 SYS2T31  BAL   R14,NXREC                                               00228001
                                    236 *                                                                       00229001
000182 1834                         237          LR    R3,R4                                                    00230001
000184 0630                         238          BCTR  R3,0                                                     00231001
000186 1233                         239          LTR   R3,R3                                                    00232001
000188 4780 7196            00196   240          BZ    SYS2T32                                                  00233001
00018C 9610 501A      0001A         241          OI    DSF,DS3                                                  00234001
000190 41F0 76D4            006D4   242          LA    R15,SYBLANK            FILL RECORD WITH BLANKS           00235001
000194 05EF                         243          BALR  R14,R15                                                  00236001
000196 58B0 5004            00004   244 SYS2T32  L     R11,R                                                    00237001
00019A 1A4B                         245          AR    R4,R11                                                   00238001
00019C 0640                         246          BCTR  R4,0                   CHARACTER POINTER                 00239001
00019E 5040 5004            00004   247          ST    R4,R                   QUANTITY+R-1 ASSIGN TO R          00240001
0001A2 47F0 70A6            000A6   248          B     RETSYS                                                   00241001
                                    249 *                                                                       00242001
                                    250 *        NEW CHARACTER POINTER GREATER THAN R                           00243001
                                    251 *                                                                       00244001
0001A6 9120 501A      0001A         252 SYS2T2   TM    DSF,DS2                                                  00245001
0001AA 4710 71C0            001C0   253          BO    SYS2T20                                                  00246001
0001AE 9120 501B      0001B         254          TM    DSF+1,DS10             DS BEEN OPENED BY SYSACT 12 ?     00247001
0001B2 4780 71DA            001DA   255          BZ    SYS2T5                                                   00248001
0001B6 1266                         256          LTR   R6,R6                  DATASET NUMBER = 0 ?              00249001
0001B8 4780 75CA            005CA   257          BZ    SYSINCOM               YES, BRANCH                       00250001
0001BC 9620 501A      0001A         258          OI    DSF,DS2                                                  00251001
0001C0 1834                         259 SYS2T20  LR    R3,R4                  LAST I/O WAS OUTPUT               00252001
0001C2 5A30 5008            00008   260          A     R3,RE                                                    00253001
0001C6 5B30 5004            00004   261          S     R3,R                                                     00254001
0001CA 9610 501A      0001A         262          OI    DSF,DS3                                                  00255001
0001CE 4B30 5016            00016   263          SH    R3,P                                                     00256001
0001D2 0630                         264          BCTR  R3,0                                                     00257001
0001D4 41F0 76D4            006D4   265          LA    R15,SYBLANK            FILL RECORD WITH BLANKS           00258001
0001D8 05EF                         266          BALR  R14,R15                                                  00259001
                                    267 *                                                                       00260001
0001DA 9101 501A      0001A         268 SYS2T5   TM    DSF,DS7                EOD BEEN REACHED ?                00261001
0001DE 4710 7402            00402   269          BO    SYSEOD                                                   00262001
0001E2 5A40 5008            00008   270 SYS2T4   A     R4,RE                                                    00263001
0001E6 4B40 5016            00016   271          SH    R4,P                   ASSIGN NEW VALUE TO CHAR POINTER  00264001
0001EA 0640                         272          BCTR  R4,0                                                     00265001
0001EC 5040 5004            00004   273          ST    R4,R                                                     00266001
0001F0 47F0 70A6            000A6   274          B     RETSYS                                                   00267001
                                    275 *                                                                       00268001
                                    276 *---------------------------------------------------------------------- 00269001
                                    277 *        ROUTINE SYSACT3                                                00270001
                                    278 *---------------------------------------------------------------------- 00271001
                                    279 *                                                                       00272001
                                    280 *        QUANTITY = S                                                   00273001
                                    281 *                                                                       00274001
0001F4 9180 501A      0001A         282 SYSACT3  TM    DSF,DS0                                                  00275001
0001F8 4780 70C8            000C8   283          BZ    SYSCLOSD               DATASET CLOSED ERROR10            00276001
0001FC 1299                         284          LTR   R9,R9                                                    00277001
0001FE 4780 70D4            000D4   285          BZ    SYSCONST               QUANTITY NOT A VARIABLE ERR 12    00278001
000202 4840 5014            00014   286          LH    R4,S                                                     00279001
000206 5040 2000            00000   287          ST    R4,0(,R2)                                                00280001
00020A 47F0 70A6            000A6   288          B     RETSYS                                                   00281001
                                    289 *                                                                       00282001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.22

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                                    290 *------------------------------------------------------------------- 00283001
                                    291 *        ROUTINE SYSACT4                                           00284001
                                    292 *------------------------------------------------------------------- 00285001
                                    293 *                                                                  00286001
                                    294 *        UNDEFINED IF DATASET SPLIT INTO SECTION BY SYSACT8 OR     00287001
                                    295 *        IF THE DATASET IS 0 OR 1                                  00288001
                                    296 *                                                                  00289001
                                    297 *        ACTION AFTER INPUT - S = QUANTITY                         00290001
                                    298 *                             R = 1                                00291001
                                    299 *        ACTION AFTER OUTPUT - S = QUANTITY                        00292001
                                    300 *                              R = 1                               00293001
                                    301 *        IF FORWARD SKIPPING FILL SKIPPED RECORDS WITH BLANKS      00294001
                                    302 *                                                                  00295001
00020E 5880 5000          00000     303 SYSACT4  L     R8,ADCB                                             00296001
000212 1244                         304          LTR   R4,R4                 TEST QUANTITY                 00297001
000214 4720 721E          0021E     305          BP    SYS4T01                                               00298001
000218 18DC                         306          LR    R13,R12                                               00299001
00021A 47FC 0200          00200     307          B     FSAERR+13*4(R12)      QUANTITY OUT OF RANGE           00300001
                                    308 *                                                                  00301001
00021E 9140 501B    0001B         309 SYS4T01  TM    DSF+1,DS9             DATASET SECTIONED ?             00302001
000222 4710 75CA          005CA     310          BO    SYSINCOM                                              00303001
000226 1226                         311          LTR   R2,R6                 DATASET NO = 1 OR 0 ?           00304001
000228 4780 75CA          005CA     312          BZ    SYSINCOM                                              00305001
00022C 4620 7234          00234     313          BCT   R2,SYS4T0                                             00306001
000230 47F0 75CA          005CA     314          B     SYSINCOM                                              00307001
                                    315 *                                                                  00308001
000234 9180 501A    0001A         316 SYS4T0   TM    DSF,DS0               DATASET OPEN ?                  00309001
000238 4780 70C8          000C8     317          BZ    SYSCLOSD                                              00310001
00023C 4940 5014          00014     318          CH    R4,S                  QUANTITY > S ?                  00311001
000240 4740 72AE          002AE     319          BL    SYS4T2                NO, LESS                        00312001
000244 4780 73BE          003BE     320          BE    SYS4T3                NO, EQUAL                       00313001
000248 9120 501A    0001A         321 SYS4T1   TM    DSF,DS2               LAST I/O OUTPUT ?               00314001
00024C 4710 728C          0028C     322          BO    SYS4T15               YES, BRANCH TO SYS4T15           00315001
                                    323 *                                                                  00316001
                                    324 *        LAST I/O INPUT AND QUANTITY > S                           00317001
                                    325 *                                                                  00318001
000250 9120 501B    0001B         326          TM    DSF+1,DS10            DS BEEN OPENED BY SYSACT 12 ?   00319001
000254 4780 7260          00260     327          BZ    SYS4T12                                               00320001
000258 9620 501A    0001A         328          OI    DSF,DS2               DATASET OPEN FOR OUTPUT         00321001
00025C 47F0 728C          0028C     329          B     SYS4T15                                               00322001
                                    330 *                                                                  00323001
000260 41F0 7408          00408     331 SYS4T12  LA    R15,SYSNOT            QUANTITY IN NOTTAB ?            00324001
000264 05EF                         332          BALR  R14,R15                                               00325001
000266 9101 501A    0001A         333          TM    DSF,DS7               EOD BEEN REACHED ?              00326001
00026A 4710 7402          00402     334          BO    SYSEOD                                                00327001
00026E 1233                         335          LTR   R3,R3                                                 00328001
000270 4720 72CA          002CA     336          BP    SYS4T21               YES, BRANCH TO SYS4T21           00329001
000274 9101 501A    0001A         337 SYS4T13  TM    DSF,DS7               END OF DATA BEEM REACHED ?      00330001
000278 4710 7402          00402     338          BO    SYSEOD                                                00331001
00027C 45E0 70B6          000B6     339          BAL   R14,NXREC             GET NEXT RECORD                 00332001
000280 4940 5014          00014     340          CH    R4,S                  QUANTITY = S ?                  00333001
000284 4770 7274          00274     341          BNE   SYS4T13                                               00334001
000288 47F0 70A6          000A6     342          B     RETSYS                                                00335001
                                    343 *                                                                  00336001
                                    344 *        LAST I/O OUTPUT AND QUANTITY > S                          00337001
                                    345 *                                                                  00338001
00028C 5830 5008          00008     346 SYS4T15  L     R3,RE                 FILL RECORD WITH BLANKS         00339001
000290 5B30 5004          00004     347          S     R3,R                                                  00340001
000294 4780 729E          0029E     348          BZ    SYS4T14                                               00341001
000298 41F0 76D4          006D4     349          LA    R15,SYBLANK                                           00342001
00029C 05EF                         350          BALR  R14,R15                                               00343001
00029E 45E0 70B6          000B6     351 SYS4T14  BAL   R14,NXREC                                           00344001
0002A2 4940 5014          00014     352          CH    R4,S                  QUANTITY = S ?                  00345001
0002A6 4770 728C          0028C     353          BNE   SYS4T15                                               00346001
0002AA 47F0 70A6          000A6     354          B     RETSYS                                                00347001
                                    355 *                                                                  00348001
0002AE 41F0 7408          00408     356 SYS4T2   LA    R15,SYSNOT            QUANTITY IN NOTTAB ?            00349001
0002B2 05EF                         357          BALR  R14,R15                                               00350001
0002B4 1233                         358          LTR   R3,R3                                                 00351001
0002B6 4780 743C          0043C     359          BZ    SYSERR14              NO BACKWARD REP. NOT DEFINED    00352001
0002BA 9120 501A    0001A         360          TM    DSF,DS2               LAST I/O OUTPUT ?               00353001
0002BE 4710 7366          00366     361          BO    SYS4T24                                               00354001
                                    362 *                                                                  00355001
                                    363 *        LAST I/O INPUT AND QUANTITY < S                           00356001
                                    364 *                                                                  00357001
0002C2 9604 501A    0001A         365          OI    DSF,DS5               DS5=1                           00358001
0002C6 94FC 501A    0001A         366          NI    DSF,255-DS6-DS7       SET DS6 AND DS7 = 0             00359001
0002CA 9680 501B    0001B         367 SYS4T21  OI    DSF+1,DS8             DS8=1                           00360001
               R:8  00000         368          USING IHADCB,R8                                             00361001
                                    369 *                                                                  00362001
                                    370          CHECK SYDECB                                              00363001
0002CE 4110 8058          00058     371+         LA    1,SYDECB                      LOAD PARAMETER REG 1  02-IHBIN
0002D2 58E0 1008          00008     372+         L     14,8(0,1)              PICK UP DCB ADDR             01-CHECK
0002D6 58F0 E034          00034     373+         L     15,52(0,14)            LOAD CHECK ROUTINE ADDR      01-CHECK
0002DA 05EF                         374+         BALR  14,15                  LINK TO CHECK ROUTINE        01-CHECK
                                    375 *                                                                  00364001
0002DC 947F 501B    0001B         376          NI    DSF+1,255-DS8         SET DS8=0                       00365001
0002E0 180A                         377 SYS4T22  LR    R0,R10                                                00366001
0002E2 1818                         378          LR    R1,R8                                                 00367001
                                    379 *                                                                  00368001
                                    380          POINT (1),(0)                                             00369001
0002E4 58F0 1054          00054     381+         L     15,84(0,1)             LOAD POINT RTN ADDR          01-POINT
0002E8 45EF 0004          00004     382+         BAL   14,4(15,0)             LINK TO POINT ROUTINE        01-POINT
                                    383 *                                                                  00370001
0002EC 5820 500C          0000C     384          L     R2,NBB                                                00371001
                                    385 *                                                                  00372001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.22

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                                386          READ  SYDECB,SF,(R8),(R2),MF=E                                 00373001
0002F0 4110 8058            00058   387+         LA    1,SYDECB                      LOAD DECB ADDRESS      02-IHBRD
0002F4 9280 1005      00005         388+         MVI   5(1),X'80'                SET TYPE FIELD               02-IHBRD
0002F8 5081 0008            00008   389+         ST    R8,8(1,0)                     STORE DCB ADDRESS      02-IHBRD
0002FC 5021 000C            0000C   390+         ST    R2,12(1,0)                    STORE AREA ADDRESS     02-IHBRD
000300 58F1 0008            00008   391+         L     15,8(1,0)           LOAD DCB ADDRESS                 02-IHBRD
000304 58F0 F030            00030   392+         L     15,48(0,15)                   LOAD RDWR ROUTINE ADDR 02-IHBRD
000308 05EF                         393+         BALR  14,15                         LINK TO RDWR ROUTINE   02-IHBRD
                                394 *                                                                       00374001
00030A 5820 5010            00010   395          L     R2,BB                                                 00375001
00030E 4A20 5020            00020   396          AH    R2,BL                                                 00376001
000312 5020 5008            00008   397          ST    R2,RE                                                 00377001
000316 1824                         398          LR    R2,R4                                                 00378001
000318 0620                         399          BCTR  R2,0                                                  00379001
00031A 4020 5014            00014   400          STH   R2,S                    S = QUANTITY - 1              00380001
00031E 45E0 70B6            000B6   401          BAL   R14,NXREC                                             00381001
000322 9140 501A      0001A         402          TM    DSF,DS1                 DATASET BLOCKED ?             00382001
000326 4710 70A6            000A6   403          BO    RETSYS                                                00383001
00032A 1B22                         404          SR    R2,R2                   YES, EVALUATE NUMBER OF FIRST 00384001
00032C 5830 5020            00020   405          L     R3,BL                   RECORD IN THE BLOCK =         00385001
000330 8830 0010            00010   406          SRL   R3,16                   ENTIER((QUANTITY-1)/(BLKLTH/  00386001
000334 5810 5014            00014   407          L     R1,S                    RECLNTH))*(BLKLNTH/RECLNTH)+1 00387001
000338 8910 0010            00010   408          SLL   R1,16                                                 00388001
00033C 8810 0010            00010   409          SRL   R1,16                                                 00389001
000340 1D21                         410          DR    R2,R1                                                 00390001
000342 1813                         411          LR    R1,R3                                                 00391001
000344 1B22                         412          SR    R2,R2                                                 00392001
000346 1834                         413          LR    R3,R4                                                 00393001
000348 0630                         414          BCTR  R3,0                                                  00394001
00034A 1D21                         415          DR    R2,R1                                                 00395001
00034C 1C21                         416          MR    R2,R1                                                 00396001
00034E 4133 0001            00001   417          LA    R3,1(R3)                                              00397001
000352 4030 5014            00014   418          STH   R3,S                                                  00398001
000356 4940 5014            00014   419 SYS4T23  CH    R4,S                    QUANTITY = S ?                00399001
00035A 4780 70A6            000A6   420          BE    RETSYS                                                00400001
00035E 45E0 70B6            000B6   421          BAL   R14,NXREC                                             00401001
000362 47F0 7356            00356   422          B     SYS4T23                                               00402001
                                423 *                                                                       00403001
                                424 *        LAST I/O WAS OUTPUT AND QUANTITY < S                           00404001
                                425 *                                                                       00405001
000366 9140 501A      0001A         426 SYS4T24  TM    DSF,DS1                 DATASET BLOCKED ?             00406001
00036A 4710 737A            0037A   427          BO    SYS4T25                                               00407001
00036E 5830 5010            00010   428          L     R3,BB                                                 00408001
000372 4A30 5020            00020   429          AH    R3,BL                                                 00409001
000376 5030 5008            00008   430          ST    R3,RE                                                 00410001
00037A 5830 5008            00008   431 SYS4T25  L     R3,RE                   FILL BLOCK WITH BLANKS        00411001
00037E 5B30 5004            00004   432          S     R3,R                                                  00412001
000382 4780 738C            0038C   433          BZ    SYS4T26                                               00413001
000386 41F0 76D4            006D4   434          LA    R15,SYBLANK                                           00414001
00038A 05EF                         435          BALR  R14,R15                                               00415001
00038C 45E0 70B6            000B6   436 SYS4T26  BAL   R14,NXREC                                           00416001
                                437 *                                                                       00417001
                                438 SYS4T27  CHECK SYDECB                                                   00418001
000390 4110 8058            00058   439+SYS4T27  LA    1,SYDECB                      LOAD PARAMETER REG 1   02-IHBIN
000394 58E0 1008            00008   440+         L     14,8(0,1)               PICK UP DCB ADDR              01-CHECK
000398 58F0 E034            00034   441+         L     15,52(0,14)             LOAD CHECK ROUTINE ADDR       01-CHECK
00039C 05EF                         442+         BALR  14,15                   LINK TO CHECK ROUTINE         01-CHECK
                                443 *                                                                       00419001
                                444          CLOSE ((R8),LEAVE),TYPE=T     SET END OF DATA MARK          00420001
00039E 0700                         445+         CNOP  0,4                           ALIGN LIST TO FULLWORD 01-CLOSE
0003A0 4510 73A8            003A8   446+         BAL   1,*+8                         LOAD REG1 W/LIST ADDR  01-CLOSE
0003A4 00000000                     447+         DC    A(0)                          OPTION AND DCB ADDRESS 01-CLOSE
0003A8 5081 0000            00000   448+         ST    R8,0(1,0)                     STORE DCB ADDRESS      01-CLOSE
0003AC 92B0 1000      00000         449+         MVI   0(1),176                      MOVE IN OPTION BYTE    01-CLOSE
0003B0 0A17                         450+         SVC   23                            ISSUE TCLOSE SVC       01-CLOSE
                                451 *                                                                       00421001
0003B2 9604 501A      0001A         452          OI    DSF,DS5                                               00422001
0003B6 94DD 501A      0001A         453          NI    DSF,255-DS2-DS6         SET DS2 AND DS6 = 0           00423001
0003BA 47F0 72E0            002E0   454          B     SYS4T22                 WAS LAST I/O OUTPUT           00424001
                                455 *                                                                       00425001
0003BE 9120 501A      0001A         456 SYS4T3   TM    DSF,DS2                                               00426001
0003C2 4780 73F2            003F2   457          BZ    SYS4T31                                               00427001
                                458 *                                                                       00428001
                                459 *        LAST I/O OUTPUT AND QUANTITY = S                               00429001
                                460 *                                                                       00430001
0003C6 9608 501A      0001A         461          OI    DSF,DS4                                               00431001
0003CA 5830 5010            00010   462          L     R3,BB                                                 00432001
0003CE 4A30 5020            00020   463          AH    R3,BL                                                 00433001
0003D2 5030 5008            00008   464          ST    R3,RE                                                 00434001
0003D6 5B30 5004            00004   465          S     R3,R                    FILL BLOCK WITH BLANKS        00435001
0003DA 4780 73E4            003E4   466          BZ    SYS4T33                                               00436001
0003DE 41F0 76D4            006D4   467          LA    R15,SYBLANK                                           00437001
0003E2 05EF                         468          BALR  R14,R15                                               00438001
0003E4 45E0 70B6            000B6   469 SYS4T33  BAL   R14,NXREC                WRITE BLOCK                   00439001
0003E8 41F0 7408            00408   470          LA    R15,SYSNOT                MAKE NOTTAB ENTRY             00440001
0003EC 05EF                         471          BALR  R14,R15                                               00441001
0003EE 47F0 7390            00390   472          B     SYS4T27                                               00442001
                                473 *                                                                       00443001
                                474 *        LAST I/O INPUT AND QUANTITY = S                                00444001
                                475 *                                                                       00445001
0003F2 5820 5008            00008   476 SYS4T31  L     R2,RE                                                 00446001
0003F6 4B20 5016            00016   477          SH    R2,P                                                  00447001
0003FA 5020 5004            00004   478          ST    R2,R                    RESET CHARACTER POINTER       00448001
0003FE 47F0 70A6            000A6   479          B     RETSYS                                                00449001
                                480 *                                                                       00450001
000402 18DC                         481 SYSEOD   LR    R13,R12                                               00451001
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 Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

000404 47FC 01E0            001E0   482          B     FSAERR+5*4(R12)                                    00452001
                                    483 *                                                                 00453001
                                    484 *        SCAN NOTTAB IN ORDER TO FIND OUT IF AN ENTRY HAS BEEN    00454001
                                    485 *        MADE FOR QUANTITY                                        00455001
                                    486 *        IF YES R3 IS SET TO ONE, ADDR OF NOTEADR IN R10          00456001
                                    487 *                                                                 00457001
000408 583C 00B0            000B0   488 SYSNOT   L     R3,ANOTTAB(R12)                                    00458001
00040C 18A3                         489          LR    R10,R3                                             00459001
00040E 59A0 3000            00000   490 SYSNOT1  C     R10,0(,R3)                                         00460001
000412 4780 7438            00438   491          BE    SYSNOT2                                            00461001
000416 41A0 A008            00008   492          LA    R10,8(,R10)                                        00462001
00041A 1826                         493          LR    R2,R6                                              00463001
00041C 4920 A000            00000   494          CH    R2,0(,R10)                                         00464001
000420 4770 740E            0040E   495          BNE   SYSNOT1                                            00465001
000424 4940 A002            00002   496          CH    R4,2(,R10)                                         00466001
000428 4770 740E            0040E   497          BNE   SYSNOT1                                            00467001
00042C 1B33                         498          SR    R3,R3                                              00468001
00042E 4130 3001            00001   499          LA    R3,1(,R3)                                          00469001
000432 41A0 A004            00004   500          LA    R10,4(,R10)                                        00470001
000436 07FE                         501          BR    R14                                                00471001
                                    502 *                                                                 00472001
000438 1B33                         503 SYSNOT2  SR    R3,R3                                              00473001
00043A 07FE                         504          BR    R14                                                00474001
                                    505 *                                                                 00475001
00043C 18DC                         506 SYSERR14 LR    R13,R12               BACKWARD REPOSITIONING NOT   00476001
00043E 47FC 0204            00204   507          B     FSAERR+14*4(R12)      DEFINED                      00477001
                                    508 *                                                                 00478001
                                    509 *-------------------------------------------------------------------- 00479001
                                    510 *        ROUTINE SYSACT5                                          00480001
                                    511 *-------------------------------------------------------------------- 00481001
                                    512 *                                                                 00482001
                                    513 *        QUANTITY = P                                             00483001
                                    514 *                                                                 00484001
000442 9180 501A      0001A         515 SYSACT5  TM    DSF,DS0                                            00485001
000446 4780 70C8            000C8   516          BZ    SYSCLOSD              DATASET CLOSED ERROR10       00486001
00044A 1299                         517          LTR   R9,R9                                              00487001
00044C 4780 70D4            000D4   518          BZ    SYSCONST              QUANTITY NOT A VARIABLE ERR 12 00488001
000450 4840 5016            00016   519          LH    R4,P                                               00489001
000454 5040 2000            00000   520          ST    R4,0(,R2)                                          00490001
000458 47F0 70A6            000A6   521          B     RETSYS                                             00491001
                                    522 *                                                                 00492001
                                    523 *-------------------------------------------------------------------- 00493001
                                    524 *        ROUTINE SYSACT6                                          00494001
                                    525 *-------------------------------------------------------------------- 00495001
                                    526 *                                                                 00496001
                                    527 *        P = QUANTITY                                             00497001
                                    528 *        DATASET HAS TO BE CLOSED                                 00498001
                                    529 *                                                                 00499001
00045C 9180 501A      0001A         530 SYSACT6  TM    DSF,DS0                                            00500001
000460 4710 747A            0047A   531          BO    SYSOPEN                                            00501001
000464 1244                         532          LTR   R4,R4                 TEST QUANTITY                00502001
000466 47D0 74C6            004C6   533          BNP   SYSQOUTR              MINUS OR ZERO                00503001
00046A 5940 7738            00738   534          C     R4,=F'32760'                                       00504001
00046E 4720 74C6            004C6   535          BH    SYSQOUTR              TOO GREAT                    00505001
000472 4040 5016            00016   536          STH   R4,P                                               00506001
000476 47F0 70A6            000A6   537          B     RETSYS                                             00507001
                                    538 *                                                                 00508001
00047A 18DC                         539 SYSOPEN  LR    R13,R12               DATASET IS OPEN ERROR 11     00509001
00047C 47FC 01F8            001F8   540          B     FSAERR+11*4(R12)                                   00510001
                                    541 *                                                                 00511001
                                    542 *-------------------------------------------------------------------- 00512001
                                    543 *        ROUTINE SYSACT7                                          00513001
                                    544 *-------------------------------------------------------------------- 00514001
                                    545 *                                                                 00515001
                                    546 *        QUANTITY = Q                                             00516001
                                    547 *                                                                 00517001
000480 1299                         548 SYSACT7  LTR   R9,R9                                               00518001
000482 4780 70D4            000D4   549          BZ    SYSCONST              QUANTITY NOT A VARIABLE ERR 12 00519001
000486 1B44                         550          SR    R4,R4                                              00520001
000488 4340 5019            00019   551          IC    R4,Q                                               00521001
00048C 5040 2000            00000   552          ST    R4,0(,R2)                                          00522001
000490 47F0 70A6            000A6   553          B     RETSYS                                             00523001
                                    554 *                                                                 00524001
                                    555 *-------------------------------------------------------------------- 00525001
                                    556 *        ROUTINE SYSACT8                                          00526001
                                    557 *-------------------------------------------------------------------- 00527001
                                    558 *                                                                 00528001
                                    559 *        Q = QUANTITY                                             00529001
                                    560 *        DATASET HAS TO BE CLOSED                                 00530001
                                    561 *        ASSIGNING A VALUE TO Q                                   00531001
                                    562 *                                                                 00532001
000494 9180 501A      0001A         563 SYSACT8  TM    DSF,DS0                                            00533001
000498 4710 747A            0047A   564          BO    SYSOPEN               DATASET IS OPEN ERROR11      00534001
00049C 1266                         565          LTR   R6,R6                 DATASET 0 ?                  00535001
00049E 4780 75CA            005CA   566          BZ    SYSINCOM              YES, INCOMPATIBLE ACTION     00536001
0004A2 1234                         567          LTR   R3,R4                 TEST QUANTITY                00537001
0004A4 47D0 74C6            004C6   568          BNP   SYSQOUTR              MINUS OR ZERO                00538001
0004A8 5B30 74CC            004CC   569          S     R3,KF256                                           00539001
0004AC 4720 74C6            004C6   570          BP    SYSQOUTR                                           00540001
0004B0 4780 74C6            004C6   571          BZ    SYSQOUTR                                           00541001
0004B4 4240 5019            00019   572          STC   R4,Q                                               00542001
0004B8 9640 501B      0001B         573          OI    DSF+1,DS9             RECORD CONTAIN CNTL CHARACTER 00543001
0004BC 47F0 70A6            000A6   574          B     RETSYS                                             00544001
                                    575 *                                                                 00545001
0004C0 18DC                         576 SYSDSN0  LR    R13,R12               DATASET NUMBER OUT OF RANGE  00546001
0004C2 47FC 01CC            001CC   577          B     FSAERR(R12)                                        00547001
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Active USINGs: IHADCB,R8 DSTABLE,R5 IHISYSCT,R7

Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.22

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                                578 *                                                                  00548001
0004C6 18DC                     579 SYSQOUTR LR    R13,R12              QUANTITY OUT OF RANGE ERROR 13  00549001
0004C8 47FC 0200        00200   580          B     FSAERR+13*4(R12)                                    00550001
                                581 *                                                                  00551001
0004CC 00000100                 582 KF256    DC    F'256'                                              00552001
                                583 *                                                                  00553001
                                584 *------------------------------------------------------------------ 00554001
                                585 *        ROUTINE SYSACT9                                           00555001
                                586 *------------------------------------------------------------------ 00556001
                                587 *                                                                  00557001
                                588 *        QUANTITY = K                                              00558001
                                589 *                                                                  00559001
0004D0 1299                     590 SYSACT9  LTR   R9,R9                                                00560001
0004D2 4780 70D4        000D4   591          BZ    SYSCONST             QUANTITY NOT A VARIABLE ERR 12  00561001
0004D6 1B44                     592          SR    R4,R4                                               00562001
0004D8 4340 5018        00018   593          IC    R4,K                                                00563001
0004DC 5040 2000        00000   594          ST    R4,0(,R2)                                           00564001
0004E0 47F0 70A6        000A6   595          B     RETSYS                                              00565001
                                596 *                                                                  00566001
                                597 *------------------------------------------------------------------ 00567001
                                598 *        ROUTINE SYSACT10                                          00568001
                                599 *------------------------------------------------------------------ 00569001
                                600 *                                                                  00570001
                                601 *        K = QUANTITY                                              00571001
                                602 *        ASSIGN NUMBER OF BLANK DELIMTERS                          00572001
                                603 *                                                                  00573001
0004E4 1244                     604 SYSACT10 LTR   R4,R4                  TEST QUANTITY                 00574001
0004E6 47D0 74C6        004C6   605          BNP   SYSQOUTR              MINUS OR ZERO                 00575001
0004EA 5940 74CC        004CC   606          C     R4,KF256                                            00576001
0004EE 47B0 74C6        004C6   607          BNL   SYSQOUTR              TOO GREAT                     00577001
0004F2 4240 5018        00018   608          STC   R4,K                                                00578001
0004F6 47F0 70A6        000A6   609          B     RETSYS                                              00579001
                                610 *                                                                  00580001
                                611 *------------------------------------------------------------------ 00581001
                                612 *        ROUTINE SYSACT11                                          00582001
                                613 *------------------------------------------------------------------ 00583001
                                614 *                                                                  00584001
                                615 *        ASSIGN VALUE TO QUANTITY FOR DEFINING IF DATASET OPEN     00585001
                                616 *        OR CLOSED                                                 00586001
                                617 *                                                                  00587001
0004FA 1299                     618 SYSACT11 LTR   R9,R9                                                00588001
0004FC 4780 70D4        000D4   619          BZ    SYSCONST             QUANTITY NOT A VARIABLE ERR 12  00589001
000500 1B44                     620          SR    R4,R4                                               00590001
000502 9180 501A      0001A     621          TM    DSF,DS0                                             00591001
000506 4780 756E        0056E   622          BZ    SYS11T1              DATASET IS CLOSED              00592001
00050A 4140 4001        00001   623          LA    R4,1(,R4)                                           00593001
00050E 9101 501A      0001A     624          TM    DSF,DS7                                             00594001
000512 4710 756C        0056C   625          BO    SYS11T2              DS7 EQUAL 1                    00595001
000516 9120 501A      0001A     626          TM    DSF,DS2                                             00596001
00051A 4710 756E        0056E   627          BO    SYS11T1              OUTPUT                         00597001
00051E 9140 501A      0001A     628          TM    DSF,DS1                                             00598001
000522 4710 756E        0056E   629          BO    SYS11T1              UNBLOCKED                      00599001
000526 58B0 5004        00004   630          L     R11,R                                               00600001
00052A 5810 5008        00008   631          L     R1,RE                                               00601001
00052E 4B10 5016        00016   632          SH    R1,P                                                00602001
000532 191B                     633          CR    R1,R11                                              00603001
000534 4770 756E        0056E   634          BNE   SYS11T1              R NOT EQUAL RE MINUS P         00604001
000538 5810 5010        00010   635          L     R1,BB                                               00605001
00053C 4A10 5020        00020   636          AH    R1,BL                                               00606001
000540 1B1B                     637          SR    R1,R11                                              00607001
000542 9540 B000      00000     638 SYS11T3  CLI   0(R11),C' '                                         00608001
000546 4770 756E        0056E   639          BNE   SYS11T1              CHARACTER NOT BLANK            00609001
00054A 41BB 0001        00001   640          LA    R11,1(R11)                                          00610001
00054E 4610 7542        00542   641          BCT   R1,SYS11T3                                          00611001
000552 5880 5000        00000   642          L     R8,ADCB                                             00612001
                                643 *                                                                  00613001
                                644          CHECK SYDECB                                            00614001
000556 4110 8058        00058   645+         LA    1,SYDECB                      LOAD PARAMETER REG 1  02-IHBIN
00055A 58E0 1008        00008   646+         L     14,8(0,1)              PICK UP DCB ADDR             01-CHECK
00055E 58F0 E034        00034   647+         L     15,52(0,14)            LOAD CHECK ROUTINE ADDR      01-CHECK
000562 05EF                     648+         BALR  14,15                  LINK TO CHECK ROUTINE        01-CHECK
                                649 *                                                                  00615001
000564 9101 501A      0001A     650          TM    DSF,DS7                                             00616001
000568 4780 756E        0056E   651          BZ    SYS11T1              NO END OF DATA                 00617001
00056C 1144                     652 SYS11T2  LNR   R4,R4                                               00618001
00056E 5040 2000        00000   653 SYS11T1  ST    R4,0(,R2)                                           00619001
000572 47F0 70A6        000A6   654          B     RETSYS                                              00620001
                                655 *                                                                  00621001
                                656 *------------------------------------------------------------------ 00622001
                                657 *        ROUTINE SYSACT12                                          00623001
                                658 *------------------------------------------------------------------ 00624001
                                659 *                                                                  00625001
                                660 *        OPEN OR CLOSE DATASET                                     00626001
                                661 *                                                                  00627001
000576 1244                     662 SYSACT12 LTR   R4,R4                                               00628001
000578 4780 759A        0059A   663          BZ    SYS12T1                                             00629001
00057C 4640 74C6        004C6   664          BCT   R4,SYSQOUTR            QUANTITY OUT OF RANGE          00630001
000580 9180 501A      0001A     665          TM    DSF,DS0                ROUTINE SHOULD PERFORM OPEN    00631001
000584 4710 75AC        005AC   666          BO    SYS12T2                DATASET WAS OPEN ALREADY       00632001
000588 9620 501B      0001B     667          OI    DSF+1,DS10             DS10=1 DS OPENED BY SYSACT 12  00633001
00058C 58FC 011C        0011C   668          L     R15,IORLST(R12)                                     00634001
000590 58FF 0014        00014   669          L     R15,OQ(R15)            OPEN DATASET                   00635001
000594 05EF                     670          BALR  R14,R15                                             00636001
000596 47F0 70A6        000A6   671          B     RETSYS                                              00637001
                                672 *                                                                  00638001
00059A 9180 501A      0001A     673 SYS12T1  TM    DSF,DS0                ROUTINE SHOULD PERFORM CLOSE   00639001
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Active USINGs: IHADCB,R8 DSTABLE,R5 IHISYSCT,R7

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 Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

00059E 4780 75AC            005AC   674          BZ    SYS12T2               DATASET WAS CLOSED ALREADY       00640001
0005A2 58FC 011C            0011C   675          L     R15,IORLST(R12)                                        00641001
0005A6 58F0 F004            00004   676          L     R15,CL(,R15)                                           00642001
0005AA 05EF                         677          BALR  R14,R15                                                00643001
0005AC 47F0 70A6            000A6   678 SYS12T2  B     RETSYS                                                 00644001
                                    679 *                                                                      00645001
                                    680 *--------------------------------------------------------------------- 00646001
                                    681 *        ROUTINE SYSACT13                                              00647001
                                    682 *--------------------------------------------------------------------- 00648001
                                    683 *                                                                      00649001
                                    684 *        QUANTITY = S                                                  00650001
                                    685 *        SETTING DS4 FLAG USED BY A LATER SYSACT4 FOR AN ENTRY         00651001
                                    686 *        TO NOTTAB                                                     00652001
                                    687 *                                                                      00653001
0005B0 9180 501A      0001A         688 SYSACT13 TM    DSF,DS0                                                 00654001
0005B4 4780 70C8            000C8   689          BZ    SYSCLOSD              DATASET IS CLOSED ERROR10        00655001
0005B8 9140 501B      0001B         690          TM    DSF+1,DS9             DATASET SECTIONED ?              00656001
0005BC 4710 75CA            005CA   691          BO    SYSINCOM              YES, INCOMPATIBLE ACTION         00657001
0005C0 1236                         692          LTR   R3,R6                 DATASET NO = 1 OR 0 ?            00658001
0005C2 4780 75CA            005CA   693          BZ    SYSINCOM                                               00659001
0005C6 4630 75D0            005D0   694          BCT   R3,SYS13T1                                             00660001
                                    695 *                                                                      00661001
0005CA 18DC                         696 SYSINCOM LR    R13,R12               INCOMPATIBLE ACTION ON THE SAME  00662001
0005CC 47FC 01D4            001D4   697          B     FSAERR+2*4(R12)       DATASET                          00663001
                                    698 *                                                                      00664001
0005D0 1299                         699 SYS13T1  LTR   R9,R9                                                   00665001
0005D2 4780 70D4            000D4   700          BZ    SYSCONST              QUANTITY NOT A VARIABLE ERR 12   00666001
0005D6 4840 5014            00014   701          LH    R4,S                                                   00667001
0005DA 5040 2000            00000   702          ST    R4,0(,R2)                                              00668001
0005DE 9608 501A      0001A         703          OI    DSF,DS4               SET FLAG DS4                     00669001
0005E2 47F0 70A6            000A6   704          B     RETSYS                                                 00670001
                                    705 *                                                                      00671001
                                    706 *--------------------------------------------------------------------- 00672001
                                    707 *        ROUTINE SYSACT14                                              00673001
                                    708 *--------------------------------------------------------------------- 00674001
                                    709 *                                                                      00675001
                                    710 *        SKIPS RECORDS OR FILLS THEM BY BLANKS, DEPENDING ON THE       00676001
                                    711 *        LAST I/O PROCEDURE                                            00677001
                                    712 *                                                                      00678001
0005E6 1244                         713 SYSACT14 LTR   R4,R4                                                   00679001
0005E8 47D0 74C6            004C6   714          BNP   SYSQOUTR              QUANTITY OUT OF RANGE ERROR13    00680001
0005EC 9180 501A      0001A         715          TM    DSF,DS0                                                00681001
0005F0 4780 70C8            000C8   716          BZ    SYSCLOSD                                               00682001
0005F4 4A40 5014            00014   717 SYS14T1  AH    R4,S                                                   00683001
0005F8 91FF 5019      00019         718          TM    Q,X'FF'                                                00684001
0005FC 4780 7630            00630   719          BZ    SYS14T2                                                00685001
                                    720 *                                                                      00686001
                                    721 *        SECTIONED FORMAT ONLY OUTPUT POSSIBLE                         00687001
                                    722 *                                                                      00688001
000600 1B22                         723          SR    R2,R2                                                  00689001
000602 4320 5019            00019   724          IC    R2,Q                                                   00690001
000606 1942                         725          CR    R4,R2                                                  00691001
000608 47D0 7630            00630   726          BNH   SYS14T2                                                00692001
00060C 5830 5008            00008   727          L     R3,RE                                                  00693001
000610 5B30 5004            00004   728          S     R3,R                  NUMBER OF BLANKS IN R3           00694001
000614 4780 761E            0061E   729          BZ    SYS14T11                                               00695001
000618 41F0 76D4            006D4   730          LA    R15,SYBLANK           FILL RECORD WITH BLANKS          00696001
00061C 05EF                         731          BALR  R14,R15                                                00697001
00061E D200 5015 5019 00015 00019   732 SYS14T11 MVC   S+1(1),Q                                               00698001
000624 9620 501A      0001A         733          OI    DSF,DS2               OUTPUT                           00699001
000628 45E0 70B6            000B6   734          BAL   R14,NXREC             SKIP TO BEGIN OF NEXT SECTION    00700001
00062C 47F0 70A6            000A6   735          B     RETSYS                                                 00701001
                                    736 *                                                                      00702001
                                    737 *        NOT SECTIONED FORMAT OR QUANTITY LESS OR EQUAL Q              00703001
                                    738 *                                                                      00704001
000630 9120 501A      0001A         739 SYS14T2  TM    DSF,DS2                                                 00705001
000634 4780 765A            0065A   740          BZ    SYS14T4               LAST I/O WAS INPUT               00706001
000638 5830 5008            00008   741 SYS14T3  L     R3,RE                                                  00707001
00063C 5B30 5004            00004   742          S     R3,R                                                   00708001
000640 4780 764A            0064A   743          BZ    SYS14T5                                                00709001
000644 41F0 76D4            006D4   744          LA    R15,SYBLANK           FILL RECORD WITH BLANKS          00710001
000648 05EF                         745          BALR  R14,R15                                                00711001
00064A 45E0 70B6            000B6   746 SYS14T5  BAL   R14,NXREC                                             00712001
00064E 4940 5014            00014   747          CH    R4,S                                                   00713001
000652 4770 7638            00638   748          BNE   SYS14T3                                                00714001
000656 47F0 70A6            000A6   749          B     RETSYS                                                 00715001
                                    750 *                                                                      00716001
                                    751 *        INPUT                                                         00717001
                                    752 *                                                                      00718001
00065A 9120 501B      0001B         753 SYS14T4  TM    DSF+1,DS10            DS BEEN OPENED BY SYSACT 12 ?    00719001
00065E 4710 767A            0067A   754          BO    SYS14T7                                                00720001
                                    755 *                                                                      00721001
                                    756 *        ONLY INPUT READ THE FOLLWING UNTIL RECORD POINTER S           00722001
                                    757 *        EQUALS QUANTITY                                               00723001
                                    758 *                                                                      00724001
000662 9101 501A      0001A         759 SYS14T6  TM    DSF,DS7               EOD BEEN REACHED ?               00725001
000666 4710 7402            00402   760          BO    SYSEOD                                                 00726001
00066A 45E0 70B6            000B6   761          BAL   R14,NXREC                                              00727001
00066E 4940 5014            00014   762          CH    R4,S                                                   00728001
000672 4780 70A6            000A6   763          BE    RETSYS                                                 00729001
000676 47F0 7662            00662   764          B     SYS14T6                                                00730001
                                    765 *                                                                      00731001
00067A 1266                         766 SYS14T7  LTR   R6,R6                 DATASET NUMBER = 0 ?             00732001
00067C 4780 75CA            005CA   767          BZ    SYSINCOM              YES, BRANCH                      00733001
000680 9620 501A      0001A         768          OI    DSF,DS2               OUTPUT                           00734001
000684 47F0 7638            00638   769          B     SYS14T3                                                00735001
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Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.22

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                                    770 *                                                                  00736001
                                    771 *--------------------------------------------------------------------- 00737001
                                    772 *        ROUTINE SYSACT15                                          00738001
                                    773 *--------------------------------------------------------------------- 00739001
                                    774 *                                                                  00740001
                                    775 *        SKIP TO RECORD EQUAL QUANTITY IN NEXT SECTION IF DATA     00741001
                                    776 *        IS NOT SECTIONED. SYSACT14 IS INVOKED                     00742001
                                    777 *                                                                  00743001
000688 1244                         778 SYSACT15 LTR   R4,R4                                               00744001
00068A 47D0 74C6            004C6   779          BNP   SYSQOUTR              QUANTITY OUT OF RANGE ERROR13 00745001
00068E 9180 501A      0001A         780          TM    DSF,DS0                                          00746001
000692 4780 70C8            000C8   781          BZ    SYSCLOSD                                         00747001
000696 91FF 5019      00019         782          TM    Q,X'FF'                                          00748001
00069A 4780 75F4            005F4   783          BZ    SYS14T1               DATA IS NOT SECTIONED SYSACT14 00749001
                                    784 *                                    IS INVOKED                    00750001
00069E 1B33                         785          SR    R3,R3                                            00751001
0006A0 4330 5019            00019   786          IC    R3,Q                                             00752001
0006A4 1943                         787          CR    R4,R3                                            00753001
0006A6 4720 74C6            004C6   788          BH    SYSQOUTR                                         00754001
0006AA 5830 5008            00008   789          L     R3,RE                                            00755001
0006AE 5B30 5004            00004   790          S     R3,R                  FILL RECORD WITH BLANKS    00756001
0006B2 4780 76BC            006BC   791          BZ    SYS15T0                                          00757001
0006B6 41F0 76D4            006D4   792          LA    R15,SYBLANK           FILL RECORD WITH BLANKS    00758001
0006BA 05EF                         793          BALR  R14,R15                                          00759001
0006BC D200 5015 5019 00015 00019   794 SYS15T0  MVC   S+1(1),Q                                          00760001
0006C2 9620 501A      0001A         795          OI    DSF,DS2               OUTPUT                     00761001
0006C6 45E0 70B6            000B6   796          BAL   R14,NXREC                                        00762001
0006CA 1834                         797          LR    R3,R4                                            00763001
0006CC 4630 7638            00638   798          BCT   R3,SYS14T3                                       00764001
                                    799 *                                                                  00765001
0006D0 47F0 70A6            000A6   800 SYS15T1  B     RETSYS                QUANTITY EQUALS ONE        00766001
                                    801 *                                    FIRST RECORD IN NEXT SECTION  00767001
                                    802 *                                                                  00768001
                                    803 *        SYBLANK FILL RECORD WITH BLANKS                           00769001
                                    804 *                                                                  00770001
0006D4 58B0 5004            00004   805 SYBLANK  L     R11,R                                            00771001
0006D8 9240 B000      00000         806 SYBLANK1 MVI   0(R11),C' '                                       00772001
0006DC 41B0 B001            00001   807          LA    R11,1(,R11)                                      00773001
0006E0 4630 76D8            006D8   808          BCT   R3,SYBLANK1                                      00774001
0006E4 07FE                         809          BR    R14                                              00775001
                                    810 *                                                                  00776001
                                    811 *        CONSTANTS                                                 00777001
                                    812 *                                                                  00778001
0006E6 0000
0006E8 0000000000000000             813 SAVEAR   DC    18F'0'                SAVEAREA                   00779001
                                    814 *                                                                  00780001
000730                              815          LTORG                                                    00781001
000730 0000000F                     816                =F'15'
000734 00FFFFFF                     817                =X'00FFFFFF'
000738 00007FF8                     818                =F'32760'
                                    819 *                                                                  00782001
                                    820 *        SYSACT VECTOR TABLE                                       00783001
                                    821 *                                                                  00784001
00073C                              822 SYSVECT  DS    A(0)                                             00785001
000740 000000C0                     823          DC    A(SYSACT1)                                       00786001
000744 000000F2                     824          DC    A(SYSACT2)                                       00787001
000748 000001F4                     825          DC    A(SYSACT3)                                       00788001
00074C 0000020E                     826          DC    A(SYSACT4)                                       00789001
000750 00000442                     827          DC    A(SYSACT5)                                       00790001
000754 0000045C                     828          DC    A(SYSACT6)                                       00791001
000758 00000480                     829          DC    A(SYSACT7)                                       00792001
00075C 00000494                     830          DC    A(SYSACT8)                                       00793001
000760 000004D0                     831          DC    A(SYSACT9)                                       00794001
000764 000004E4                     832          DC    A(SYSACT10)                                      00795001
000768 000004FA                     833          DC    A(SYSACT11)                                      00796001
00076C 00000576                     834          DC    A(SYSACT12)                                      00797001
000770 000005B0                     835          DC    A(SYSACT13)                                      00798001
000774 000005E6                     836          DC    A(SYSACT14)                                      00799001
000778 00000688                     837          DC    A(SYSACT15)                                      00800001
                                    838 *                                                                  00801001
                                    839 *        DSTABLE                                                   00802001
                                    840 *                                                                  00803001
                                    841          DSTABLE  DSECT=YES                                       00804001
000000                00000 00024   842+DSTABLE  DSECT                                                   01-DSTAB
                                    843+*                                                                  01-DSTAB
000000 00000000                     844+ADCB     DC    F'0'                  -> DCB                     01-DSTAB
000004 00000000                     845+R        DC    F'0'                  CHARACTER POINTER          01-DSTAB
000008 00000000                     846+RE       DC    F'0'                                             01-DSTAB
00000C 00000000                     847+NBB      DC    F'0'                                             01-DSTAB
000010 00000000                     848+BB       DC    F'0'                                             01-DSTAB
000014 0001                         849+S        DC    H'1'                  RECORD POINTER             01-DSTAB
000016 0050                         850+P        DC    H'80'                 RECORD LENGTH              01-DSTAB
000018 02                           851+K        DC    X'02'                 NUMBER OF BLANK DELIM CHARS 01-DSTAB
000019 00                           852+Q        DC    X'00'                 NO OF RECORDS PER SECTION  01-DSTAB
00001A 0000                         853+DSF      DC    H'00'                 DATASET FLAGS              01-DSTAB
                                    854+*                                                                  01-DSTAB
                                    855+*        DATASET FLAGS - DSF                                       01-DSTAB
                                    856+*                                                                  01-DSTAB
                         00080      857+DS0      EQU   X'80'                 DATASET OPEN               01-DSTAB
                         00040      858+DS1      EQU   X'40'                                              01-DSTAB
                         00020      859+DS2      EQU   X'20'                 LAST I/O OUTPUT            01-DSTAB
                         00010      860+DS3      EQU   X'10'                                              01-DSTAB
                         00008      861+DS4      EQU   X'08'                                              01-DSTAB
                         00004      862+DS5      EQU   X'04'                                              01-DSTAB
                         00002      863+DS6      EQU   X'02'                 OPEN FOR OUTPUT            01-DSTAB
                         00001      864+DS7      EQU   X'01'                 END OF FILE                01-DSTAB
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D-Loc  Object Code    Addr1 Addr2  Stmt   Source Statement                                X390 3.1.04  2012/08/17 13.22

                                    865+*                                                                    01-DSTAB
                                    866+*       DATASET FLAGS - DSF+1                                        01-DSTAB
                                    867+*                                                                    01-DSTAB
                      00080         868+DS8     EQU   X'80'                 END OF DATA                      01-DSTAB
                      00040         869+DS9     EQU   X'40'                                                  01-DSTAB
                      00020         870+DS10    EQU   X'20'                 OPENED BY SYSACT 12              01-DSTAB
                      00010         871+DS11    EQU   X'10'                 INDICATE IHIERR-ROUT             01-DSTAB
                      00008         872+DSEOD   EQU   X'08'                                                  01-DSTAB
                      00004         873+DSIOERR EQU   X'04'                 I/O ERROR                        01-DSTAB
                      00002         874+DS14    EQU   X'02'                 DATASET OPENED                   01-DSTAB
                      00001         875+DS15    EQU   X'01'                 CLOSE FROM IHIERR                01-DSTAB
                                    876+*                                                                    01-DSTAB
00001C 00000000                     877+NOTEADR DC    F'0'                                                   01-DSTAB
000020 0000                         878+BL      DC    H'0'                  LRECL+ TWO ARB                   01-DSTAB
000022 0000                         879+        DC    H'0'                                                   01-DSTAB
                                    880+*                                                                    01-DSTAB
                      00024         881+DSTABLEL EQU  *-DSTABLE             L'DSTABLE ENTRY                  01-DSTAB
                                    882+*                                                                    01-DSTAB
                                    883 *                                                                    00805001
                                    884 *       DSECT FOR ADDRESSING DECB                                    00806001
                                    885 *                                                                    00807001
                                    886         PRINT NOGEN                                                  00808001
                                    887 *                                                                    00809001
                                    888         DCBD  DSORG=BS,DEVD=DA                                       00810001
                                   1395 *                                                                    00811001
                                   1396         PRINT GEN                                                    00812001
                                   1397 *                                                                    00813001
                                   1398         READ  SYDECB,SF,MF=L                                         00814001
000058 00000000                    1399+SYDECB  DC    F'0'                          EVENT CONTROL BLOCK     02-IHBRD
00005C 00                          1400+        DC    X'00'                         TYPE FIELD              02-IHBRD
00005D 80                          1401+        DC    X'80'                         TYPE FIELD              02-IHBRD
00005E 0000                        1402+        DC    AL2(0)                        LENGTH                  02-IHBRD
000060 00000000                    1403+        DC    A(0)                          DCB ADDRESS             02-IHBRD
000064 00000000                    1404+        DC    A(0)                          AREA ADDRESS            02-IHBRD
000068 00000000                    1405+        DC    A(0)                          RECORD POINTER WORD     02-IHBRD
                                   1406 *                                                                    00815001
000000                00000 00120  1407 FAS      DSECT                                                        00816001
                                   1408 *                                                                    00817001
                                   1409         COPY  FSAREA                                                 00818001
                                   1410=*                                                                    00001001
                                   1411=*       COMPONENT ID - 360S-LM-532 ALGOL F LIBRARY                   00002001
                                   1412=*                                                                    00003001
                                   1413=*       STATUS - LEVEL 2.1                                           00004001
                                   1414=*                                                                    00005001
                                   1415=*********************************************************************** 00006001
                                   1416=*                                                                    00007001
                                   1417=*       COMMON DATA AREA                                             00008001
                                   1418=*                                                                    00009001
                                   1419=*       FSAREA                                                       00010001
                                   1420=*                                                                    00011001
                                   1421=*********************************************************************** 00012001
                                   1422=*                                                                    00013001
                                   1423=*       DATA THAT IS IMMEDIATELY ACCESSIBLE TO ALL                   00014001
                                   1424=*       MODULES DURING THE EXECUTION                                 00015001
                                   1425=*                                                                    00016001
                                   1426=*       ADDRESSED BY MEANS OF R13 OR (FOR THE LIBRARY                00017001
                                   1427=*       SUBROUTINES) BY R12                                          00018001
                                   1428=*                                                                    00019001
                      00000        1429=FSAREA  EQU   *                                                      00020001
                                   1430=*                                                                    00021001
                                   1431=*       SAVE AREAS                                                   00022001
                                   1432=*                                                                    00023001
000000                             1433=        DS    18F                     STANDARD SAVE AREA           00024001
                      00048        1434=ASAVE   EQU   *-FSAREA               ALTERNATE SAVE AREA USED BY  00025001
000048                             1435=        DS    18F                     CERTAIN SUBROUTINES          00026001
                                   1436=*                                                                    00027001
                                   1437=*       MISCELLANEOUS WORK AREAS AND CONSTANTS                       00028001
                                   1438=*                                                                    00029001
                      00090        1439=FCTVALST EQU  *-FSAREA               TEMPORARY STORAGE FOR        00030001
000090                             1440=        DS    D                       FUNCTION VALUES              00031001
                      00098        1441=ASTLOC  EQU   *-FSAREA               DISPL FOR ADDR OF STAND LOCTN 00032001
000098 00000090                    1442=        DC    A(FSAREA+FCTVALST)                                     00033001
                      0009C        1443=BRRST   EQU   *-FSAREA               TEMPORARY SAVE REG BRR       00034001
                      0009C        1444=HW      EQU   BRRST                  TEMPORARY HALFWORD STORAGE   00035001
00009C                             1445=        DS    F                                                    00036001
                      000A0        1446=PROLREG EQU   *-FSAREA               STORAGE FOR PBT AND LAT WHEN 00037001
0000A0                             1447=        DS    2A                      A PROCEDURE IS FORMAL PARAM  00038001
                                   1448=*                                                                    00039001
                                   1449=*       HALFWORD CONTAINING PBN OF CALLED BLOCK IN SECOND BYTE       00040001
                                   1450=*                                                                    00041001
0000A8                             1451=        DS    0H                                                   00042001
0000A8 00                          1452=        DC    X'00'                                                00043001
                      000A9        1453=PROLPBN EQU   *-FSAREA               STORAGE FOR CALLED PBN       00044001
0000A9 00                          1454=        DC    X'00'                                                00045001
                      000AA        1455=EIGHT   EQU   *-FSAREA               CONST FOR REDUCING RAS       00046001
0000AA 0008                        1456=        DC    H'8'                                                 00047001
                                   1457=*                                                                    00048001
0000AC                             1458=        DS    0F                                                   00049001
                      000AC        1459=ADSTAB  EQU   *-FSAREA               ADDR OF DSTABLE              00050001
0000AC                             1460=        DS    A                       IN THE OBJECT PROGRAM        00051001
                      000B0        1461=ANOTTAB EQU   *-FSAREA               ADDR OF NOTE TABLE           00052001
0000B0                             1462=        DS    A                       (INSERTED BY THE OPEN ROUTINE) 00053001
                                   1463=*                                                                    00054001
                      000B4        1464=IHIFSAST EQU  *                                                      00055001
                      000B4        1465=PGOPSW  EQU   *-FSAREA               PROGRAM CHECK OLD PSW        00056001
0000B4                             1466=        DS    2F                                                   00057001
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D-Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.22

```
                    000BC       1467=FSAPICA  EQU   *-FSAREA              OLD PICA ADDR                  00058001
0000BC 00000000                 1468=         DC    F'0'                                                 00059001
                    000C0       1469=SCRCS    EQU   *-FSAREA              SEMICOLON NUMBER               00060001
0000C0                          1470=         DS    H                                                    00061001
                    000C2       1471=DTSW     EQU   *-FSAREA              OPTION SWITCHES                00062001
                    000C2       1472=OPTSW    EQU   DTSW                                                 00063001
0000C2 00                       1473=         DC    X'00'                 DUMP-80, TRACE-40, SHORT-20    00064001
                    000C3       1474=FSAERCOD EQU   *-FSAREA              ERROR CODE FOR ERROR ROUTINE   00065001
0000C3                          1475=         DS    C                                                    00066001
                                1476=*                                                                   00067001
                                1477=*        RETURN ADDRESS STACK POINTERS DO NOT CHANGE ORDER         00068001
                                1478=*                                                                   00069001
0000C4                          1479=         DS    0F                                                   00070001
                    000C4       1480=IHIFSARS EQU   *                                                    00071001
                    000C4       1481=RASSTART EQU   *-FSAREA              ADDR OF FIRST ENTRY IN RAS-8   00072001
0000C4                          1482=         DS    F                                                    00073001
                    000C8       1483=RASPT    EQU   *-FSAREA              RAS POINTER FROM TOP           00074001
0000C8                          1484=         DS    F                                                    00075001
                    000CC       1485=RASEND   EQU   *-FSAREA              ADDR OF LAST  ENTRY IN RAS+8   00076001
0000CC                          1486=         DS    F                                                    00077001
                    000D0       1487=RASPB    EQU   *-FSAREA              RAS POINTER FROM BOTTOM        00078001
0000D0                          1488=         DS    F                                                    00079001
                                1489=*                                                                   00080001
                                1490=*        LIST OF BRANCH INSTRUCTIONS TO COMMONLY USED SUBROUTINES   00081001
                                1491=*                                                                   00082001
0000D4                          1492=BRLIST   DS    0F                                                   00083001
                    000D4       1493=CAP1     EQU   *-FSAREA              FIRST PART CAPS                00084001
0000D4 4700 0000        00000   1494=         NOP   0                                                    00085001
                    000D8       1495=CAP2     EQU   *-FSAREA              SECOND PART CAPS               00086001
0000D8 4700 0000        00000   1496=         NOP   0                                                    00087001
                    000DC       1497=PROLOGP  EQU   *-FSAREA              PROLOGUE FORMAL PARAMETER ENTRY 00088001
                    000DC       1498=PROLOGFP EQU   PROLOGP                                              00089001
0000DC 4700 0000        00000   1499=         NOP   0                                                    00090001
                    000E0       1500=PROLOG   EQU   *-FSAREA              PROLOGUE PROGRAM USUAL ENTRY   00091001
0000E0 4700 0000        00000   1501=         NOP   0                                                    00092001
                    000E4       1502=RETPROG  EQU   *-FSAREA              DISPLACEMENT RETURN PROGRAM    00093001
0000E4 4700 0000        00000   1503=         NOP   0                                                    00094001
                    000E8       1504=EPILOGP  EQU   *-FSAREA              EPILOGUE PROGRAM,PROCEDURE ENTRY 00095001
0000E8 4700 0000        00000   1505=         NOP   0                                                    00096001
                    000EC       1506=EPILOGB  EQU   *-FSAREA              EPILOGE PROGRAM,BETA-BLOCK ENTRY 00097001
0000EC 4700 0000        00000   1507=         NOP   0                                                    00098001
                    000F0       1508=EPILPR3  EQU   *-FSAREA              EPILOGUE PROGRAM ENTRY 3       00099001
0000F0 4700 0000        00000   1509=         NOP   0                                                    00100001
                    000F4       1510=CSWE1    EQU   *-FSAREA              FIRST PART CSWES               00101001
0000F4 4700 0000        00000   1511=         NOP   0                                                    00102001
                    000F8       1512=CSWE2    EQU   *-FSAREA              SECOND PART CSWES              00103001
0000F8 4700 0000        00000   1513=         NOP   0                                                    00104001
                    000FC       1514=LOADPP   EQU   *-FSAREA              LOAD PRECOMPILED PROC ROUTINE  00105001
0000FC 4700 0000        00000   1515=         NOP   0                                                    00106001
                    00100       1516=TRACE    EQU   *-FSAREA                                           00107001
000100 D200 0000 0000 00000 00000 1517=       MVC   0(0),0                                             00108001
000106 4700 0000        00000   1518=         NOP   0                                                    00109001
00010A 4700 0000        00000   1519=         NOP   0                                                    00110001
                    0010E       1520=TERMNTE  EQU   *-FSAREA              NORMAL TERMINATION EXIT        00111001
00010E 4700 0000        00000   1521=         NOP   0                                                    00112001
                    00112       1522=BCR      EQU   *-FSAREA                                           00113001
000112 0700                     1523=         BCR   0,0                   VARIABLE CONDITIONAL BRANCH    00114001
                    00114       1524=GETMSTO  EQU   *-FSAREA                                           00115001
000114 4700 0000        00000   1525=         NOP   0                                                    00116001
                                1526=*                                                                   00117001
                    00118       1527=VALUCALL EQU   *-FSAREA                                           00118001
000118 4700 0000        00000   1528=         NOP   0                                                    00119001
                    0011C       1529=IORLST   EQU   *-FSAREA                                           00120001
00011C 4700 0000        00000   1530=         NOP   0                                                    00121001
                                1531=*                                                                   00122001
                    001CC       1532=FSAERR   EQU   X'1CC'                DISPL  FOR ERROR LIST          00123001
                                1533=*                                                                   00124001
                                1534=*        DISPLACEMENTS FOR CERTAIN ERROR EXITS IN FSA               00125001
                                1535=*                                                                   00126001
                    0020C       1536=OUTOFB   EQU   FSAERR+4*16                                        00127001
                    00218       1537=NUMBIND  EQU   FSAERR+4*19                                        00128001
                    00208       1538=ARRAYBD  EQU   FSAERR+4*15                                        00129001
                    0026C       1539=ERROR40  EQU   FSAERR+4*40                                        00130001
                    00224       1540=OERR22   EQU   FSAERR+4*22                                        00131001
                    00210       1541=ENDLESL  EQU   FSAERR+4*17                                        00132001
                    00220       1542=OERR21   EQU   FSAERR+4*21                                        00133001
                                1543=*                                                                   00134001
                                1544 *                                                                   00819001
                                1545          IEZREGS                                                    00820001
                    00000       1546+R0       EQU   0                                                    01-IEZRE
                    00001       1547+R1       EQU   1                                                    01-IEZRE
                    00002       1548+R2       EQU   2                                                    01-IEZRE
                    00003       1549+R3       EQU   3                                                    01-IEZRE
                    00004       1550+R4       EQU   4                                                    01-IEZRE
                    00005       1551+R5       EQU   5                                                    01-IEZRE
                    00006       1552+R6       EQU   6                                                    01-IEZRE
                    00007       1553+R7       EQU   7                                                    01-IEZRE
                    00008       1554+R8       EQU   8                                                    01-IEZRE
                    00009       1555+R9       EQU   9                                                    01-IEZRE
                    0000A       1556+R10      EQU   10                                                   01-IEZRE
                    0000B       1557+R11      EQU   11                                                   01-IEZRE
                    0000C       1558+R12      EQU   12                                                   01-IEZRE
                    0000D       1559+R13      EQU   13                                                   01-IEZRE
                    0000E       1560+R14      EQU   14                                                   01-IEZRE
                    0000F       1561+R15      EQU   15                                                   01-IEZRE
                                1562 *                                                                   00821001
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Active USINGs: IHADCB,R8 DSTABLE,R5 IHISYSCT,R7

D-Loc Object Code Addr1 Addr2 Stmt Source Statement X390 3.1.04 2012/08/17 13.22

1563 END 00822001

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.22

```
=F'15'          4 00000730 00000001  F F                816   119
=F'32760'
                4 00000738 00000001  F F                818   534
=X'00FFFFFF'
                4 00000734 00000001  X X                817   133
ADCB            4 00000000 FFFFFFFF  F F                844   303   642
ANOTTAB         1 000000B0           U                 1461   488
BB              4 00000010 FFFFFFFF  F F                848   395   428   462   635
BL              2 00000020 FFFFFFFF  H H                878   396   405   429   463   636
BRRST           1 0000009C           U                 1443  1444
CI              1 00000000           U                   71   112
CL              1 00000004           U                   72   676
DCBBIT0         1 00000080           U                  910   996  1004  1016  1039  1066  1068  1069  1071  1094  1097
                                                             1117  1121  1136  1173  1228  1252  1291  1295  1308
DCBBIT1         1 00000040           U                  911   997  1005  1018  1040  1041  1050  1066  1068  1070  1071
                                                             1099  1117  1119  1121  1139  1140  1141  1176  1177  1228
                                                             1254  1297  1299  1311  1355
DCBBIT2         1 00000020           U                  912   998  1006  1019  1020  1021  1040  1041  1045  1051  1066
                                                             1067  1072  1101  1122  1123  1144  1145  1146  1180  1181
                                                             1229  1259  1300  1316  1358  1361
DCBBIT3         1 00000010           U                  913   999  1019  1021  1022  1040  1053  1073  1104  1122  1125
                                                             1148  1149  1150  1184  1185  1229  1261  1264  1266  1302
                                                             1317  1358  1362
DCBBIT4         1 00000008           U                  914  1007  1054  1074  1105  1127  1132  1133  1153  1154  1188
                                                             1189  1191  1192  1230  1269  1318  1358  1363
DCBBIT5         1 00000004           U                  915  1008  1055  1077  1078  1107  1127  1129  1130  1133  1157
                                                             1159  1160  1161  1195  1196  1197  1198  1230  1271  1274
                                                             1304  1320  1353
DCBBIT6         1 00000002           U                  916  1000  1056  1057  1060  1077  1079  1108  1164  1165  1166
                                                             1167  1201  1202  1203  1204  1231  1277  1322  1364
DCBBIT7         1 00000001           U                  917  1001  1056  1058  1060  1081  1112  1169  1170  1207  1208
                                                             1210  1211  1280  1306  1323  1366
DCBFDAD         8 00000005 FFFFFFFE  C C                937   940
DSF             2 0000001A FFFFFFFF  H H                853   164   196   207   209   211   214   226M  241M  252   254
                                                              258M  262M  268   282   309   316   321   326   328M  333
                                                              337   360   365M  366M  367M  376M  402   426   452M  453M
                                                              456   461M  515   530   563   573M  621   624   626   628
                                                              650   665   667M  673   688   690   703M  715   733M  739
                                                              753   759   768M  780   795M
DSTABLE         1 00000000 FFFFFFFF  J                  842    99U  881
DS0             1 00000080           U                  857   164   196   282   316   515   530   563   621   665   673
                                                              688   715   780
DS1             1 00000040           U                  858   402   426   628
DS10            1 00000020           U                  870   209   254   326   667   753
DS2             1 00000020           U                  859   207   226   252   258   321   328   360   453   456   626
                                                              733   739   768   795
DS3             1 00000010           U                  860   241   262
DS4             1 00000008           U                  861   461   703
DS5             1 00000004           U                  862   365   452
DS6             1 00000002           U                  863   366   453
DS7             1 00000001           U                  864   211   214   268   333   337   366   624   650   759
DS8             1 00000080           U                  868   367   376
DS9             1 00000040           U                  869   309   573   690
DTSW            1 000000C2           U                 1471  1472
EV              1 00000008           U                   73    92
FCTVALST        1 00000090           U                 1439  1442
FR0             1 00000000           U                   66   107M  110M
FSAERR          1 000001CC           U                 1532   150B  167B  172B  194B  307B  482B  507B  540B  577B  580B
                                                             697B 1536  1537  1538  1539  1540  1541  1542
FSAREA          1 00000000 FFFFFFFD  U                 1429  1434  1439  1441  1442  1443  1446  1453  1455  1459  1461
                                                             1465  1467  1469  1471  1474  1481  1483  1485  1487  1493
                                                             1495  1497  1500  1502  1504  1506  1508  1510  1512  1514
                                                             1516  1520  1522  1524  1527  1529
IHADCB          1 00000000 FFFFFFFE  J                  893   368U  978  1025  1090  1219  1234  1247  1343  1349  1376
IHISYSCT        1 00000000 00000001  J                   62    86U
IORLST          1 0000011C           U                 1529    91   111   154   668   675
K               1 00000018 FFFFFFFF  X X                851   593   608M
KF256           4 000004CC 00000001  F F                582   569   606
NBB             4 0000000C FFFFFFFF  F F                847   384
NX              1 0000000C           U                   74   155
NXREC           4 000000B6 00000001  I                  154   213B  235B  339B  351B  401B  421B  436B  469B  734B  746B
                                                             761B  796B
OPTSW           1 000000C2           U                 1472   105
OQ              1 00000014           U                   76   669
P               2 00000016 FFFFFFFF  H H                850   176   191   200   219   263   271   477   519   536M  632
PROLOGP         1 000000DC           U                 1497  1498
Q               1 00000019 FFFFFFFF  X X                852   551   572M  718   724   732   782   786   794
R               4 00000004 FFFFFFFF  F F                845   174   202   221M  231   244   247M  261   273M  347   432
                                                              465   478M  630   728   742   790   805
RE              4 00000008 FFFFFFFF  F F                846   175   199   218   230   260   270   346   397M  430M  431
                                                              464M  476   631   727   741   789
RETSYS          4 000000A6 00000001  I                  143   179B  222B  248B  274B  288B  342B  354B  403B  420B  479B
                                                             521B  537B  553B  574B  595B  609B  654B  671B  678B  704B
                                                             735B  749B  763B  800B
R0              1 00000000           U                 1546   116M  117   377M
R1              1 00000001           U                 1547   103   127   378M  407M  408M  409M  410   411M  415   416
                                                             631M  632M  633   635M  636M  637M  641M
R10             1 0000000A           U                 1556   377   489M  490   492M  494   496   500M
R11             1 0000000B           U                 1557   244M  245   630M  633   637   638   640M  805M  806   807M
R12             1 0000000C           U                 1558    87M   91   105   111   149   150   154   166   167   171
                                                             172   193   194   306   307   481   482   488   506   507
                                                             539   540   576   577   579   580   668   675   696   697
R13             1 0000000D           U                 1559    87    89    90M  143M  149M  166M  171M  193M  306M  481M
                                                             506M  539M  576M  579M  696M
R14             1 0000000E           U                 1560    93M  113M  213M  234M  235M  243M  266M  332M  339M  350M
                                                             351M  357M  401M  421M  435M  436M  468M  469M  471M  501B
                                                             504B  670M  677M  731M  734M  745M  746M  761M  793M  796M
```

Symbol	Length	Value	Id	Type	Asm	Program	Defn	References
								809B
R15	1	0000000F		U			1561	85 91M 92M 93B 111M 112M 113B 154M 155M 156B
								233M 234B 242M 243B 265M 266B 331M 332B 349M 350B
								356M 357B 434M 435B 467M 468B 470M 471B 668M 669M
								670B 675M 676M 677B 730M 731B 744M 745B 792M 793B
R2	1	00000002		U			1548	103M 107 110 116 117M 119 121M 122 127M 128M
								129M 132M 133M 134 178 287 311M 313M 384M 390
								395M 396M 397 398M 399M 400 404M 410M 412M 415M
								416M 476M 477M 478 493M 494 520 552 594 653
								702 723M 724M 725
R3	1	00000003		U			1549	122M 141B 198M 199M 200M 201M 202M 216M 217M 230M
								231M 237M 238M 239M 259M 260M 261M 263M 264M 335M
								346M 347M 358M 405M 406M 411 413M 414M 417M 418
								428M 429M 430 431M 432M 462M 463M 464 465M 488M
								489 490 498M 499M 503M 567M 569M 692M 694M 727M
								728M 741M 742M 785M 786M 787 789M 790M 797M 798M
								808M
R4	1	00000004		U			1550	134M 174M 175M 176M 177M 178 187M 191 198 216
								218M 219M 220M 221 237 245M 246M 247 259 270M
								271M 272M 273 286M 287 304M 318 340 352 398
								413 419 496 519M 520 532M 534 536 550M 551M
								552 567 572 592M 593M 594 604M 606 608 620M
								623M 652M 653 662M 664M 701M 702 713M 717M 725
								747 762 778M 787 797
R5	1	00000005		U			1551	99U
R6	1	00000006		U			1552	224M 256M 311 493 565M 692 766M
R7	1	00000007		U			1553	85M 86U
R8	1	00000008		U			1554	303M 368U 378 389 448 642M
R9	1	00000009		U			1555	126M 131M 169M 284M 517M 548M 590M 618M 699M
S	2	00000014	FFFFFFFF	H	H		849	286 318 340 352 400M 407 418M 419 701 717
								732M 747 762 794M
SAVEAR	4	000006E8	00000001	F	F		813	89M 90 143
SYBLANK	4	000006D4	00000001	I			805	233 242 265 349 434 467 730 744 792
SYBLANK1	4	000006D8	00000001	I			806	808B
SYDECB	4	00000058	FFFFFFFE	F	F		1399	371 387 439 645
SYSACT1	4	000000C0	00000001	I			164	823
SYSACT10	2	000004E4	00000001	I			604	832
SYSACT11	2	000004FA	00000001	I			618	833
SYSACT12	2	00000576	00000001	I			662	834
SYSACT13	4	000005B0	00000001	I			688	835
SYSACT14	2	000005E6	00000001	I			713	836
SYSACT15	2	00000688	00000001	I			778	837
SYSACT2	2	000000F2	00000001	I			187	824
SYSACT2A	4	000000FC	00000001	I			191	188B
SYSACT3	4	000001F4	00000001	I			282	825
SYSACT4	4	0000020E	00000001	I			303	826
SYSACT5	4	00000442	00000001	I			515	827
SYSACT6	4	0000045C	00000001	I			530	828
SYSACT7	2	00000480	00000001	I			548	829
SYSACT8	4	00000494	00000001	I			563	830
SYSACT9	2	000004D0	00000001	I			590	831
SYSCLOSD	2	000000C8	00000001	I			166	197B 283B 317B 516B 689B 716B 781B
SYSCONST	2	000000D4	00000001	I			171	285B 518B 549B 591B 619B 700B
SYSEOD	2	00000402	00000001	I			481	212B 217B 269B 334B 338B 760B
SYSERR14	2	0000043C	00000001	I			506	359B
SYSERR9	2	000000B0	00000001	I			149	118B 120B
SYSINCOM	2	000005CA	00000001	I			696	225B 257B 310B 312B 314B 566B 691B 693B 767B
SYSNOT	4	00000408	00000001	I			488	331 356 470
SYSNOT1	4	0000040E	00000001	I			490	495B 497B
SYSNOT2	2	00000438	00000001	I			503	491B
SYSOPEN	2	0000047A	00000001	I			539	531B 564B
SYSQOUTR	2	000004C6	00000001	I			579	533B 535B 568B 570B 571B 605B 607B 664B 714B 779B
								788B
SYSVECT	4	0000073C	00000001	A	A		822	122
SYS1	4	0000006A	00000001	I			116	104B
SYS1A	2	0000006E	00000001	I			117	114B
SYS1T1	2	000000CE	00000001	I			169	165B
SYS1T2	4	000000DA	00000001	I			174	170B
SYS11	4	00000058	00000001	I			110	106B
SYS11A	4	0000005C	00000001	I			111	108B
SYS11B	4	00000098	00000001	I			132	130B
SYS11T1	4	0000056E	00000001	I			653	622B 627B 629B 634B 639B 651B
SYS11T2	2	0000056C	00000001	I			652	625B
SYS11T3	4	00000542	00000001	I			638	641B
SYS12T1	4	0000059A	00000001	I			673	663B
SYS12T2	4	000005AC	00000001	I			678	666B 674B
SYS13T1	2	000005D0	00000001	I			699	694B
SYS14T1	4	000005F4	00000001	I			717	783B
SYS14T11	6	0000061E	00000001	I			732	729B
SYS14T2	4	00000630	00000001	I			739	719B 726B
SYS14T3	4	00000638	00000001	I			741	748B 769B 798B
SYS14T4	4	0000065A	00000001	I			753	740B
SYS14T5	4	0000064A	00000001	I			746	743B
SYS14T6	4	00000662	00000001	I			759	764B
SYS14T7	2	0000067A	00000001	I			766	754B
SYS15T0	6	000006BC	00000001	I			794	791B
SYS2T1	2	00000104	00000001	I			193	189B 192B
SYS2T1A	4	00000150	00000001	I			218	215B
SYS2T2	4	000001A6	00000001	I			252	203B
SYS2T20	2	000001C0	00000001	I			259	253B
SYS2T3	4	0000016C	00000001	I			230	208B
SYS2T30	2	00000162	00000001	I			224	210B
SYS2T31	4	0000017E	00000001	I			235	232B
SYS2T32	4	00000196	00000001	I			244	240B
SYS2T5	4	000001DA	00000001	I			268	255B
SYS4T0	4	00000234	00000001	I			316	313B
SYS4T01	4	0000021E	00000001	I			309	305B

Symbol Length Value Id Type Asm Program Defn References X390 3.1.04 2012/08/17 13.22

Symbol	Length	Value	Id	Type	Asm	Program	Defn	References
SYS4T12	4	00000260	00000001	I			331	327B
SYS4T13	4	00000274	00000001	I			337	341B
SYS4T14	4	0000029E	00000001	I			351	348B
SYS4T15	4	0000028C	00000001	I			346	322B 329B 353B
SYS4T2	4	000002AE	00000001	I			356	319B
SYS4T21	4	000002CA	00000001	I			367	336B
SYS4T22	2	000002E0	00000001	I			377	454B
SYS4T23	4	00000356	00000001	I			419	422B
SYS4T24	4	00000366	00000001	I			426	361B
SYS4T25	4	0000037A	00000001	I			431	427B
SYS4T26	4	0000038C	00000001	I			436	433B
SYS4T27	4	00000390	00000001	I			439	472B
SYS4T3	4	000003BE	00000001	I			456	320B
SYS4T31	4	000003F2	00000001	I			476	457B
SYS4T33	4	000003E4	00000001	I			469	466B

Register References (M=modified, B=branch, U=USING, D=DROP, N=index) X390 3.1.04 2012/08/17 13.22

```
    0(0)    83   116M  117   146M  377M
    1(1)    83   103   127   146M  371M  372   378M  381   387M  388   389N  390N  391N  407M  408M  409M  410   411M
           415   416   439M  440   446M  448N  449   631M  632M  633   635M  636M  637M  641M  645M  646
    2(2)    83   103M  107   110   116   117M  119   121M  122N  127M  128M  129M  132M  133M  134   146M  178   287
           311M  313M  384M  390   395M  396M  397   398M  399M  400   404M  410M  412M  415M  416M  476M  477M  478
           493M  494   520   552   594   653   702   723M  724M  725
    3(3)    83   122M  141B  146M  198M  199M  200M  201M  202M  216M  217M  230M  231M  237M  238M  239M  259M  260M
           261M  263M  264M  335M  346M  347M  358M  405M  406M  410M  411   413M  414M  415M  416M  417M  417N  418
           428M  429M  430   431M  432M  462M  463M  464   465M  488M  489   490   498M  499M  503M  567M  569M  692M
           694M  727M  728M  741M  742M  785M  786M  787   789M  790M  797M  798M  808M
    4(4)    83   134M  146M  174M  175M  176M  177M  178   187M  191   198   216   218M  219M  220M  221   237   245M
           246M  247   259   270M  271M  272M  273   286M  287   304M  318   340   352   398   413   419   496   519M
           520   532M  534   536   550M  551M  552   567   572   592M  593M  594   604M  606   608   620M  623M  652M
           653   662M  664M  701M  702   713M  717M  725   747   762   778M  787   797
    5(5)    83    99U  146M
    6(6)    83   146M  224M  256M  311   493   565M  692   766M
    7(7)    83    85M   86U  146M
    8(8)    83   146M  303M  368U  378   389   448   642M
    9(9)    83   126M  131M  146M  169M  284M  517M  548M  590M  618M  699M
   10(A)    83   146M  377   489M  490   492M  494   496   500M
   11(B)    83   146M  244M  245   630M  633   637   638   640M  640N  805M  806   807M
   12(C)    83    87M   91   105   111   146M  149   150N  154N  166   167N  171   172N  193   194N  306   307N  481
           482N  488N  506   507N  539   540N  576   577N  579   580N  668N  675N  696   697N
   13(D)    83    87    89    90M  143M  146   149M  166M  171M  193M  306M  481M  506M  539M  576M  579M  696M
   14(E)    83    93M  113M  146M  147B  213M  234M  235M  243M  266M  332M  339M  350M  351M  357M  372M  373   374M
           382M  393M  401M  421M  435M  436M  440M  441   442M  468M  469M  471M  501B  504B  646M  647   648M  670M
           677M  731M  734M  745M  746M  761M  793M  796M  809B
    15(F)   79B   83    85    91M   92M   93B  111M  112M  113B  146M  154M  155M  155N  156B  233M  234B  242M  243B
           265M  266B  331M  332B  349M  350B  356M  357B  373M  374B  381M  382N  391M  392M  393B  434M  435B  441M
           442B  467M  468B  470M  471B  647M  648B  668M  669M  669N  670B  675M  676M  677B  730M  731B  744M  745B
           792M  793B
```

Dsect	Length	Id	Defn	Con	Member
DSTABLE	00000024	FFFFFFFF	842	4	DSTABLE
FAS	00000120	FFFFFFFD	1407		PRIMARY INPUT
IHADCB	0000006C	FFFFFFFE	893	1	DCBD

Con Source Members X390 3.1.04 2012/08/17 13.22

```
  1 SYS1.MACLIB
               CHECK    CLOSE    DCBD     IEZREGS  IHBINNRA IHBRDWRS POINT    READ     RETURN   SAVE
  2 SYSD.TOOLS.MACLIB
  3 SYSD.ALGOLFRT.ASM
  4 SYSD.ALGOLFRT.MACLIB
               DSTABLE  FSAREA
  5 SYS1.AMODGEN
```

Stmt	Level	Action	Type	Id	Address	Range	Reg	Max	Last	Text
86		USING	Ordinary	00000001	00000000	00001000	7	0073C	808	IHISYSCT,R7
99		USING	Ordinary	FFFFFFFF	00000000	00001000	5	00020	805	DSTABLE,R5
368		USING	Ordinary	FFFFFFFE	00000000	00001000	8	00058	645	IHADCB,R8

No statements flagged in this assembly.

TACHYON LEGACY ASSEMBLER, VERSION 3.1.04

SYSTEM: MVS 3.8 JOBNAME: T1BLD STEPNAME: IHISYS PROCSTEP: X390

Primary input: lines 1 to 822 of SYSD.ALGOLFRT.ASM(IHISYS)

SYSLIB library records read: 3114

SYSUT1 work file size: 111697 bytes

SYSUT2 work file size: 292892 bytes

SYSUT3 work file size: 65760 bytes

SYSLIN file records written: 39

TXA000I Return code 0, elapsed time 1.06 seconds.

INITOBJ - Uninitialized Areas Page No. 1

Csect	Rel Addr(hex)	Length(dec)
IHISYSCT	00077C	4

LINKEDIT

RELEASE

LVL2.1

```
 F64-LEVEL LINKAGE EDITOR OPTIONS SPECIFIED LIST,LET,MAP,NCAL
          DEFAULT OPTION(S) USED -  SIZE=(1015808,516096)
IEW0000             INCLUDE  OBJECT(IHIERR)                                      00046001
IEW0000             INCLUDE  OBJECT(IHIERM)                                      00047001
IEW0000             IDENTIFY IHIERROR('360SLM532 V02 M01 ALGOL F LIBRARY')       00048001
IEW0670              IHIERROR            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             IDENTIFY IHIERMSG('360SLM532 V02 M01 ALGOL F LIBRARY')       00049001
IEW0670              IHIERMSG            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ENTRY    IHIERROR                                            00050001
IEW0000             ALIAS    IHIERROR                                            00051001
IEW0000             NAME     IHIERR(R)             LOADED DYNAMICALLY FROM LINKLIB 00052001



                                                MODULE MAP


  CONTROL SECTION                       ENTRY

    NAME    ORIGIN  LENGTH                NAME   LOCATION     NAME   LOCATION     NAME   LOCATION     NAME   LOCATION
  IHIERROR      00     6E8
  IHIERMSG     6E8     9B8
                                        IHIERM01     798

 ENTRY ADDRESS       00

 TOTAL LENGTH      10A0
****IHIERR    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIERROR  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.



                                            DIAGNOSTIC MESSAGE DIRECTORY
   IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.
```

```
IEW0000             INCLUDE  OBJECT(IHIFDD)                                          00053001
IEW0000             IDENTIFY IHIFDDXP('360SLM532 V02 M01 ALGOL F LIBRARY')          00054001
IEW0670              IHIFDDXP            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHIFDD(R)                                              00055001
IEW0461  IHILLO
IEW0461  IHILEX
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIFDDXP	00	100								
			IHIFDD	00						

ENTRY ADDRESS 00

TOTAL LENGTH 100

```
****IHIFDD    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

IEW0461 WARNING - SYMBOL PRINTED IS AN UNRESOLVED EXTERNAL REFERENCE; NCAL WAS SPECIFIED, OR THE REFERENCE WAS MARKED FOR RESTRICTED NO-CALL OR NEVERCALL.

```
IEW0000             INCLUDE  OBJECT(IHIFDI)                                        00056001
IEW0000             IDENTIFY IHIFDIXP('360SLM532 V02 M01 ALGOL F LIBRARY')         00057001
IEW0670              IHIFDIXP            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHIFDI(R)                                             00058001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIFDIXP	00	A0								
			IHIFDI	00						

ENTRY ADDRESS 00

TOTAL LENGTH A0

****IHIFDI DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET

AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHIFII)                                        00059001
IEW0000             IDENTIFY IHIFIIXP('360SLM532 V02 M01 ALGOL F LIBRARY')         00060001
IEW0670              IHIFIIXP            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHIFII(R)                                             00061001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIFIIXP	00	C0								

ENTRY ADDRESS 00

TOTAL LENGTH C0

```
****IHIFII    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHIFRI)                                        00062001
IEW0000             IDENTIFY IHIFRIXP('360SLM532 V02 M01 ALGOL F LIBRARY')         00063001
IEW0670              IHIFRIXP            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHIFRI(R)                                             00064001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIFRIXP	00	A0								
			IHIFRI	00						

ENTRY ADDRESS 00

TOTAL LENGTH A0

****IHIFRI DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET

AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHIFRR)                                          00065001
IEW0000             IDENTIFY IHIFRRXP('360SLM532 V02 M01 ALGOL F LIBRARY')          00066001
IEW0670              IHIFRRXP            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHIFRR(R)                                              00067001
IEW0461  IHISLO
IEW0461  IHISEX
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIFRRXP	00	F8								
			IHIFRR	00						

```
 ENTRY ADDRESS       00

 TOTAL LENGTH        F8
****IHIFRR    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

IEW0461 WARNING - SYMBOL PRINTED IS AN UNRESOLVED EXTERNAL REFERENCE; NCAL WAS SPECIFIED, OR THE REFERENCE WAS MARKED FOR RESTRICTED NO-CALL OR NEVERCALL.

```
IEW0000             INCLUDE  OBJECT(IHIFSA)                                        00068001
IEW0000             IDENTIFY IHIFSARA('360SLM532 V02 M01 ALGOL F LIBRARY')         00069001
IEW0670              IHIFSARA           360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             IDENTIFY IHIFSARB('360SLM532 V02 M01 ALGOL F LIBRARY')         00070001
IEW0670              IHIFSARB           360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIFSAIN                                              00071001
IEW0000             NAME     IHIFSA(R)                                             00072001
IEW0461  IHIDSTAB
IEW0461  IHIENTIF
IEW0461  IHIIOROP
IEW0461  IHIIORCL
IEW0461  IHIIORNX
IEW0461  IHIIORCI
IEW0461  IHIIOREV
IEW0461  IHIIOROQ
IEW0461  IHIIOREN
IEW0461  IHIIORGP
IEW0461  IHIIORCP
IEW0461  IHIIORER
IEW0461  IHIERROR
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIFSARA	00	E70								
			IHIFSAIN	DFC						
IHIFSARB	E70	690								

ENTRY ADDRESS 00

TOTAL LENGTH 1500

****IHIFSA DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET

****IHIFSAIN IS AN ALIAS FOR THIS MEMBER

AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

IEW0461 WARNING - SYMBOL PRINTED IS AN UNRESOLVED EXTERNAL REFERENCE; NCAL WAS SPECIFIED, OR THE REFERENCE WAS MARKED FOR RESTRICTED NO-CALL OR NEVERCALL.

```
IEW0000             INCLUDE  OBJECT(IHIGPR)                                        00073001
IEW0000             IDENTIFY IHIGPRTN('360SLM532 V02 M01 ALGOL F LIBRARY')         00074001
IEW0670              IHIGPRTN            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIGPRCL                                              00075001
IEW0000             ALIAS    IHIGPRGT                                              00076001
IEW0000             ALIAS    IHIGPRPT                                              00077001
IEW0000             NAME     IHIGPR(R)                                             00078001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIGPRTN	00	A60								
			IHIGPRPT	00	IHIGPROT	210	IHIGPRGT	3E4	IHIGPRIT	5C4
			IHIGPROP	740	IHIGPRCL	830				

```
 ENTRY ADDRESS       00

 TOTAL LENGTH       A60
****IHIGPR    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIGPRPT  IS AN ALIAS FOR THIS MEMBER
****IHIGPRGT  IS AN ALIAS FOR THIS MEMBER
****IHIGPRCL  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHIIAR)                                        00079001
IEW0000             IDENTIFY IHIIARTN('360SLM532 V02 M01 ALGOL F LIBRARY')         00080001
IEW0670              IHIIARTN            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIIARRT                                              00081001
IEW0000             ALIAS    IHIIARRY                                              00082001
IEW0000             NAME     IHIIAR(R)                                             00083001
IEW0461  IHIIOREV
IEW0461  IHIIDEAI
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIIARTN	00	B8								
			IHIIARRT	00	IHIIARRY	3C				

```
 ENTRY ADDRESS       00

 TOTAL LENGTH        B8
****IHIIAR    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIIARRY  IS AN ALIAS FOR THIS MEMBER
****IHIIARRT  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

IEW0461 WARNING - SYMBOL PRINTED IS AN UNRESOLVED EXTERNAL REFERENCE; NCAL WAS SPECIFIED, OR THE REFERENCE WAS MARKED FOR RESTRICTED NO-CALL OR NEVERCALL.

```
IEW0000             INCLUDE  OBJECT(IHIIBA)                                          00084001
IEW0000             IDENTIFY IHIIBARR('360SLM532 V02 M01 ALGOL F LIBRARY')          00085001
IEW0670              IHIIBARR            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIIBARR                                               00086001
IEW0000             NAME     IHIIBA(R)                                              00087001
IEW0461  IHIIOREV
IEW0461  IHIIBOAR
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIIBARR	00	68								

```
 ENTRY ADDRESS       00

 TOTAL LENGTH        68
****IHIIBA    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIIBARR  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

IEW0461 WARNING - SYMBOL PRINTED IS AN UNRESOLVED EXTERNAL REFERENCE; NCAL WAS SPECIFIED, OR THE REFERENCE WAS MARKED FOR RESTRICTED NO-CALL OR NEVERCALL.

```
IEW0000             INCLUDE  OBJECT(IHIIBO)                                          00088001
IEW0000             IDENTIFY IHIIBOOL('360SLM532 V02 M01 ALGOL F LIBRARY')          00089001
IEW0670              IHIIBOOL            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIIBOAR                                               00090001
IEW0000             ALIAS    IHIIBOOL                                               00091001
IEW0000             NAME     IHIIBO(R)                                              00092001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIIBOOL	00	288								
			IHIIBOAR	4A						

```
 ENTRY ADDRESS       00

 TOTAL LENGTH       288
****IHIIBO    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIIBOOL  IS AN ALIAS FOR THIS MEMBER
****IHIIBOAR  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHIIDE)                                        00093001
IEW0000             IDENTIFY IHIIDECM('360SLM532 V02 M01 ALGOL F LIBRARY')         00094001
IEW0670              IHIIDECM            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIIDEAI                                              00095001
IEW0000             ALIAS    IHIIDEII                                              00096001
IEW0000             ALIAS    IHIIDEIR                                              00097001
IEW0000             NAME     IHIIDE(R)                                             00098001
IEW0461  IHIPTTAB
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIIDECM	00	6D8								
			IHIIDEAI	00	IHIIDEII	44	IHIIDEIR	88		

```
 ENTRY ADDRESS       00

 TOTAL LENGTH       6D8
****IHIIDE    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIIDEIR  IS AN ALIAS FOR THIS MEMBER
****IHIIDEII  IS AN ALIAS FOR THIS MEMBER
****IHIIDEAI  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

IEW0461 WARNING - SYMBOL PRINTED IS AN UNRESOLVED EXTERNAL REFERENCE; NCAL WAS SPECIFIED, OR THE REFERENCE WAS MARKED FOR RESTRICTED NO-CALL OR NEVERCALL.

```
IEW0000             INCLUDE  OBJECT(IHIIOR)                                        00099001
IEW0000             IDENTIFY IHIIORTN('360SLM532 V02 M01 ALGOL F LIBRARY')         00100001
IEW0670              IHIIORTN           360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIIOREN                                              00101001
IEW0000             ALIAS    IHIIOREV                                              00102001
IEW0000             ALIAS    IHIIORNX                                              00103001
IEW0000             ALIAS    IHIIOROP                                              00104001
IEW0000             NAME     IHIIOR(R)                                             00105001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIIORTN	00	D70								
			IHIIOROQ	00	IHIIOROP	E6	IHIIORNX	4B4	IHIIORCL	6FC
			IHIIORCP	8A6	IHIIORGP	9A8	IHIIORCN	9AC	IHIIOREN	A0C
			IHIIOREV	A8A	IHIIORED	B20	IHIIORCI	BF8	IHIIORER	C7C

ENTRY ADDRESS 00

TOTAL LENGTH D70

```
****IHIIOR    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIIOROP  IS AN ALIAS FOR THIS MEMBER
****IHIIORNX  IS AN ALIAS FOR THIS MEMBER
****IHIIOREV  IS AN ALIAS FOR THIS MEMBER
****IHIIOREN  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHIISY)                                        00106001
IEW0000             IDENTIFY IHIISYMB('360SLM532 V02 M01 ALGOL F LIBRARY')         00107001
IEW0670              IHIISYMB            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIISYMB                                              00108001
IEW0000             NAME     IHIISY(R)                                             00109001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIISYMB	00	150								

ENTRY ADDRESS 00

TOTAL LENGTH 150

****IHIISY DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIISYMB IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHILAT)                                          00110001
IEW0000             IDENTIFY IHILATAN('360SLM532 V02 M01 ALGOL F LIBRARY')          00111001
IEW0670              IHILATAN            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHILAT(R)                                              00112001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHILATAN	00	158								
			IHILAT	00						

ENTRY ADDRESS 00

TOTAL LENGTH 158

****IHILAT DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET

AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHILEX)                                        00113001
IEW0000             IDENTIFY IHILEXPT('360SLM532 V02 M01 ALGOL F LIBRARY')         00114001
IEW0670              IHILEXPT            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHILEX(R)                                             00115001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHILEXPT	00	1E0								
			IHILEX	00						

ENTRY ADDRESS 00

TOTAL LENGTH 1E0

****IHILEX DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET

AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHILLO)                                        00116001
IEW0000             IDENTIFY IHILLOGM('360SLM532 V02 M01 ALGOL F LIBRARY')         00117001
IEW0670              IHILLOGM            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHILLO(R)                                             00118001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHILLOGM	00	158								
			IHILLO	00						

ENTRY ADDRESS 00

TOTAL LENGTH 158

```
****IHILLO    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHILOR)                                        00119001
IEW0000             IDENTIFY IHILOREA('360SLM532 V02 M01 ALGOL F LIBRARY')         00120001
IEW0670              IHILOREA            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHILORAR                                              00121001
IEW0000             ALIAS    IHILOREL                                              00122001
IEW0000             NAME     IHILOR(R)                                             00123001
IEW0461  IHIPTTAB
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHILOREA	00	330								
			IHILORAR	00	IHILOREL	40				

```
 ENTRY ADDRESS       00

 TOTAL LENGTH       330
****IHILOR    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHILOREL  IS AN ALIAS FOR THIS MEMBER
****IHILORAR  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

IEW0461 WARNING - SYMBOL PRINTED IS AN UNRESOLVED EXTERNAL REFERENCE; NCAL WAS SPECIFIED, OR THE REFERENCE WAS MARKED FOR RESTRICTED NO-CALL OR NEVERCALL.

```
IEW0000             INCLUDE  OBJECT(IHILSC)                                          00124001
IEW0000             IDENTIFY IHILSCSN('360SLM532 V02 M01 ALGOL F LIBRARY')          00125001
IEW0670              IHILSCSN            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHILSCC                                                00126001
IEW0000             ALIAS    IHILSCS                                                00127001
IEW0000             NAME     IHILSC(R)                                              00128001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHILSCSN	00	1B0								
			IHILSCC	00	IHILSCS	3A				

ENTRY ADDRESS 00

TOTAL LENGTH 1B0

```
****IHILSC    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHILSCS   IS AN ALIAS FOR THIS MEMBER
****IHILSCC   IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHILSQ)                                          00129001
IEW0000             IDENTIFY IHILSQRT('360SLM532 V02 M01 ALGOL F LIBRARY')          00130001
IEW0670              IHILSQRT            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHILSQ(R)                                              00131001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHILSQRT	00	A8								
			IHILSQ	00						

ENTRY ADDRESS 00

TOTAL LENGTH A8

****IHILSQ DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET

AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHIOAR)                                          00132001
IEW0000             IDENTIFY IHIOARRY('360SLM532 V02 M01 ALGOL F LIBRARY')          00133001
IEW0670              IHIOARRY            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIOARRY                                               00134001
IEW0000             NAME     IHIOAR(R)                                              00135001
IEW0461  IHIIOREV
IEW0461  IHISORAR
IEW0461  IHILORAR



                                                MODULE MAP


  CONTROL SECTION                       ENTRY

    NAME     ORIGIN  LENGTH               NAME    LOCATION     NAME    LOCATION     NAME    LOCATION     NAME    LOCATION
  IHIOARRY      00      B0


 ENTRY ADDRESS       00

 TOTAL LENGTH        B0
****IHIOAR    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIOARRY  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.



                                          DIAGNOSTIC MESSAGE DIRECTORY
   IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.
   IEW0461 WARNING - SYMBOL PRINTED IS AN UNRESOLVED EXTERNAL REFERENCE; NCAL WAS SPECIFIED, OR THE REFERENCE WAS
           MARKED FOR RESTRICTED NO-CALL OR NEVERCALL.
```

```
IEW0000             INCLUDE  OBJECT(IHIOBA)                                        00136001
IEW0000             IDENTIFY IHIOBARR('360SLM532 V02 M01 ALGOL F LIBRARY')         00137001
IEW0670              IHIOBARR            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIOBARR                                              00138001
IEW0000             NAME     IHIOAR(R)                                             00139001
IEW0461  IHIIOREV
IEW0461  IHIOBOAR
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIOBARR	00	68								

```
 ENTRY ADDRESS       00

 TOTAL LENGTH        68
****IHIOAR    NOW REPLACED IN DATA SET
****IHIOBARR  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

IEW0461 WARNING - SYMBOL PRINTED IS AN UNRESOLVED EXTERNAL REFERENCE; NCAL WAS SPECIFIED, OR THE REFERENCE WAS MARKED FOR RESTRICTED NO-CALL OR NEVERCALL.

```
IEW0000             INCLUDE  OBJECT(IHIOBO)                                          00140001
IEW0000             IDENTIFY IHIOBOOL('360SLM532 V02 M01 ALGOL F LIBRARY')          00141001
IEW0670              IHIOBOOL            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIOBOAR                                               00142001
IEW0000             ALIAS    IHIOBOOL                                               00143001
IEW0000             NAME     IHIOBO(R)                                              00144001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIOBOOL	00	1C8								
			IHIOBOAR	52						

ENTRY ADDRESS 00

TOTAL LENGTH 1C8

```
****IHIOBO    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIOBOOL  IS AN ALIAS FOR THIS MEMBER
****IHIOBOAR  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHIOIN)                                          00145001
IEW0000             IDENTIFY IHIOINTE('360SLM532 V02 M01 ALGOL F LIBRARY')          00146001
IEW0670              IHIOINTE           360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIOINAR                                               00147001
IEW0000             ALIAS    IHIOINTG                                               00148001
IEW0000             NAME     IHIOIN(R)                                              00149001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIOINTE	00	1F8								
			IHIOINAR	00	IHIOINTG	40				

ENTRY ADDRESS 00

TOTAL LENGTH 1F8

```
****IHIOIN    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIOINTG  IS AN ALIAS FOR THIS MEMBER
****IHIOINAR  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHIOST)                                        00150001
IEW0000             IDENTIFY IHIOSTRG('360SLM532 V02 M01 ALGOL F LIBRARY')         00151001
IEW0670              IHIOSTRG            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIOSTRG                                              00152001
IEW0000             NAME     IHIOST(R)                                             00153001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIOSTRG	00	148								

ENTRY ADDRESS 00

TOTAL LENGTH 148

****IHIOST DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIOSTRG IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHIOSY)                                        00154001
IEW0000             IDENTIFY IHIOSYMB('360SLM532 V02 M01 ALGOL F LIBRARY')         00155001
IEW0670              IHIOSYMB            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIOSYMB                                              00156001
IEW0000             NAME     IHIOSY(R)                                             00157001
```

MODULE MAP

CONTROL SECTION			ENTRY								
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIOSYMB	00	138								

ENTRY ADDRESS 00

TOTAL LENGTH 138

****IHIOSY DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET

****IHIOSYMB IS AN ALIAS FOR THIS MEMBER

AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHIOTA)                                          00158001
IEW0000             IDENTIFY IHIOTARR('360SLM532 V02 M01 ALGOL F LIBRARY')          00159001
IEW0670              IHIOTARR            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIOTARR                                               00160001
IEW0000             NAME     IHIOTA(R)                                              00161001
IEW0461  IHIIOREV
IEW0461  IHIOINAR
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIOTARR	00	98								

```
 ENTRY ADDRESS       00

 TOTAL LENGTH        98
****IHIOTA    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIOTARR  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

IEW0461 WARNING - SYMBOL PRINTED IS AN UNRESOLVED EXTERNAL REFERENCE; NCAL WAS SPECIFIED, OR THE REFERENCE WAS MARKED FOR RESTRICTED NO-CALL OR NEVERCALL.

```
IEW0000             INCLUDE  OBJECT(IHIPTT)                                        00162001
IEW0000             IDENTIFY IHIPTTAB('360SLM532 V02 M01 ALGOL F LIBRARY')         00163001
IEW0670              IHIPTTAB           360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHIPTTAB                                              00164001
IEW0000             NAME     IHIPTT(R)                                             00165001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHIPTTAB	00	108								

ENTRY ADDRESS 00

TOTAL LENGTH 108

```
****IHIPTT    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHIPTTAB  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHISAT)                                          00166001
IEW0000             IDENTIFY IHISATAN('360SLM532 V02 M01 ALGOL F LIBRARY')          00167001
IEW0670              IHISATAN            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHISAT(R)                                              00168001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHISATAN	00	E0								
			IHISAT	00						

ENTRY ADDRESS 00

TOTAL LENGTH E0

****IHISAT DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET

AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHISEX)                                        00169001
IEW0000             IDENTIFY IHISEXPT('360SLM532 V02 M01 ALGOL F LIBRARY')         00170001
IEW0670              IHISEXPT            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHISEX(R)                                             00171001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHISEXPT	00	138								
			IHISEX	00						

ENTRY ADDRESS 00

TOTAL LENGTH 138

```
****IHISEX    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHISLO)                                 00172001
IEW0000             NAME     IHISLO(R)                                      00173001


                                                MODULE MAP


  CONTROL SECTION                       ENTRY

    NAME     ORIGIN  LENGTH               NAME   LOCATION     NAME   LOCATION     NAME   LOCATION     NAME   LOCATION
  IHISLOGM      00      E8
                                        IHISLO        00

 ENTRY ADDRESS       00

 TOTAL LENGTH        E8
****IHISLO    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
AUTHORIZATION CODE IS         0.
```

```
IEW0000             INCLUDE  OBJECT(IHISOR)                                          00174001
IEW0000             IDENTIFY IHISOREA('360SLM532 V02 M01 ALGOL F LIBRARY')           00175001
IEW0670              IHISOREA           360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHISORAR                                                00176001
IEW0000             ALIAS    IHISOREL                                                00177001
IEW0000             NAME     IHISOR(R)                                               00178001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHISOREA	00	380								
			IHISORAR	00	IHISOREL	40				

ENTRY ADDRESS 00

TOTAL LENGTH 380

```
****IHISOR    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHISOREL  IS AN ALIAS FOR THIS MEMBER
****IHISORAR  IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHISSC)                                          00179001
IEW0000             IDENTIFY IHISSCSN('360SLM532 V02 M01 ALGOL F LIBRARY')          00180001
IEW0670              IHISSCSN            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHISSCS                                                00181001
IEW0000             ALIAS    IHISSCC                                                00182001
IEW0000             NAME     IHISSC(R)                                              00183001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHISSCSN	00	140								
			IHISSCC	00	IHISSCS	3A				

ENTRY ADDRESS 00

TOTAL LENGTH 140

```
****IHISSC    DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHISSCC   IS AN ALIAS FOR THIS MEMBER
****IHISSCS   IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS         0.
```

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHISSQ)                                          00184001
IEW0000             IDENTIFY IHISSQRT('360SLM532 V02 M01 ALGOL F LIBRARY')          00185001
IEW0670              IHISSQRT            360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             NAME     IHISSQ(R)                                              00186001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHISSQRT	00	C8								
			IHISSQ	00						

ENTRY ADDRESS 00

TOTAL LENGTH C8

****IHISSQ DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET

AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.

```
IEW0000             INCLUDE  OBJECT(IHISYS)                                        00187001
IEW0000             IDENTIFY IHISYSCT('360SLM532 V02 M01 ALGOL F LIBRARY')         00188001
IEW0670              IHISYSCT           360SLM532 V02 M01 ALGOL F LIBRARY
IEW0000             ALIAS    IHISYSCT                                              00189001
IEW0000             NAME     IHISYS(R)                                             00190001
```

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
IHISYSCT	00	780								

ENTRY ADDRESS 00

TOTAL LENGTH 780

****IHISYS DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET
****IHISYSCT IS AN ALIAS FOR THIS MEMBER
AUTHORIZATION CODE IS 0.

DIAGNOSTIC MESSAGE DIRECTORY

IEW0670 THE SPECIFIED IDENTIFY DATA HAS BEEN ADDED TO THE IDR FOR THE CONTROL SECTION NAME PRINTED.