```
                                                                               HLASM R6.0  2016/08/29 08.42
        NO OVERRIDING ASMAOPT PARAMETERS
        OVERRIDING PARAMETERS-  OBJECT,ESD,RXREF,RLD,XREF(SHORT,UNREFS),DXREF,LIST,TERM,ASA
        NO PROCESS STATEMENTS


        OPTIONS FOR THIS ASSEMBLY

        NOADATA
          ALIGN
      3   ASA
          BATCH
          CODEPAGE(047C)
        NOCOMPAT
        NODBCS
        NODECK
      3   DXREF
      3   ESD
        NOEXIT
          FLAG(0,ALIGN,CONT,EXLITW,NOIMPLEN,NOPAGEO,PUSH,RECORD,NOSUBSTR,USINGO)
        NOFOLD
        NOGOFF
        NOINFO
          LANGUAGE(EN)
        NOLIBMAC
          LINECOUNT(60)
      3   LIST(121)
          MACHINE(,NOLIST)
          MXREF(SOURCE)
      3   OBJECT
          OPTABLE(UNI,NOLIST)
        NOPCONTROL
        NOPESTOP
        NOPROFILE
        NORA2
        NORENT
      3   RLD
      3   RXREF
          SECTALGN(8)
          SIZE(MAX)
        NOSUPRWARN
          SYSPARM()
      3   TERM(WIDE)
        NOTEST
          THREAD
        NOTRANSLATE
          TYPECHECK(MAGNITUDE,REGISTER)
          USING(NOLIMIT,MAP,WARN(15))
        NOWORKFILE
      3   XREF(SHORT,UNREFS)

        STANDARD   DD NAMES- SYSLIN   SYSLIB   SYSIN    SYSPRINT SYSPUNCH SYSUT1   SYSTERM  SYSADATA ASMAOPT
        OVERRIDING DD NAMES- SYS00013 SYS00005 SYS00011 SYS00012                   SYS00010
```

SYMBOL	TYPE	ID	ADDRESS	LENGTH	OWNER ID	FLAGS	ALIAS-OF

PROGRAM	SD	00000001	00000000	00001770		00	
CARDLDR	SD	00000002	00001770	000000A0		00	
IPLCARD	SD	00000003	00001810	00000050		00	

```
ACTIVE USINGS: NONE

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42
                                    2 ********************************************************************** 00020000
                                    3 *                                                                    * 00030000
                                    4 *  ************************************************************      * 00040000
                                    5 *  *                                                          *      * 00050000
                                    6 *  *                  SAMPLE OPERATING SYSTEM                 *      * 00060002
                                    7 *  *                       VERSION 2.00                       *      * 00067002
                                    8 *  *                   DEVELOPED AT MIT 1973                  *      * 00074002
                                    9 *  *                                                          *      * 00090000
                                   10 *  ************************************************************      * 00100000
                                   11 *                                                                    * 00100602
                                   12 *  UPDATE 2015/10/31 JUERGEN WINKELMANN, E-MAIL WINKELMANN@ID.ETHZ.CH * 00101202
                                   13 *                                                                    * 00101802
                                   14 *   - CHANGE STORAGE PROTECTION ALIGNMENTS TO 4K  \                   * 00102402
                                   15 *   - REPLACE SSK/ISK INSTRUCTIONS WITH SSKE/ISKE  > 4K SUPPORT      * 00103002
                                   16 *   - MINOR CHANGES IN STORAGE PROTECTION LOGIC   /                   * 00103602
                                   17 *   - CHANGE NUMBER OF PARALLEL PROCESSING STREAMS TO 4               * 00104202
                                   18 *   - CHANGE CORE SIZE TO 16M                                         * 00104802
                                   19 *   - REPLACE TABLE OF VALID $JOB CARD CORE REQUESTS WITH GENERAL     * 00105402
                                   20 *     LOGIC ROUNDING UP ANY NONE FULL PAGE REQUEST ENTERED TO NEXT    * 00106002
                                   21 *     FULL PAGE                                                       * 00106602
                                   22 *   - ADD IPL CARD AND TWO CARD LOADER FOR ONE STOP CREATION OF AN     * 00107202
                                   23 *     IPLABLE CARD DECK                                               * 00107802
                                   24 *   - IGNORE EXTERNAL INTERRUPTS DURING INITIALIZATION TO AVOID       * 00108402
                                   25 *     IPLRTN GETTING INTERRUPTED BY THE INTERVAL TIMER                * 00109002
                                   26 *                                                                    * 00109103
                                   27 *  UPDATE 2015/11/05 JUERGEN WINKELMANN, E-MAIL WINKELMANN@ID.ETHZ.CH * 00109203
                                   28 *                                                                    * 00109303
                                   29 *   - ALLOW RELOADING CARD READERS WITHOUT NEEDING TO RE-IPL THE       * 00109403
                                   30 *     SYSTEM. THIS FUNCTIONALITY RELIES ON HERCULES' CARD READER      * 00109503
                                   31 *     BEHAVIOR WITH THE EOF INITIALIZATION IN PLACE. IT WILL NOT      * 00109603
                                   32 *     WORK IN INTR MODE.                                              * 00109703
                                   33 *                                                                    * 00109744
                                   34 *  UPDATE 2015/11/13 JUERGEN WINKELMANN, E-MAIL WINKELMANN@ID.ETHZ.CH * 00109784
                                   35 *                                                                    * 00109824
                                   36 *   - ADD UCB TO SUPPORT A CONSOLE AT 009 USING THE EXCP DEVICE       * 00109864
                                   37 *     HANDLER.                                                        * 00109904
                                   38 *                                                                    * 00110000
                                   39 ********************************************************************** 00120000


                                   41          PRINT ON,NODATA,GEN                                          00140000
000000                 00000 01770 42 PROGRAM  CSECT ,              SAMPLE OPERATING SYSTEM STARTS AT ZERO  00150002
001770                 01770 000A0 43 CARDLDR  CSECT ,              TWO CARD LOADER FOLLOWS AT THE END      00150102
                                   44 ***                                                                   00150202
                                   45 *** IPL CARD                                                          00150302
                                   46 ***                                                                   00150402
001810                 01810 00050 47 IPLCARD  CSECT ,              IPLABLE DECK MUST BEGIN WITH THIS CARD  00150502
001810 0000000000                  48 PSWD     DC    F'0',X'00'     INITIAL PROGRAM STATUS WORD, DISABLED   00150602
001815 001770                      49          DC    AL3(LOADER)    START EXECUTION AT LOAD ADDRESS         00150702
001818 02001770                    50 CCW1     DC    X'02',AL3(LOADER) READ 1ST CARD TO LOAD ADDRESS        00150802
00181C 40000050                    51          DC    XL4'40000050'  CHAIN, READ LENGTH = 80                 00150902
001820 020017C0                    52 CCW2     DC    X'02',AL3(LOADER+80) READ 2ND CARD TO LOAD ADDR + 80   00151002
001824 00000050                    53          DC    XL4'00000050'  READ LENGTH = 80                        00151102
001828 E2819497938540D6            54          DC    C'SAMPLE OPERATING SYSTEM     VERSION 2.00' EYE CATCHER 00151202
```

```
ACTIVE USINGS: NONE

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

001850 0000000000000000                  55          DC    16X'00'          PAD TO CARD LENGTH                    00151302
                                         56 ***                                                                   00151402
                                         57 *** LOADER                                                            00151502
                                         58 ***                                                                   00151602
                                         59 *                                                                     00151702
                                         60 * INITIALIZE                                                          00151802
                                         61 *                                                                     00151902
001770                   01770 000A0     62 CARDLDR  CSECT ,                  TWO CARD LOADER MUST FOLLOW IPL CARD 00152002
001770 05C0                              63          BALR  R12,0              ESTABLISH ..                        00152102
001772 4120 0002              00002      64          LA    R2,2                        .. BASE ..                  00152202
001776 1BC2                              65          SR    R12,R2                            .. REGISTER           00152302
                     R:C  01770          66          USING CARDLDR,R12        TELL ASSEMBLER                      00152402
001778 41B0 0000              00000      67          LA    R11,0              ADDRESSABILITY OF ..                00152502
                     R:B  00000          68          USING PROGRAM,R11          .. SAMPLE OPERATING SYSTEM        00152602
00177C 4120 0000              00000      69          LA    R2,0               I/O ..                              00152702
001780 4130 C06A              017DA      70          LA    R3,IOINTRPT              .. NEW PSWD                   00152802
001784 9023 B078              00078      71          STM   R2,R3,IONEW        STORE I/O NEW PSWD                  00152902
001788 8000 C07E         017EE            72          SSM   ENBLECH0           ENABLE INTERRUPTS FROM CHANNEL 0    00153002
00178C 4150 C0A0              01810      73          LA    R5,CCWCHAIN        ADDRESS OF CARD READER CCW CHAIN    00153102
001790 5050 B048              00048      74          ST    R5,CAW             STORE ADDRESS IN CAW                00153202
001794 5830 C094              01804      75          L     R3,NUMCARDS        NUMBER OF CARDS TO READ             00153302
001798 5840 C090              01800      76          L     R4,LOADADDR        TARGET ADDRESS OF LOADED CODE       00153402
                                         77 *                                                                     00153502
                                         78 * CREATE CCW CHAIN                                                    00153602
                                         79 *                                                                     00153702
00179C 1824                              80 NEXTCARD LR    R2,R4              LOAD NEXT CARD HERE                 00153802
00179E BF28 C080              017F0      81          ICM   R2,B'1000',READ    INSERT WRITE COMMAND                00153902
0017A2 5020 5000              00000      82          ST    R2,0(,R5)          STORE CCW                           00154002
0017A6 4120 0050              00050      83          LA    R2,80              LENGTH OF CARD                      00154102
0017AA 5020 5004              00004      84          ST    R2,4(,R5)          STORE LENGTH IN CCW, ZERO ALL FLAGS 00154202
0017AE 9640 5004         00004            85          OI    4(R5),X'40'        INDICATE COMMAND CHAINING           00154302
0017B2 4140 4050              00050      86          LA    R4,80(,R4)         INCREMENT TARGET ADDRESS            00154402
0017B6 4150 5008              00008      87          LA    R5,8(,R5)          POINT TO NEXT CCW                   00154502
0017BA 4630 C02C              0179C      88          BCT   R3,NEXTCARD        READ NEXT CARD                      00154602
0017BE 5B50 C098              01808      89          S     R5,EIGHT           POINT TO PREVIOUS CCW               00154702
0017C2 94BF 5004         00004            90          NI    4(R5),X'BF'        CLEAR COMMAND CHAINING FLAG         00154802
                                         91 *                                                                     00154902
                                         92 * READ CARDS AND WAIT FOR COMPLETION                                  00155002
                                         93 *                                                                     00155102
0017C6 9C00 000C         0000C           94          SIO   12(0)              READ CARDS                          00155202
0017CA 4120 C066              017D6      95          LA    R2,*+12            CONTINUE HERE AFTER I/O COMPLETION  00155302
0017CE 5020 C08C              017FC      96          ST    R2,CONTINUE        STORE CONTINUE ADDRESS IN PSWD SKELETON 00155402
0017D2 8200 C088         017F8           97          LPSW  WAITPSWD           WAIT FOR I/O COMPLETION             00155502
                                         98 *                                                                     00155602
                                         99 * "IPL" THE SAMPLE OPERATING SYSTEM                                   00155702
                                        100 *                                                                     00155802
0017D6 8200 0000         00000          101          LPSW  0                  TRANSFER CONTROL                    00155902
                                        102 *                                                                     00156002
                                        103 * I/O INTERRUPT HANDLER                                               00156102
                                        104 *                                                                     00156202
                         017DA          105 IOINTRPT EQU   *                                                     00156302
0017DA 9104 B044         00044          106          TM    CSW+4,X'04'        DEVICE END RECEIVED?                00156402
0017DE 47E0 C07A              017EA     107          BNO   IOINTRTN           -> NO,  KEEP WAITING                00156502
0017E2 94FD B039         00039          108          NI    IOOLD+1,X'FD'      -> YES, TERMINATE WAIT STATE AND .. 00156602
0017E6 947F B038         00038          109          NI    IOOLD,X'7F'           .. AND DISABLE CHANNEL 0 INTERRUPTS 00156702
```

```
ACTIVE USINGS: PROGRAM,R11  CARDLDR,R12

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42

0017EA 8200 B038      00038         110 IOINTRTN LPSW  IOOLD           RETURN TO MAINLINE                        00156802
                                    111          DROP  R11,R12         NO LONGER NEEDED                          00156902
                                    112 *                                                                        00157002
                                    113 * DATA AREA                                                              00157102
                                    114 *                                                                        00157202
0017EE F8F0                         115 ENBLECHO DC    C'80'           MASK TO ENABLE CHANNEL 0 INTERRUPTS       00157302
0017F0 02                           116 READ     DC    X'02'           READ A CARD                               00157402
0017F8                              117          DS    0D              ALIGN                                     00157502
0017F8 80020000                     118 WAITPSWD DC    X'80020000'     WAIT WITH CHANNEL 0 INTERRUPTS ENABLED    00157602
0017FC                              119 CONTINUE DS    F               CONTINUE HERE AFTER WAIT                  00157702
001800 00000000                     120 LOADADDR DC    F'0'            CODE IS TO BE LOADED HERE                 00157802
001804 0000004B                     121 NUMCARDS DC    F'75'           NUMBER OF CARDS TO READ                   00157904
001808 00000008                     122 EIGHT    DC    F'8'            CCW LENGTH                                00158002
001810                              123 CCWCHAIN DS    0D              START OF CARD READER CCW CHAIN            00158102
                                    124 ***                                                                      00158202
                                    125 *** SAMPLE OPERATING SYSTEM CODE BEGINS HERE                             00158302
                                    126 ***                                                                      00158402
000000                00000 01770   127 PROGRAM  CSECT ,                 SAMPLE OS MUST FOLLOW LOADER CARDS    00158502

                      000000        129 CORESIZE EQU   16777216          BYTES OF CORE IN OBJECT MACHINE       00170002

                   R:0  00000       131          USING *,0 COMMUNICATIONS AREA                                  00190000

000000 000000000000103E             133 IPLPSW   DC    B'00000000',B'00000000',X'0000',X'00',AL3(IPLRTN)         00210000
000008                              134 IPLCCW1  DS    D .               IPL CCW #1                              00220000
000010                              135 IPLCCW2  DS    D .               IPL CCW #2                              00230000
000018                              136 EXTOLD   DS    D .               EXTERNAL OLD PSW                        00240000
000020                              137 SVCOLD   DS    D .               SVC OLD PSW                             00250000
000028                              138 PGMOLD   DS    D .               PROGRAM INTERRUPT OLD PSW               00260000
000030                              139 MCHKOLD  DS    D .               MACHINE CHECK OLD PSW                   00270000
000038                              140 IOOLD    DS    D .               I/O INTERRUPT OLD PSW                   00280000
000040                              141 CSW      DS    D .               CHANNEL STATUS WORD                     00290000
000048                              142 CAW      DS    F .               CHANNEL ADDRESS WORD                    00300000
00004C                              143 UNUSED0  DS    F .                                                       00310000
000050 FFFFFFFF                     144 TIMER    DC    F'-1' .           TIMER                                   00320000
000054 00000000                     145 UNUSED1  DC    F'0' .                                                    00330000
000058 000000000000027A             146 EXTNEW   DC    B'00000000',B'00000000',X'0000',X'00',AL3(EXTHANDL)      00340000
000060 00000000000002B2             147 SVCNEW   DC    B'00000000',B'00000000',X'0000',X'00',AL3(SVCHANDL)      00350000
000068 00000000000002B0             148 PGMNEW   DC    B'00000000',B'00000000',X'0000',X'00',AL3(PGMHANDL)      00360000
000070 0002000000000000             149 MCHKNEW  DC    B'00000000',B'00000010',X'0000',X'00',AL3(0)             00370000
000078 00000000000017DA             150 IONEW    DC    B'00000000',B'00000000',X'0000',X'00',AL3(IOINTRPT) <-+  00380002
                                    151 ***                                                              |  00382002
                                    152 ***  IOINTRPT WILL BE REPLACED WITH IOHANDL AFTER IPL BY IPLRTN -----+  00384002
                                    153 ***                                                                     00386002
000080                00080 00180   154          ORG   *+X'100' SPACE OVER STAND ALONE DUMP AREA               00390000
000180 00001740                     155 FSBPTR   DC    A(VERYEND) .      FSB POINTER                           00400000
000184 0000000100000000             156 FSBSEM   DC    F'1,0' .          FSB SEMAPHORE                         00410000
00018C 0000000000000000             157 MEMORY   DC    F'0,0' .          MEMORY SEMAPHORE                      00420000
000194 0000000100000000             158 CAWSEM   DC    F'1,0' .          CAW SEMAPHORE                         00430000

00019C                              160 TRAPSAVE DS    16F .             STORAGE FOR EXTERNAL INTERRUPTS       00450000
0001DC                              161 IOHSAVE  DS    16F .             STORAGE FOR I/O INTERRUPTS            00460000

00021C                              163 SYSSEMSA DS    CL84 .            SYSTEM SEMAPHORE SAVE AREA            00480000
```

```
ACTIVE USINGS: PROGRAM,R0

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                    HLASM R6.0  2016/08/29 08.42

000270                            165 RUNNING  DS    A .                RUNNING                          00500000
000274                            166 NEXTTRY  DS    A .                NEXTTRY                          00510000
000278                            167 NEXTTRYM DS    C,0H .             NEXTTRY MODIFIED                 00520000
```

ACTIVE USINGS: PROGRAM,R0

```
LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42
                                  169 ********************************************************************** 00540000
                                  170 *                                                                    * 00550000
                                  171 *             EXTERNAL, PROGRAM, AND SVC INTERRUPT HANDLERS          * 00560000
                                  172 *                                                                    * 00570000
                                  173 ********************************************************************** 00580000

                     0027A        175 EXTHANDL EQU   * .                 EXTERNAL INTERRUPT HANDLER          00600000
00027A 900F 019C           0019C  176           STM   0,15,TRAPSAVE .     SAVE REGISTERS                      00610000
00027E 0510                       177           BALR  1,0 .               ESTABLISH ADDRESSING                00620000
               R:1  00280         178           USING *,1                                                     00630000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 178 IN /MBHFS/SOS4K.ASM ON VOLUME:
000280 9580 001B      0001B        179           CLI   EXTOLD+3,X'80' .    SEE IF TIMER TRAP                   00640000
000284 4770 1028           002A8  180           BNE   EXTHRET .           IF NOT, IGNORE                      00650000
000288 58F0 0270           00270  181           L     15,RUNNING .        SET UP REGISTERS FOR TRAFFIC        00660000
               R:F  00000         182           USING PCB,15 .            CONTROLLER (XPER)                   00670000
00028C 95FF F019      00019       183           CLI   PCBBLOKT,X'FF' .    IF BLOCKED, NO PROCESS IS           00680000
000290 4780 1028           002A8  184           BE    EXTHRET .            RUNNABLE, SO RETURN                 00690000
000294 41E0 F04C           0004C  185           LA    14,PCBISA .         GET SAVE AREA                       00700000
               R:E  00000         186           USING SA,14                                                   00710000
000298 D207 E000 0018 00000 00018 187           MVC   SAPSW,EXTOLD .      AND STORE OLD STUFF INTO IT         00720000
00029E D23F E008 019C 00008 0019C 188           MVC   SAREGS,TRAPSAVE                                         00730000
0002A4 47F0 12EA           0056A  189           B     XPER .              THEN GO TO TRAFFIC SCHEDULER        00740000
                                  190           DROP  14,15                                                   00750000
0002A8 980F 019C           0019C  191 EXTHRET   LM    0,15,TRAPSAVE .     TO IGNORE AN INTERRUPT, RELOAD      00760000
0002AC 8200 0018      00018       192           LPSW  EXTOLD .            AND TRANSFER BACK                   00770000

                     002B0        194 PGMHANDL EQU   * .                 PROGRAM INTERRUPT HANDLER           00790000
0002B0 0A6F                       195           SVC   C'?' .              IN ANY CASE, AN ERROR               00800000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'280',R1

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

                                  197 ********************************************************************** 00820000
                                  198 *                                                                    * 00830000
                                  199 *                          SVC INTERRUPT HANDLER                     * 00840000
                                  200 *                                                                    * 00850000
                                  201 *        FOR ALL ROUTINES ENTERED BY SVC INTERRUPT, THE              * 00860000
                                  202 *        FOLLOWING REGISTERS CONTAIN THIS INFORMATION:               * 00870000
                                  203 *                                                                    * 00880000
                                  204 *        REGISTER  1 - BASE REGISTER FOR ROUTINE                     * 00890000
                                  205 *        REGISTER  2 - POINTER TO ARGUMENT LIST (IF ANY)             * 00900000
                                  206 *        REGISTER 14 - POINTER TO SAVEAREA USED FOR THIS SVC         * 00910000
                                  207 *        REGISTER 15 - POINTER TO PCB PRESENTLY RUNNING              * 00920000
                                  208 *                                                                    * 00930000
                                  209 ********************************************************************** 00940000

                      002B2       211 SVCHANDL EQU   * .                 SVC HANDLER                       00960000
0002B2 900F 019C          0019C   212          STM   0,15,TRAPSAVE .     SAVE REGISTERS                    00970000
0002B6 0590                       213          BALR  9,0 .               ESTABLISH ADDRESSING              00980000
                  R:9 002B8       214          USING *,9                                                   00990000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 178
** ASMA435I RECORD 214 IN /MBHFS/SOS4K.ASM ON VOLUME:
0002B8 98AE 905C          00314   215          LM    10,14,SVCCONST .    INITIALIZE REGISTERS              01000000
0002BC 43A0 0023          00023   216          IC    10,SVCOLD+3 .       GET SVC CODE                      01010000
0002C0 43AA 9070          00328   217          IC    10,SVCHTABL(10) .   TRANSLATE INTO TABLE OFFSET      01020000
0002C4 41AA 9170          00428   218          LA    10,SVCRTN(10) .     REG 10 -> THE CORRECT PSW         01030000
0002C8 9500 A002    00002         219          CLI   2(10),X'00' .       IS THIS CALL PROTECTED?           01040000
0002CC 4780 904A          00302   220          BE    SVCHPROT .          THEN SEE IF WE CAN CALL IT        01050000
0002D0 58F0 0270          00270   221 SVCOK    L     15,RUNNING .        GET PCB POINTER                   01060000
                  R:F 00000       222          USING PCB,15                                                01070000
0002D4 9500 A003    00003         223          CLI   3(10),X'00' .       IS IT A SYSTEM SAVEAREA?          01080000
0002D8 4780 9026          002DE   224          BE    SYSSEM .            DON'T USE REG 14 AS PCB POINTER   01090000
0002DC 18EF                       225          LR    14,15 .             ELSE, SET UP PCB POINTER          01100000
0002DE 43BA 0003          00003   226 SYSSEM   IC    11,3(10) .          GET POINTER TO SAVE AREA OFFSET   01110000
0002E2 5AEB 9210          004C8   227          A     14,SVCSAVE(11) .    REG 14 -> SAVE AREA               01120000
0002E6 954B 0023    00023         228          CLI   SVCOLD+3,C'.' .     ARE WE CALLING XPER?              01130000
0002EA 4780 9042          002FA   229          BE    SVCXPER .           IF SO, DON'T SAVE RETURN STATUS   01140000
                  R:E 00000       230          USING SA,14                                                 01150000
0002EE D207 E000 0020 00000 00020 231          MVC   SAPSW,SVCOLD .      SAVE PSW                          01160000
0002F4 D23F E008 019C 00008 0019C 232          MVC   SAREGS,TRAPSAVE .   SAVE REGISTERS                    01170000
0002FA 581A 0004          00004   233 SVCXPER  L     1,4(10) .           MAKE ADDRESSING EASY WITHIN       01180000
0002FE 8200 A000    00000         234          LPSW  0(10) .              ROUTINE, AND GO THERE            01190000
000302 58C0 0020          00020   235 SVCHPROT L     12,SVCOLD .         GET PROTECTION KEY                01200000
000306 14CD                       236          NR    12,13 .             IS IT A USER?                     01210000
000308 4780 9018          002D0   237          BZ    SVCOK .             IF NO, THAT'S FINE                01220000
00030C 41A0 91F8          004B0   238          LA    10,SVCRTN+136 .     ELSE SET UP CALL TO XQUE          01230000
000310 47F0 9018          002D0   239          B     SVCOK .                                               01240000
                                  240          DROP  9                                                     01250000
000314 0000000000000000           241 SVCCONST DC    3F'0',X'00F00000',F'0'                              01260000

000328 8484848484848484           243 SVCHTABL DC    256X'84' .          TABLE OF PSW OFFSETS              01280000
000428                00428 003FF 244          ORG   SVCHTABL+C'P'                                       01290000
0003FF 00                         245          DC    AL1(0)                                              01300000
000400                00400 0040D 246          ORG   SVCHTABL+C'V'                                       01310000
00040D 08                         247          DC    AL1(8)                                              01320000
00040E                0040E 00382 248          ORG   SVCHTABL+C'!'                                       01330000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'280',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

000382 10                         249          DC    AL1(16)                                          01340000
000383              00383 00393   250          ORG   SVCHTABL+C','                                    01350000
000393 18                         251          DC    AL1(24)                                          01360000
000394              00394 003EA   252          ORG   SVCHTABL+C'B'                                   01370000
0003EA 20                         253          DC    AL1(32)                                          01380000
0003EB              003EB 003E9   254          ORG   SVCHTABL+C'A'                                   01390000
0003E9 28                         255          DC    AL1(40)                                          01400000
0003EA              003EA 003EE   256          ORG   SVCHTABL+C'F'                                   01410000
0003EE 30                         257          DC    AL1(48)                                          01420000
0003EF              003EF 003F1   258          ORG   SVCHTABL+C'I'                                   01430000
0003F1 38                         259          DC    AL1(56)                                          01440000
0003F2              003F2 003F9   260          ORG   SVCHTABL+C'J'                                   01450000
0003F9 40                         261          DC    AL1(64)                                          01460000
0003FA              003FA 00373   262          ORG   SVCHTABL+C'.'                                   01470000
000373 48                         263          DC    AL1(72)                                          01480000
000374              00374 00401   264          ORG   SVCHTABL+C'R'                                   01490000
000401 50                         265          DC    AL1(80)                                          01500000
000402              00402 0040A   266          ORG   SVCHTABL+C'S'                                   01510000
00040A 58                         267          DC    AL1(88)                                          01520000
00040B              0040B 003EB   268          ORG   SVCHTABL+C'C'                                   01530000
0003EB 60                         269          DC    AL1(96)                                          01540000
0003EC              003EC 003FD   270          ORG   SVCHTABL+C'N'                                   01550000
0003FD 68                         271          DC    AL1(104)                                         01560000
0003FE              003FE 00410   272          ORG   SVCHTABL+C'Y'                                   01570000
000410 70                         273          DC    AL1(112)                                         01580000
000411              00411 00411   274          ORG   SVCHTABL+C'Z'                                   01590000
000411 78                         275          DC    AL1(120)                                         01600000
000412              00412 003EC   276          ORG   SVCHTABL+C'D'                                   01610000
0003EC 80                         277          DC    AL1(128)                                         01620000
0003ED              003ED 00397   278          ORG   SVCHTABL+C'?'                                   01630000
000397 88                         279          DC    AL1(136)                                         01640000
000398              00398 003F0   280          ORG   SVCHTABL+C'H'                                   01650000
0003F0 90                         281          DC    AL1(144)                                         01660000
0003F1              003F1 003ED   282          ORG   SVCHTABL+C'E'                                   01670000
0003ED 98                         283          DC    AL1(152)                                         01680000
0003EE              003EE 00428   284          ORG   SVCHTABL+256                                     01690000

000428                            286 SVCRTN   DS    OD .                THE PSWS                     01710000
                                  287 *                   IN THE FOLLOWING PSWS, THE THIRD BYTE INDICATES    * 01720000
                                  288 *                   WHETHER THE SVC IS RESTRICTED:                     * 01730000
                                  289 *                            X'00' -> OPERATING SYSTEM ONLY            * 01740000
                                  290 *                            X'FF' -> AVAILABLE TO USER ALSO           * 01750000
                                  291 *                                                                      * 01760000
                                  292 *                     THE FOURTH BYTE INDICATES WHICH SAVE AREA TO USE; * 01770000
                                  293 *                     SVCSAVE BELOW SHOWS THE CODE VALUES.             * 01780000
000428 00000000000004EE           294          DC    B'00000000',B'00000000',X'0000',X'00',AL3(XP)      01790000
000430 0000000000000534           295          DC    B'00000000',B'00000000',X'0000',X'00',AL3(XV)      01800000
000438 00000004000005C0           296          DC    B'00000000',B'00000000',X'0004',X'00',AL3(XEXC)    01810000
000440 00000004000005D2           297          DC    B'00000000',B'00000000',X'0004',X'00',AL3(XCOM)    01820000
000448 0000000400000744           298          DC    B'00000000',B'00000000',X'0004',X'00',AL3(XB)      01830000
000450 FF00000C00000600           299          DC    B'11111111',B'00000000',X'000C',X'00',AL3(XA)      01840000
000458 FF00000C000006B6           300          DC    B'11111111',B'00000000',X'000C',X'00',AL3(XF)      01850000
000460 000000040000087A           301          DC    B'00000000',B'00000000',X'0004',X'00',AL3(XI)      01860000
000468 00000004000008A6           302          DC    B'00000000',B'00000000',X'0004',X'00',AL3(XJ)      01870000
000470 000000040000056A           303          DC    B'00000000',B'00000000',X'0004',X'00',AL3(XPER)    01880000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'280',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                  HLASM R6.0  2016/08/29 08.42

000478 FF00FF08000008EC             304          DC    B'11111111',B'00000000',X'FF08',X'00',AL3(XR)          01890000
000480 FF00FF0800000978             305          DC    B'11111111',B'00000000',X'FF08',X'00',AL3(XS)          01900000
000488 FF00FF0800000780             306          DC    B'11111111',B'00000000',X'FF08',X'00',AL3(XC)          01910000
000490 0000FF04000008CA             307          DC    B'00000000',B'00000000',X'FF04',X'00',AL3(XN)          01920000
000498 0000FF0800000A0A             308          DC    B'00000000',B'00000000',X'FF08',X'00',AL3(XY)          01930000
0004A0 FF00FF0800000A42             309          DC    B'11111111',B'00000000',X'FF08',X'00',AL3(XZ)          01940000
0004A8 FF00FF08000007C6             310          DC    B'11111111',B'00000000',X'FF08',X'00',AL3(XD)          01950000
0004B0 0000FF0400000A8E             311          DC    B'00000000',B'00000000',X'FF04',X'00',AL3(XQUE)        01960000
0004B8 FF00FF0800000842             312          DC    B'11111111',B'00000000',X'FF08',X'00',AL3(XH)          01970000
0004C0 FF00000C00000608             313          DC    B'11111111',B'00000000',X'000C',X'00',AL3(XAUTO)        01980000

0004C8                              315 SVCSAVE  DS    OF .                THE SAVE AREA OFFSETS              02000000
0004C8 0000021C                     316          DC    A(SYSSEMSA) .       CODE 00 -> SYSSEMSA                02010000
0004CC 0000004C                     317          DC    A(PCBISA-PCB) .     CODE 04 -> INTERRUPT SAVE AREA     02020000
0004D0 000000A0                     318          DC    A(PCBFSA-PCB) .     CODE 08 -> FAULT SAVE AREA         02030000
0004D4 000000F4                     319          DC    A(PCBMSA-PCB) .     CODE 0C -> MEMORY SAVE AREA        02040000



                                    321 ********************************************************************** 02060000
                                    322 *                                                                    * 02070000
                                    323 * RETURN SEQUENCE FOR REQUEST DRIVEN ROUTINES AND TRAFFIC CONTROLLER  * 02080000
                                    324 *                                                                    * 02090000
                                    325 ********************************************************************** 02100000

0004D8                              327          DS    0D                                                     02120000
0004D8 00000000000004E0             328 RETURN   DC    B'00000000',B'00000000',X'0000',X'00',AL3(RETURNR)      02130000

                         004E0      330 RETURNR  EQU   * .                RETURN ROUTINE FOR SVC'S AND XPER  02150000
0004E0 D207 0020 E000 00020 00000   331          MVC   SVCOLD,SAPSW .      SAVE PSW IN A SAFE PLACE           02160000
0004E6 980F E008            00008   332          LM    0,15,SAREGS .       RELOAD REGISTERS                   02170000
0004EA 8200 0020       00020        333          LPSW  SVCOLD .            AND RETURN                         02180000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'280',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42
                                   335 ********************************************************************** 02200000
                                   336 *                                                                    * 02210000
                                   337 *                          REQUEST DRIVEN ROUTINES                   * 02220000
                                   338 *                                                                    * 02230000
                                   339 ********************************************************************** 02240000


                                   341 ********************************************************************** 02260000
                                   342 *                                                                    * 02270000
                                   343 *                                XP ROUTINE                          * 02280000
                                   344 *                                                                    * 02290000
                                   345 *        FUNCTION: TO IMPLEMENT "P" PRIMITIVE FOR SEMAPHORES         * 02300000
                                   346 *       DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS SM        * 02310000
                                   347 *                    SM        DS 0D   SEMAPHORE DEFINITION          * 02320000
                                   348 *                    SMVAL     DS F    VALUE                         * 02330000
                                   349 *                    SMPTR     DS A    POINTER TO FIRST WAITER       * 02340000
                                   350 *   ROUTINES USED: XPER                                              * 02350000
                                   351 *       PROCEDURE: SUBTRACT ONE FROM SMVAL; IF NON-NEGATIVE, RETURN. * 02360000
                                   352 *                  IF NEGATIVE, PLACE RUNNING PROCESS AT END OF LIST * 02370000
                                   353 *                  OF PRECESSES WAITING ON SM. BLOCK CALLING PROCESS; * 02380000
                                   354 *                  ENTER TRAFFIC CONTROLLER.                         * 02390000
                                   355 *    ERROR CHECKS: NONE                                              * 02400000
                                   356 *      INTERRUPTS: OFF                                               * 02410000
                                   357 *     USER ACCESS: NO                                                * 02420000
                                   358 *                                                                    * 02430000
                                   359 ********************************************************************** 02440000

                      004EE        361 XP       EQU   * .                THE XP ROUTINE                     02460000
                  R:1 004EE        362          USING *,1                                                   02470000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 362 IN /MBHFS/SOS4K.ASM ON VOLUME:
                  R:2 00000        363          USING SM,2 .             ARGUMENT IS A SEMAPHORE            02480000
0004EE 5830 2000          00000   364          L     3,SMVAL  .         GET THE VALUE                      02490000
0004F2 0630               00000   365          BCTR  3,0 .              SUBTRACT ONE                       02500000
0004F4 5030 2000          00000   366          ST    3,SMVAL .          AND STORE IT BACK                  02510000
0004F8 1233               00000   367          LTR   3,3 .              SET CONDITION CODE                 02520000
0004FA 4740 1014          00502   368          BM    XPWAIT .           IF IT'S NEGATIVE, MUST WAIT        02530000
0004FE 8200 04D8     004D8        369          LPSW  RETURN .           ELSE RETURN NOW                    02540000
000502 4140 2004          00004   370 XPWAIT   LA    4,SMPTR .          START GOING DOWN                   02550000
000506 5850 2004          00004   371          L     5,SMPTR .           CHAIN OF POINTERS                 02560000
                                   372          DROP  15                                                  02570000
                  R:5 00000        373          USING PCB,5                                               02580000
00050A 1255               00000   374 XPLOOP   LTR   5,5 .              IF REACHED END                     02590000
00050C 4780 102E          0051C   375          BZ    XPTHEN .           ADD OUR PCB ON. ELSE,              02600000
000510 4140 5030          00030   376          LA    4,PCBNSW .         INCREMENT POINTERS                 02610000
000514 5850 5030          00030   377          L     5,PCBNSW                                              02620000
000518 47F0 101C          0050A   378          B     XPLOOP .           AND TRY AGAIN                      02630000
                                   379          DROP  5                                                   02640000
                  R:F 00000        380          USING PCB,15                                              02650000
00051C D203 4000 0270 00000 00270  381 XPTHEN   MVC   0(4,4),RUNNING .  WE'RE AT THE END                  02660000
000522 5050 F030          00030   382          ST    5,PCBNSW .         STORE NULL POINTER                 02670000
000526 92FF F019     00019        383          MVI   PCBBLOKT,X'FF' .   AND WE'RE BLOCKED                  02680000
00052A D253 F04C 021C 0004C 0021C  384          MVC   PCBISA,SYSSEMSA .  SWITCH SAVE AREAS                 02690000
000530 47F0 107C          0056A   385          B     XPER .             SO RUN SOMEONE ELSE                02700000
```

ACTIVE USINGS: PROGRAM,R0 PROGRAM+X'4EE',R1 SA,R14 PCB,R15

LOC OBJECT CODE ADDR1 ADDR2 STMT SOURCE STATEMENT HLASM R6.0 2016/08/29 08.42

```
                                    386          DROP  2                                                  02710000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'4EE',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42

                                  388 ********************************************************************** 02730000
                                  389 *                                                                    * 02740000
                                  390 *                                XV ROUTINE                          * 02750000
                                  391 *                                                                    * 02760000
                                  392 *       FUNCTION: TO IMPLEMENT "V" PRIMITIVE FOR SEMAPHORES          * 02770000
                                  393 *      DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS SM         * 02780000
                                  394 *                   SM        DS 0D   SEMAPHORE DEFINITION           * 02790000
                                  395 *                   SMVAL     DS F    VALUE                          * 02800000
                                  396 *                   SMPTR     DS A    POINTER TO FIRST WAITER        * 02810000
                                  397 *  ROUTINES USED: NONE                                               * 02820000
                                  398 *      PROCEDURE: ADD ONE TO SMVAL; IF > ZERO, RETURN. IF ZERO OR    * 02830000
                                  399 *                 LESS, REMOVE FIRST PROCESS FROM WAITER CHAIN;      * 02840000
                                  400 *                 UNBLOCK IT; IF NEXTTRYM NOT SET, SET IT AND SET    * 02850000
                                  401 *                 NEXTTRY TO THAT PROCESS; RETURN; IF NEXTTRYM SET,  * 02860000
                                  402 *                 RETURN.                                            * 02870000
                                  403 *   ERROR CHECKS: NONE                                               * 02880000
                                  404 *     INTERRUPTS: OFF                                                * 02890000
                                  405 *    USER ACCESS: NO                                                 * 02900000
                                  406 *                                                                    * 02910000
                                  407 ********************************************************************** 02920000

                      00534       409 XV      EQU   * .              THE XV ROUTINE                       02940000
                 R:1  00534       410         USING *,1                                                   02950000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 410 IN /MBHFS/SOS4K.ASM ON VOLUME:
                      R:2  00000       411         USING SM,2 .           ARGUMENT IS A SEMAPHORE      02960000
000534 5830 2000            00000     412         L     3,SMVAL .        GET THE VALUE                02970000
000538 5A30 1924            00E58     413         A     3,=F'1' .        ADD ONE                      02980000
00053C 5030 2000            00000     414         ST    3,SMVAL .        AND STORE IT BACK            02990000
000540 47D0 1014            00548     415         BNP   XVWAKEUP .       IF <=0, SOMEONE'S WAITING    03000000
000544 8200 04D8      004D8           416         LPSW  RETURN .         ELSE RETURN                  03010000
000548 5840 2004            00004     417 XVWAKEUP L    4,SMPTR .        GET THE FIRST OF THE GUYS    03020000
                                      418         DROP  15                                           03030000
                      R:4  00000       419         USING PCB,4                                        03040000
00054C D203 2004 4030 00004 00030     420         MVC   SMPTR,PCBNSW .   REMEMBER THE REST            03050000
000552 9200 4019      00019           421         MVI   PCBBLOKT,X'00' . WE'RE NO LONGER BLOCKING HIM 03060000
000556 95FF 0278      00278           422         CLI   NEXTTRYM,X'FF' . IS NEXT TRY MODIFIED?        03070000
00055A 4780 1032            00566     423         BE    XVRET .          IF SO, WELL OK               03080000
00055E 5040 0274            00274     424         ST    4,NEXTTRY        ELSE MODIFY NEXTTRY          03090000
000562 92FF 0278      00278           425         MVI   NEXTTRYM,X'FF' . AND SAY SO                   03100000
000566 8200 04D8      004D8           426 XVRET   LPSW  RETURN .         GET BACK                     03110000
                                      427         DROP  2,4                                          03120000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'534',R1  SA,R14

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42
                                  429 ********************************************************************** 03140000
                                  430 *                                                                    * 03150000
                                  431 *                        XPER ROUTINE (TRAFFIC CONTROLLER)           * 03160000
                                  432 *                                                                    * 03170000
                                  433 *        FUNCTION: TO IMPLEMENT MULTIPROGRAMMING                     * 03180000
                                  434 *       DATABASES: NONE                                              * 03190000
                                  435 *   ROUTINES USED: NONE                                              * 03200000
                                  436 *       PROCEDURE: STARTING WITH NEXTTRY, SEARCH FOR PROCESS ON ALL  * 03210000
                                  437 *                  PCB CHAIN NOT BLOCKED OR STOPPED; IF FOUND, USE AS * 03220000
                                  438 *                  NEW RUNNING, FOR 50 MS OF TIME AND RETURN. ELSE,  * 03230000
                                  439 *                  ENTER WAIT STATE WITH INTERRUPTS ON, AND TRY TO   * 03240000
                                  440 *                  SCHEDULE AGAIN AFTER INTERRUPT; RETURN.           * 03250000
                                  441 *    ERROR CHECKS: NONE                                              * 03260000
                                  442 *      INTERRUPTS: OFF                                               * 03270000
                                  443 *     USER ACCESS: NO                                                * 03280000
                                  444 *                                                                    * 03290000
                                  445 ********************************************************************** 03300000

                     0056A        447 XPER     EQU   * .               ROUTINE XPER: TRAFFIC SCHEDULER      03320000
00056A 8000 0078     00078        448          SSM   IONEW .           MASK OFF INTERRUPTS                  03330000
00056E 0510                       449          BALR  1,0                                                    03340000
               R:1   00570        450          USING *,1                                                    03350000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 450 IN /MBHFS/SOS4K.ASM ON VOLUME:
000570 58A0 0274           00274  451          L     10,NEXTTRY .      START LOOKING AT NEXTTRY             03360000
000574 18BA                       452          LR    11,10 .           REMEMBER WHICH THAT WAS              03370000
                  R:A      00000  453          USING PCB,10                                                 03380000
000576 95FF A019    00019        454 GWLOOP   CLI   PCBBLOKT,X'FF' .    IF IT'S BLOCKED                      03390000
00057A 4780 1016           00586  455          BE    GWINC .           IGNORE                               03400000
00057E 95FF A018    00018        456          CLI   PCBSTOPT,X'FF' .    ELSE, IF IT'S NOT STOPPED            03410000
000582 4770 1030           005A0  457          BNE   GWRUN .           WE CAN RUN IT                        03420000
000586 58A0 A010           00010  458 GWINC    L     10,PCBNPALL .     ELSE, GO TO THE NEXT                 03430000
00058A 19AB                       459          CR    10,11 .           IF WE'VE SEEN ALL, QUIT              03440000
00058C 4770 1006           00576  460          BNE   GWLOOP .          ELSE TRY AGAIN                       03450000
000590 8200 1028    00598        461          LPSW  IDLE .            SIT AND WAIT                         03460000
000598                            462          DS    0D                                                     03470000
000598 FE0200000000056A           463 IDLE     DC    B'11111110',B'00000010',X'0000',X'00',AL3(XPER)        03480000

0005A0 D203 0274 A010 00274 00010  465 GWRUN    MVC   NEXTTRY,PCBNPALL .  GET A NEW NEXTTRY                03500000
0005A6 9200 0278      00278        466          MVI   NEXTTRYM,X'00' .   NOT MODIFIED                      03510000
0005AA 50A0 0270           00270  467          ST    10,RUNNING .        GET A NEW RUNNING                    03520000
0005AE 41E0 A04C           0004C  468          LA    14,PCBISA                                              03530000
0005B2 D203 0050 104C 00050 005BC  469          MVC   TIMER,QUANTUM .     INTERRUPT AFTER 50 MS                03540000
0005B8 8200 04D8      004D8        470          LPSW  RETURN .            AND GO TO RETURNR                    03550000
0005BC 00000F00                   471 QUANTUM  DC    X'00000F00' .       QUANTUM OF TIME                      03560000
                                  472          DROP  10                                                     03570000
                  R:F      00000  473          USING PCB,15                                                 03580000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'570',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                  HLASM R6.0  2016/08/29 08.42
                                   475 ********************************************************************** 03600000
                                   476 *                                                                    * 03610000
                                   477 *                          XEXC ROUTINE                              * 03620000
                                   478 *                                                                    * 03630000
                                   479 *        FUNCTION: TO ENTER SMC SECTION                              * 03640000
                                   480 *       DATABASES: NONE                                              * 03650000
                                   481 *   ROUTINES USED: NONE                                              * 03660000
                                   482 *       PROCEDURE: INCREMENT SMC BYTE IN PCB BY ONE; RETURN.         * 03670000
                                   483 *    ERROR CHECKS: NONE                                              * 03680000
                                   484 *      INTERRUPTS: OFF                                               * 03690000
                                   485 *     USER ACCESS: NO                                                * 03700000
                                   486 *                                                                    * 03710000
                                   487 ********************************************************************** 03720000

                      005C0        489 XEXC     EQU   * .                ROUTINE XEXC: ENTER SMC SECTION      03740000
                  R:1 005C0        490          USING *,1                                                     03750000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 490 IN /MBHFS/SOS4K.ASM ON VOLUME:
0005C0 1B88                        491          SR    8,8                                                     03760000
0005C2 4380 F01A           0001A   492          IC    8,PCBINSMC                                              03770000
0005C6 4188 0001           00001   493          LA    8,1(8) .           ADD ONE TO SMC BYTE                  03780000
0005CA 4280 F01A           0001A   494          STC   8,PCBINSMC                                              03790000
0005CE 8200 04D8      004D8        495          LPSW  RETURN .           AND LEAVE                            03800000

                                   497 ********************************************************************** 03820000
                                   498 *                                                                    * 03830000
                                   499 *                          XCOM ROUTINE                              * 03840000
                                   500 *                                                                    * 03850000
                                   501 *        FUNCTION: TO LEAVE SMC SECTION                              * 03860000
                                   502 *       DATABASES: NONE                                              * 03870000
                                   503 *   ROUTINES USED: XP, XV                                            * 03880000
                                   504 *       PROCEDURE: DECREMENT SMC BYTE IN PCB BY ONE; IF NOT ZERO,    * 03890000
                                   505 *                  RETURN. ELSE, CHECK FOR STOP WAITING; IF STOP     * 03900000
                                   506 *                  WAITING, ALLOW STOP AND BLOCK SELF; RETURN. IF NO * 03910000
                                   507 *                  STOP WAITING, RETURN.                             * 03920000
                                   508 *    ERROR CHECKS: NONE                                              * 03930000
                                   509 *      INTERRUPTS: OFF                                               * 03940000
                                   510 *     USER ACCESS: NO                                                * 03950000
                                   511 *                                                                    * 03960000
                                   512 ********************************************************************** 03970000

                      005D2        514 XCOM     EQU   * .                ROUTINE XCOM: LEAVE SMC              03990000
                  R:1 005D2        515          USING *,1                                                     04000000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 515 IN /MBHFS/SOS4K.ASM ON VOLUME:
0005D2 1B88                        516          SR    8,8                                                     04010000
0005D4 4380 F01A           0001A   517          IC    8,PCBINSMC                                              04020000
0005D8 0680                        518          BCTR  8,0 .              SUBTRACT ONE FROM IN SMC BYTE        04030000
0005DA 4280 F01A           0001A   519          STC   8,PCBINSMC                                              04040000
0005DE 1288                        520          LTR   8,8 .              IS IT ZERO?                          04050000
0005E0 4770 102A           005FC   521          BNZ   XCOMRET .          NO, THEN GET BACK, OTHERWISE         04060000
0005E4 9500 F01B      0001B        522          CLI   PCBSW,X'00' .      IS STOP WAITING?                     04070000
0005E8 4780 102A           005FC   523          BE    XCOMRET .          IF NOT, RETURN                       04080000
0005EC 9200 F01B      0001B        524          MVI   PCBSW,X'00' .      STOPS NOT WAITING AFTER THIS         04090000
0005F0 4120 F034           00034   525          LA    2,PCBSRS .         WE'LL "V" THE STOPPER,               04100000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'5D2',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

0005F4 0AE5                       526          SVC   C'V'                                                    04110000
0005F6 4120 F03C            0003C 527          LA    2,PCBSES .          AND "P" THE STOPPEE.              04120000
0005FA 0AD7                       528          SVC   C'P'                                                    04130000
0005FC 8200 04D8      004D8       529 XCOMRET  LPSW  RETURN .            AND HERE (IF EVER) WE RETURN      04140000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'5D2',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

                                  531 ********************************************************************** 04160000
                                  532 *                                                                    * 04170000
                                  533 *                          XA ROUTINE                                * 04180000
                                  534 *                       XAUTO ROUTINE                                * 04190000
                                  535 *                                                                    * 04200000
                                  536 *       FUNCTION: TO ALLOCATE MEMORY                                 * 04210000
                                  537 *      DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS XAX:       * 04220000
                                  538 *                   XAX       DS 0D                                  * 04230000
                                  539 *                   XAXSIZE   DS F     SIZE OF BLOCK TO BE ALLOCATED * 04240000
                                  540 *                   XAXADDR   DS A     ADDRESS OF FIRST BYTE OF BLOCK* 04250000
                                  541 *                   XAXALGN   DS F     ALIGNMENT OF BLOCK            * 04260000
                                  542 *  ROUTINES USED: XEXC, XCOM, XP, XV, XB                             * 04270000
                                  543 *      PROCEDURE: LOCK FSB SEMAPHORE; SEARCH FREE STORAGE FOR LARGE  * 04280000
                                  544 *                 ENOUGH MEMORY BLOCK; ALIGN BOUNDARY; USE XB TO     * 04290000
                                  545 *                 CHAIN ANY LEFTOVER BLOCKS TO FREE STORAGE LIST;    * 04300000
                                  546 *                 PLACE ADDRESS OF ALLOCATED BLOCK IN XAXADDR; UNLOCK* 04310000
                                  547 *                 FSB SEMAPHORE; RETURN. IF CAN'T SATISFY REQUEST,   * 04320000
                                  548 *                 UNLOCK FSB SEMAPHORE, APPLY XP ROUTINE TO MEMORY   * 04330000
                                  549 *                 SEMAPHORE, BLOCKING PROCESS RUNNING UNTIL MEMORY   * 04340000
                                  550 *                 FREED; THEN UNBLOCK; TRY TO SATISFY REQUEST AGAIN. * 04350000
                                  551 *   ERROR CHECKS: NONE                                               * 04360000
                                  552 *     INTERRUPTS: ON                                                 * 04370000
                                  553 *    USER ACCESS: NO                                                 * 04380000
                                  554 *                                                                    * 04390000
                                  555 ********************************************************************** 04400000

                      00600       557 XA       EQU   * .                THE XA ROUTINE, TO ALLOCATE          04420000
                 R:1  00600       558          USING *,1                                                     04430000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 558 IN /MBHFS/SOS4K.ASM ON VOLUME:
000600 4100 0001            00001  559          LA    0,1 .              SET REGISTER ZERO TO ONE TO          04440000
000604 47F0 100E            0060E  560          B     XACOM .             INDICATE C'A' CALL                  04450000
                      00608       561 XAUTO    EQU   * .                AUTO STORAGE ENTRY POINT             04460000
                 R:1  00608       562          USING *,1                                                     04470000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 562 IN /MBHFS/SOS4K.ASM ON VOLUME:
000608 1B00                 00E5C  563          SR    0,0 .              REG0=0 INDICATES C'E' CALL           04480000
00060A 5810 1854            00E5C  564          L     1,=A(XA) .         RESET BASE REGISTER PROPERLY         04490000
                 R:1  00600       565          USING XA,1                                                    04500000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 565 IN /MBHFS/SOS4K.ASM ON VOLUME:
00060E 0A5A                 00E5C  566 XACOM    SVC   C'!' .             ENTER SMC                            04510000
000610 1872                 00E5C  567          LR    7,2                                                     04520000
                 R:7  00000       568          USING XAX,7 .            ARGUMENT LIST                        04530000
000612 5860 7000            00000  569          L     6,XAXSIZE .        GET THE SIZE REQUESTED               04540000
000616 4120 0184            00184  570 XATOP    LA    2,FSBSEM .         LOCK THE FSB SEMAPHORE               04550000
00061A 0AD7                 00E5C  571          SVC   C'P' .                                                  04560000
00061C 4150 0180            00180  572          LA    5,FSBPTR .         START LOOKING DOWN                   04570000
000620 5840 0180            00180  573          L     4,FSBPTR .          THE FREE STORAGE LIST               04580000
000624 5880 7008            00008  574          L     8,XAXALGN .        WE WOULD HAVE TO START AT WITH       04590000
000628 0680                 00E5C  575          BCTR  8,0 .               THIS CONSTANT TO FIND ALIGNMENT    04600000
                 R:4  00000       576          USING FSB,4                                                   04610000
00062A 1244                 00E5C  577 XALOOP   LTR   4,4 .              IF AT THE END                        04620000
00062C 4780 1056            00656  578          BZ    XAWAIT .            WAIT UNTIL A "FREE" OP             04630000
000630 18D4                 00E5C  579          LR    13,4 .             FIND THE LOCATION                    04640000
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ACTIVE USINGS: PROGRAM,R0  XA,R1  FSB,R4  XAX,R7  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

000632 06D0                       580          BCTR  13,0 .              IN THIS BLOCK WITH THIS          04650000
000634 16D8                       581          OR    13,8 .              ALIGNMENT                        04660000
000636 41DD 0001          00001   582          LA    13,1(13) .          THAT'S IT                        04670000
00063A 189D                       583          LR    9,13 .              AND NOW GET IN REG 9             04680000
00063C 1B94                       584          SR    9,4 .                WHAT IS WASTED AT THE FRONT     04690000
00063E 5830 4004          00004   585          L     3,FSBSIZE .         GET SIZE MINUS WASTE AT          04700000
000642 1B39                       586          SR    3,9 .                FRONT, LEAVING EFFECTIVE SIZE   04710000
000644 1963                       587          CR    6,3 .               IS IT ENOUGH?                    04720000
000646 47D0 1062          00662   588          BNP   XAFOUND .           EUREKA!                          04730000
00064A 4150 4000          00000   589          LA    5,FSBNEXT .         OH WELL, GET THE NEXT FREE       04740000
00064E 5840 4000          00000   590          L     4,FSBNEXT .          STORAGE BLOCK ON THE CHAIN      04750000
000652 47F0 102A          0062A   591          B     XALOOP .            BETTER LUCK NEXT TIME            04760000
000656 0AE5                       592 XAWAIT   SVC   C'V' .              NEED TO WAIT                     04770000
000658 4120 018C          0018C   593          LA    2,MEMORY .          SO WE LET OTHER PEOPLE GET IN    04780000
00065C 0AD7                       594          SVC   C'P' .              SO THEY'LL WAKE US UP            04790000
00065E 47F0 1016          00616   595          B     XATOP .             AND THEN WE'LL TRY AGAIN         04800000
000662 50D0 7004          00004   596 XAFOUND  ST    13,XAXADDR .        WE'VE NOW GOT THE ADDRESS        04810000
000666 D203 5000 4000 00000 00000 597          MVC   0(4,5),FSBNEXT .    UNLINK THE BLOCK OUT             04820000
00066C 58C0 4004          00004   598          L     12,FSBSIZE .        GET THE WHOLE BLOCK SIZE         04830000
000670 4120 E048          00048   599          LA    2,SATEMP .          START MAKING UP ARG LISTS        04840000
                  R:2  00000        600          USING XBX,2 .           FOR THE XB ROUTINE               04850000
000674 18AD                       601          LR    10,13 .             THE STARTING LOCATION            04860000
000676 1BA4                       602          SR    10,4 .              MINUS THE START OF THE BLOCK     04870000
000678 4780 1086          00686   603          BZ    XANF .              IF NONE WASTED AT THE FRONT, SKIP 04880000
00067C 5040 2004          00004   604          ST    4,XBXADDR .         ELSE FREE, STARTING THERE        04890000
000680 50A0 2000          00000   605          ST    10,XBXSIZE .         UP TO THE BEGINNING OF THE      04900000
000684 0AC2                       606          SVC   C'B' .               ALLOCATION; INSERT IT IN THE CHAIN 04910000
000686 18BD                       607 XANF     LR    11,13 .             THE STARTING ADDR PLUS THE SIZE  04920000
000688 1AB6                       608          AR    11,6 .               GIVES THE FIRST UNUSED ADDR     04930000
00068A 1BCA                       609          SR    12,10 .             MINUS THE WASTE AT FRONT,        04940000
00068C 1BC6                       610          SR    12,6 .              MINUS THE PART ALLOCATED. IF     04950000
00068E 4780 109C          0069C   611          BZ    XARETURN .          NONE LEFT OVER, GOOD             04960000
000692 50B0 2004          00004   612          ST    11,XBXADDR .        ELSE STORE ADDRESS AND           04970000
000696 50C0 2000          00000   613          ST    12,XBXSIZE .        SIZE, AND LINK ONTO              04980000
00069A 0AC2                       614          SVC   C'B' .              FREE STORAGE LIST                04990000
                                  615          DROP  2                                                    05000000
00069C 4120 0184          00184   616 XARETURN LA    2,FSBSEM .          WE ARE DONE, SO NOW SOMEONE      05010000
0006A0 0AE5                       617          SVC   C'V' .               ELSE CAN COME IN                05020000
0006A2 1200                       618          LTR   0,0 .               IS THIS FOR AUTOMATIC STORAGE?   05030000
0006A4 4770 10B0          006B0   619          BNZ   XABACK .            IF NOT, RETURN NOW               05040000
0006A8 5060 F044          00044   620          ST    6,PCBASIZE .        OTHERWISE STORE SIZE AND         05050000
0006AC 50D0 F048          00048   621          ST    13,PCBAADDR .        ADDRESS OF AUTOMATIC STORAGE    05060000
0006B0 0A6B                       622 XABACK   SVC   C',' .              LEAVE SMC SECTION                05070000
0006B2 8200 04D8     004D8        623          LPSW  RETURN .            GET BACK JOJO                    05080000
                                  624          DROP  4,7                                                  05090000
```

```
ACTIVE USINGS: PROGRAM,R0  XA,R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42
                                  626 ********************************************************************** 05110000
                                  627 *                                                                    * 05120000
                                  628 *                          XF ROUTINE                                * 05130000
                                  629 *                                                                    * 05140000
                                  630 *        FUNCTION: TO FREE MEMORY                                    * 05150000
                                  631 *      DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS XFX:       * 05160000
                                  632 *                   XFX       DS 0D                                  * 05170000
                                  633 *                   XFXSIZE   DS F     SIZE OF BLOCK TO BE FREED    * 05180000
                                  634 *                   XFXADDR   DS A     ADDRESS OF FIRST BYTE OF BLOCK* 05190000
                                  635 *   ROUTINES USED: XEXC, XP, XV, XB, XCOM                            * 05200000
                                  636 *       PROCEDURE: LOCK FSB SEMAPHORE; SEARCH FREE STORAGE LIST TO   * 05210000
                                  637 *                  FIND IF ANY FREE BLOCK CONTIGUOUSLY FOLLOWS OR    * 05220000
                                  638 *                  PRECEDES BLOCK TO BE FREED; IF THERE IS ANY,      * 05230000
                                  639 *                  COMPACT THEM INTO A SINGLE BLOCK OF COMBINED SIZE; * 05240000
                                  640 *                  USE XB TO CHAIN COMPACTED BLOCK ONTO FREE STORAGE  * 05250000
                                  641 *                  LIST; WAKEUP ALL PROCESSES WAITING ON MEMORY       * 05260000
                                  642 *                  SEMAPHORE; UNLOCK FSB SEMAPHORE; RETURN           * 05270000
                                  643 *    ERROR CHECKS: NONE                                              * 05280000
                                  644 *      INTERRUPTS: ON                                                * 05290000
                                  645 *     USER ACCESS: NO                                                * 05300000
                                  646 *                                                                    * 05310000
                                  647 ********************************************************************** 05320000

                      006B6       649 XF       EQU   * .                THE XF ROUTINE, TO FREE STORAGE      05340000
                   R:1  006B6     650          USING *,1                                                     05350000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 650 IN /MBHFS/SOS4K.ASM ON VOLUME:
0006B6 0A5A                       651          SVC   C'!' .             ENTER SMC SECTION                    05360000
0006B8 1872                       652          LR    7,2                                                    05370000
                   R:7  00000     653          USING XFX,7 .            THE ARGUMENT LIST                    05380000
0006BA 5830 7000          00000   654          L     3,XFXSIZE .        GET THE SIZE                         05390000
0006BE 5840 7004          00004   655          L     4,XFXADDR .        AND THE ADDRESS                      05400000
0006C2 1853                       656          LR    5,3 .              GET THE ADDRESS OF THE END OF THE    05410000
0006C4 1A54                       657          AR    5,4 .               BLOCK TO BE FREED                   05420000
0006C6 4120 0184          00184   658          LA    2,FSBSEM .         LOCK FSBSEM                          05430000
0006CA 0AD7                       659          SVC   C'P'                                                   05440000
0006CC 4180 0180          00180   660          LA    8,FSBPTR .         START LOOKING DOWN THE FREE          05450000
0006D0 5860 0180          00180   661          L     6,FSBPTR .          STORAGE LIST, FOR COMPACTION        05460000
                   R:6  00000     662          USING FSB,6                                                  05470000
0006D4 1266                       663 XFLOOP   LTR   6,6 .              ARE WE THROUGH?                      05480000
0006D6 4780 105E          00714   664          BZ    XFLINK .           IF SO, JUST ADD IT ON                05490000
0006DA 5890 6000          00000   665          L     9,FSBNEXT .        IF NOT. GET THE NEXT PTR             05500000
0006DE 1965                       666          CR    6,5 .              IS THIS BLOCK RIGHT AFTER OURS?      05510000
0006E0 4770 103A          006F0   667          BNE   XFTHEN .           IF NOT, OK. BUT IF IT IS,            05520000
0006E4 5098 0000          00000   668          ST    9,0(8) .           WE CAN COMPACT, SO UNCHAIN IT        05530000
0006E8 5A30 6004          00004   669          A     3,FSBSIZE .        AND REMEMBER THE NEW SIZE            05540000
0006EC 47F0 1050          00706   670          B     XFBACKUP .         AND ON TO THE NEXT                   05550000
0006F0 18A6                       671 XFTHEN   LR    10,6 .             MAYBE IT'S RIGHT BEFORE OURS         05560000
0006F2 5AA0 6004          00004   672          A     10,FSBSIZE .       GET ENDING ADDRESS OF FREE BLOCK     05570000
0006F6 19A4                       673          CR    10,4 .             IS IT RIGHT BEFORE OURS?             05580000
0006F8 4770 1052          00708   674          BNE   XFINC .            OH FUDGE! NO!                        05590000
0006FC 5098 0000          00000   675          ST    9,0(8) .           IF SO, UNLINK IT                     05600000
000700 1846                       676          LR    4,6 .              GET THE NEW BEGINNING LOCATION       05610000
000702 5A30 6004          00004   677          A     3,FSBSIZE .        AND NEW SIZE OF FREE BLOCK           05620000
000706 1868                       678 XFBACKUP LR    6,8 .              BACK UP ONE FSB                      05630000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'6B6',R1  FSB,R6  XFX,R7  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                  HLASM R6.0  2016/08/29 08.42

000708 4180 6000           00000   679 XFINC    LA    8,FSBNEXT .         ON TO THE NEXT FSB                  05640000
00070C 5860 6000           00000   680          L     6,FSBNEXT                                               05650000
000710 47F0 101E           006D4   681          B     XFLOOP .            TRY, TRY AGAIN                      05660000
000714 4120 E048           00048   682 XFLINK   LA    2,SATEMP .          START TO CALL XB                    05670000
                    R:2  00000         683          USING XBX,2                                             05680000
000718 5030 2000           00000   684          ST    3,XBXSIZE .         STORE SIZE                          05690000
00071C 5040 2004           00004   685          ST    4,XBXADDR .         AND ADDRESS                         05700000
000720 0AC2                        686          SVC   C'B' .              LINK IT ONTO THE FSB CHAIN          05710000
                    R:2  00000         687          USING SM,2                                              05720000
000722 4120 018C           0018C   688          LA    2,MEMORY .          GET VALUE OF MEMORY SEMAPHORE       05730000
000726 41B0 0001           00001   689          LA    11,1(0,0) .         SUBTRACT FROM ONE, IT'S A HANDLE    05740000
00072A 5BB0 2000           00000   690          S     11,SMVAL .          ON THE # OF PEOPLE WAITING          05750000
                                   691          DROP  2                                                       05760000
00072E 46B0 1088           0073E   692 XFVLOOP  BCT   11,XFVDO .          LOOP IF ANYONE ELSE IS WAITING      05770000
000732 4120 0184           00184   693          LA    2,FSBSEM .          WE'RE THROUGH, SO                   05780000
000736 0AE5                        694          SVC   C'V' .              UNBLOCK FSBSEM                      05790000
000738 0A6B                        695          SVC   C',' .              LEAVE SMC                           05800000
00073A 8200 04D8      004D8        696          LPSW  RETURN .            RETURN                              05810000
00073E 0AE5                        697 XFVDO    SVC   C'V' .              WAKE SOMEONE UP                     05820000
000740 47F0 1078           0072E   698          B     XFVLOOP .           TRY AGAIN FOR ANOTHER               05830000
                                   699          DROP  6,7                                                     05840000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'6B6',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42
                                  701 ********************************************************************** 05860000
                                  702 *                                                                      * 05870000
                                  703 *                            XB ROUTINE                                * 05880000
                                  704 *                                                                      * 05890000
                                  705 *        FUNCTION: TO CHAIN A STORAGE BLOCK ONTO FREE STORAGE LIST     * 05900000
                                  706 *       DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS XBX:        * 05910000
                                  707 *                    XBX       DS 0D                                   * 05920000
                                  708 *                    XBXSIZE   DS F     SIZE OF BLOCK                * 05930000
                                  709 *                    XBXADDR   DS A     ADDRESS OF FIRST BYTE OF BLOCK* 05940000
                                  710 *   ROUTINES USED: NONE                                                * 05950000
                                  711 *       PROCEDURE: SEARCH FREE STORAGE LIST TO FIND WHERE TO INSERT    * 05960000
                                  712 *                  FREE BLOCK IN ORDER OF INCREASING SIZE; FORMAT      * 05970000
                                  713 *                  BLOCK LIKE AN FSB; INSERT; RETURN.                  * 05980000
                                  714 *    ERROR CHECKS: NONE                                                * 05990000
                                  715 *      INTERRUPTS: OFF                                                 * 06000000
                                  716 *     USER ACCESS: NO                                                  * 06010000
                                  717 *        COMMENTS: SINCE XB ROUTINE ONLY CALLED BY XA AND XF, FSB      * 06020000
                                  718 *                  SEMAPHORE IS ALREADY LOCKED.                        * 06030000
                                  719 *                                                                      * 06040000
                                  720 ********************************************************************** 06050000

                       00744      722 XB       EQU   *                                                       06070000
                  R:1  00744      723          USING *,1                                                     06080000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 723 IN /MBHFS/SOS4K.ASM ON VOLUME:
                       R:2  00000 00000   724          USING XBX,2 .          ARGUMENT LIST                  06090000
000744 5830 2000               00000   725          L     3,XBXSIZE .      GET THE SIZE                   06100000
000748 5840 2004               00004   726          L     4,XBXADDR .      AND THE ADDRESS                06110000
00074C 4180 0180               00180   727          LA    8,FSBPTR .       START LOOKING DOWN THE CHAIN   06120000
000750 5860 0180               00180   728          L     6,FSBPTR                                        06130000
000754 1266                    00000   729          LTR   6,6 .            IF ZERO POINTER, WE ARE AT     06140000
000756 4780 102C               00770   730          BZ    XBINSERT .       END OF CHAIN ALREADY           06150000
                       R:6  00000      731          USING FSB,6                                           06160000
00075A 5930 6004               00004   732 XBLOOP   C     3,FSBSIZE .      IF THE SIZE OF OURS IS LESS,   06170000
00075E 47D0 102C               00770   733          BNP   XBINSERT .        TIME TO INSERT                06180000
000762 4180 6000               00000   734          LA    8,FSBNEXT .      ELSE GO ON TO THE NEXT         06190000
000766 5860 6000               00000   735          L     6,FSBNEXT                                       06200000
00076A 1266                    00000   736          LTR   6,6 .            IF NOT ALREADY THROUGH         06210000
00076C 4770 1016               0075A   737          BNZ   XBLOOP .         BRANCH BACK                    06220000
000770 5048 0000               00000   738 XBINSERT ST    4,0(8) .         NOW, LINK OURS ON              06230000
                                       739          DROP  6                                               06240000
                       R:4  00000      740          USING FSB,4                                           06250000
000774 5060 4000               00000   741          ST    6,FSBNEXT .      MAKE OURS POINT TO THE NEXT    06260000
000778 5030 4004               00004   742          ST    3,FSBSIZE .      WITH THE RIGHT SIZE            06270000
00077C 8200 04D8      004D8            743          LPSW  RETURN .         AND RETURN                     06280000
                                       744          DROP  2,4                                             06290000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'744',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

                                    746 ********************************************************************** 06310000
                                    747 *                                                                    * 06320000
                                    748 *                          XC ROUTINE                                * 06330000
                                    749 *                                                                    * 06340000
                                    750 *        FUNCTION: TO CREATE A PROCESS                               * 06350000
                                    751 *       DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS XCX:      * 06360000
                                    752 *                    XCX       DS 0D                                 * 06370000
                                    753 *                    XCXNAME   DS CL8   NAME OF PROCESS TO BE CREATED * 06380000
                                    754 *   ROUTINES USED: XEXC, XCOM, XN, XA, XI, XQUE                      * 06390000
                                    755 *       PROCEDURE: USE XA TO ALLOCATE NEW PCB; PLACE XCXNAME IN PCB; * 06400000
                                    756 *                  INITIALIZE SEMAPHORES; STOP; BLOCK; OUT OF SMC;   * 06410000
                                    757 *                  CALL XI TO LINK PCB ONTO PCB CHAINS; RETURN.      * 06420000
                                    758 *    ERROR CHECKS: IF NAME ALREADY USED IN THIS GROUP, XQUE ENTERED. * 06430000
                                    759 *      INTERRUPTS: ON                                                * 06440000
                                    760 *     USER ACCESS: YES                                               * 06450000
                                    761 *                                                                    * 06460000
                                    762 ********************************************************************** 06470000

                      00780         764 XC       EQU   * .              THE XC ROUTINE: CREATE A PROCESS     06490000
                 R:1  00780         765          USING *,1                                                   06500000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 765 IN /MBHFS/SOS4K.ASM ON VOLUME:
000780 1872                         766          LR    7,2                                                   06510000
                 R:7  00000         767          USING XCX,7 .            ARGUMENT LIST                      06520000
000782 4120 E048           00048    768          LA    2,SATEMP .         READY TO MAKE CALLS OUT            06530000
                 R:2  00000         769          USING XNX,2 .            A XN-LIKE ARGUMENT LIST            06540000
000786 D207 2000 7000 00000 00000   770          MVC   XNXNAME,XCXNAME .  GET THE NAME                       06550000
00078C 0AD5                         771          SVC   C'N' .             AND CALL TO FIND THE PCB           06560000
00078E D503 2008 16E0 00008 00E60   772          CLC   XNXADDR,=A(0) .    SEE IF THERE                       06570000
000794 4770 1044           007C4    773          BNE   XCERR .            IF ALREADY EXISTS, BAD             06580000
000798 0A5A                         774          SVC   C'!' .             ENTER SMC SECTION                  06590000
                                    775          DROP  2                                                     06600000
                 R:2  00000         776          USING XAX,2 .            READY TO CALL XA                   06610000
00079A D203 2000 16E4 00000 00E64   777          MVC   XAXSIZE,=A(LENPCB) . WE KNOW THE SIZE                 06620000
0007A0 D203 2008 16E8 00008 00E68   778          MVC   XAXALGN,=F'8' .    AND THE ALIGNMENT                  06630000
0007A6 0AC1                         779          SVC   C'A' .             SO CALL                            06640000
0007A8 5820 2004           00004    780          L     2,XAXADDR .        FIND THE ADDRESS                   06650000
                                    781          DROP  2,15                                                  06660000
                 R:2  00000         782          USING PCB,2 .            FILL IN THE PCB                    06670000
0007AC D207 2000 7000 00000 00000   783          MVC   PCBNAME,XCXNAME .  GIVE IT A NAME                     06680000
0007B2 92FF 2018           00018    784          MVI   PCBSTOPT,X'FF' .   IT'S STOPPED                       06690000
0007B6 D232 2019 1B01 00019 01281   785          MVC   PCBBLOKT(PCBISA-PCBBLOKT),TEMPLATE+1 INITIALIZE PCB  06700000
0007BC 0AC9                         786          SVC   C'I' .             THREAD IT ON                       06710000
0007BE 0A6B                         787          SVC   C',' .             LEAVE SMC SECTION                  06720000
0007C0 8200 04D8           004D8    788          LPSW  RETURN .           AND RETURN                         06730000
0007C4 0A6F                         789 XCERR    SVC   C'?' .             IF ALREADY EXISTS,KERROR           06740000
                                    790          DROP  2,7                                                   06750000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'780',R1  SA,R14

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42
                                  792 ********************************************************************** 06770000
                                  793 *                                                                    * 06780000
                                  794 *                          XD ROUTINE                                * 06790000
                                  795 *                                                                    * 06800000
                                  796 *        FUNCTION: TO DESTROY A PROCESS                              * 06810000
                                  797 *      DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS XDX:       * 06820000
                                  798 *                   XDX       DS 0D                                  * 06830000
                                  799 *                   XDXNAME   DS CL8  NAME OF PROCESS TO BE DESTROYED* 06840000
                                  800 *   ROUTINES USED: XEXC, XJ, XS, XN, XF, XCOM, XQUE                  * 06850000
                                  801 *       PROCEDURE: USE XN TO FIND PCB FOR PROCESS TO BE DESTROYED;   * 06860000
                                  802 *                  USE XJ TO UNLOCK PCB FROM PROCESS CHAINS; IF ANY  * 06870000
                                  803 *                  MESSAGES FOR THIS PROCESS, FREE STORAGE FOR THEM; * 06880000
                                  804 *                  IF THERE IS ANY AUTOMATIC STORAGE, FREE IT;       * 06890000
                                  805 *                  FREE STORAGE FOR PCB; RETURN.                     * 06900000
                                  806 *    ERROR CHECKS: IF NAME DOESN'T EXIST OR PROCESS NOT STOPPED,     * 06910000
                                  807 *                  XQUE ENTERED.                                     * 06920000
                                  808 *      INTERRUPTS: ON                                                * 06930000
                                  809 *     USER ACCESS: YES                                               * 06940000
                                  810 *                                                                    * 06950000
                                  811 ********************************************************************** 06960000

                      007C6       813 XD       EQU   * .              XD ROUTINE: DESTROY A PROCESS        06980000
                   R:1  007C6     814          USING *,1                                                   06990000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 814 IN /MBHFS/SOS4K.ASM ON VOLUME:
0007C6 1872                       815          LR    7,2                                                   07000000
                   R:7  00000     816          USING XDX,7 .          ARG LIST                             07010000
0007C8 4120 E048           00048  817          LA    2,SATEMP .       READY TO CALL OUT                    07020000
                   R:2  00000     818          USING XNX,2 .          WILL CALL XN                         07030000
0007CC D207 2000 7000 00000 00000 819          MVC   XNXNAME,XDXNAME . GET NAME                            07040000
0007D2 0AD5                       820          SVC   C'N' .           AND CALL                             07050000
0007D4 5820 2008           00008  821          L     2,XNXADDR .      GET ADDRESS                          07060000
                                  822          DROP  2                                                     07070000
0007D8 1222                       823          LTR   2,2 .            IF ADDRESS IS NULL,                  07080000
0007DA 4780 107A           00840  824          BZ    XDERR .          IT'S AN ERROR                        07090000
                   R:2  00000     825          USING PCB,2                                                 07100000
0007DE 95FF 2018      00018       826          CLI   PCBSTOPT,X'FF' . IF NOT STOPPED                       07110000
0007E2 4770 107A           00840  827          BNE   XDERR .          IT'S AN ERROR                        07120000
0007E6 0A5A                       828          SVC   C'!' .           ENTER SMC SECTION                    07130000
                                  829          DROP  2                                                     07140000
                   R:F  00000     830          USING PCB,15                                                07150000
0007E8 0AD1                       831          SVC   C'J' .           ELSE UNTHREAD THE ENTRY              07160000
0007EA 1882                       832          LR    8,2 .            REMEMBER THE PCB POINTER             07170000
0007EC 4120 E048           00048  833          LA    2,SATEMP .       READY TO CALL OUT AGAIN              07180000
                   R:8  00000     834          USING PCB,8                                                 07190000
** ASMA300W USING OVERRIDDEN BY A PRIOR ACTIVE USING ON STATEMENT NUMBER 830
** ASMA435I RECORD 834 IN /MBHFS/SOS4K.ASM ON VOLUME:
                                  835          DROP  15                                                    07200000
0007F0 5890 802C           0002C  836          L     9,PCBFM .        GET FIRST MESSAGE                    07210000
0007F4 1299                       837 XDLOOP   LTR   9,9 .            ANY MORE MESSAGES?                   07220000
0007F6 4780 1054           0081A  838          BZ    XDCHECK .        IF NOT, FINISH UP                    07230000
                   R:9  00000     839          USING MSG,9                                                 07240000
0007FA 58A0 9004           00004  840          L     10,MSGNEXT .     ELSE REMEMBER NEXT                   07250000
0007FE 58B0 9008           00008  841          L     11,MSGSIZE .     GET THE SIZE                         07260000
000802 41BB 000F           0000F  842          LA    11,15(11) .       AND MAKE IT SOME NUMBER             07270000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'7C6',R1  XDX,R7  PCB,R8  MSG,R9  SA,R14

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42

000806 54B0 16A6            00E6C   843          N     11,=F'-8' .          OF DOUBLEWORDS                  07280000
                  R:2  00000        844          USING XFX,2                                                  07290000
00080A 5090 2004            00004   845          ST    9,XFXADDR .          FREE THE LOCATION               07300000
00080E 50B0 2000            00000   846          ST    11,XFXSIZE .          THE NUMBER OF WORDS            07310000
000812 0AC6                         847          SVC   C'F' .               DO IT                           07320000
000814 189A                         848          LR    9,10 .               ON TO THE NEXT                  07330000
000816 47F0 102E            007F4   849          B     XDLOOP .             GET THE NEXT MESSAGE            07340000
00081A D503 8048 169A 00048 00E60   850 XDCHECK  CLC   PCBAADDR(4),=A(0) .  HAS AUTOMATIC STORAGE BEEN       07350000
000820 4780 1068            0082E   851          BE    XDTHEN .              ALLOCATED? IF NOT, GO FINISH UP 07360000
000824 4120 8044            00044   852          LA    2,PCBASIZE .         SET UP THE ARGUMENT LIST        07370000
000828 0AC6                         853          SVC   C'F' .               FREE IT                         07380000
00082A 4120 E048            00048   854          LA    2,SATEMP .           RESET REGISTER 2                07390000
00082E 5080 2004            00004   855 XDTHEN   ST    8,XFXADDR .          READY TO FREE THE PCB           07400000
000832 D203 2000 169E 00000 00E64   856          MVC   XFXSIZE,=A(LENPCB) . THE SIZE                        07410000
000838 0AC6                         857          SVC   C'F' .               FREE IT                         07420000
00083A 0A6B                         858          SVC   C',' .               LEAVE SMC                       07430000
00083C 8200 04D8            004D8   859          LPSW  RETURN .             AND RETURN                      07440000
000840 0A6F                         860 XDERR    SVC   C'?' .               IF PROCESS DOES NOT EXIST       07450000
                                    861          DROP  2,7,8,9                                              07460000
                  R:F  00000        862          USING PCB,15                                               07470000
                                    864 ********************************************************************** 07490000
                                    865 *                                                                    * 07500000
                                    866 *                          XH ROUTINE                                * 07510000
                                    867 *                                                                    * 07520000
                                    868 *        FUNCTION: TO HALT A JOB                                     * 07530000
                                    869 *       DATABASES: NONE                                              * 07540000
                                    870 *   ROUTINES USED: XS, XR                                            * 07550000
                                    871 *       PROCEDURE: SEND MESSAGE TO SUPERVISOR PROCESS FOR THIS JOB   * 07560000
                                    872 *                  INDICATING NORMAL TERMINATION; TRIES TO READ      * 07570000
                                    873 *                  MESSAGES FOREVER LOOPING; BLOCKS ITSELF, THEREBY  * 07580000
                                    874 *                  NEVER RETURNING.                                  * 07590000
                                    875 *    ERROR CHECKS: NONE                                              * 07600000
                                    876 *      INTERRUPTS: ON                                                * 07610000
                                    877 *     USER ACCESS: YES                                               * 07620000
                                    878 *        COMMENTS: USER NORMALLY USES THIS ROUTINE TO END A JOB.     * 07630000
                                    879 *                                                                    * 07640000
                                    880 ********************************************************************** 07650000
                    00842           882 XH       EQU   * .                  THE XH ROUTINE: HALT A JOB      07670000
                R:1 00842           883          USING *,1                                                  07680000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 883 IN /MBHFS/SOS4K.ASM ON VOLUME:
000842 4120 1012            00854   884          LA    2,XHMSG1 .           SEND A MESSAGE TO *IBSUP        07690000
000846 0AE2                         885          SVC   C'S' .               SEND IT                         07700000
000848 4120 102A            0086C   886 XHLOOP   LA    2,XHMSG2 .           READY TO READ A REPLY           07710000
00084C 0AD9                         887          SVC   C'R' .               WHICH NEVER COMES               07720000
00084E 47F0 1006            00848   888          B     XHLOOP .             BUT IF IT DOES WERE READY       07730000
000854                              889          DS    0F                                                   07740000
000854 5CC9C2E2E4D74040             890 XHMSG1   DC    CL8'*IBSUP' .        SAY TO *IBSUP                   07750000
00085C 0000000C                     891          DC    F'12' .              TWELVE CHARACTERS               07760000
000860 D7D9D6C7D9C1D440             892          DC    C'PROGRAM HALT' .    SAYING WERE OK                  07770000
00086C                              893 XHMSG2   DS    CL8 .                WHO SENDS US A MESSAGE          07780000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'842',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

000874 00000001                   894          DC    F'1' .            ONE CHARACTER                    07790000
000878                            895          DS    CL1,OH .          WHICH GOES HERE                  07800000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'842',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42

                                   897 ********************************************************************** 07820000
                                   898 *                                                                    * 07830000
                                   899 *                          XI ROUTINE                                * 07840000
                                   900 *                                                                    * 07850000
                                   901 *        FUNCTION: TO CHAIN A PCB ONTO PROCESS CHAINS                * 07860000
                                   902 *       DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS OF A PCB  * 07870000
                                   903 *   ROUTINES USED: NONE                                              * 07880000
                                   904 *       PROCEDURE: POINTER USED TO CHAIN PCB INTO ALL PCB CHAIN AND  * 07890000
                                   905 *                  THIS GROUP CHAIN RIGHT AFTER RUNNING PCB; RETURN. * 07900000
                                   906 *    ERROR CHECKS: NONE                                              * 07910000
                                   907 *      INTERRUPTS: OFF                                               * 07920000
                                   908 *     USER ACCESS: NO                                                * 07930000
                                   909 *                                                                    * 07940000
                                   910 ********************************************************************** 07950000

                        0087A      912 XI       EQU   * .              THE XI ROUTINE: THREAD IN A PCB      07970000
                  R:1   0087A      913          USING *,1                                                   07980000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 913 IN /MBHFS/SOS4K.ASM ON VOLUME:
00087A 58A0 F010           00010   914          L     10,PCBNPALL .     GET THE NEXT 'ALL' PCB               07990000
00087E 5020 F010           00010   915          ST    2,PCBNPALL .      STORE THIS PCB RIGNT AFTER MINE      08000000
                                   916          DROP  15                                                    08010000
                  R:A   00000      917          USING PCB,10                                                08020000
000882 5020 A014           00014   918          ST    2,PCBLPALL .      THE NEXT ONE DOWN POINTS BACK        08030000
                                   919          DROP  10                                                    08040000
                  R:2   00000      920          USING PCB,2                                                 08050000
000886 50F0 2014           00014   921          ST    15,PCBLPALL .     THIS PCB POINTS BACK                 08060000
00088A 50A0 2010           00010   922          ST    10,PCBNPALL .      AND FORWARD                         08070000
                                   923          DROP  2                                                     08080000
                  R:F   00000      924          USING PCB,15                                                08090000
00088E 58A0 F008           00008   925          L     10,PCBNPTG .      GET NEXT "THIS GROUP" PCB            08100000
000892 5020 F008           00008   926          ST    2,PCBNPTG .       RUNNING PCB POINTS TO NEW MEMBER     08110000
                                   927          DROP  15 .               OF PROCESS GROUP                    08120000
                  R:A   00000      928          USING PCB,10                                                08130000
000896 5020 A00C           0000C   929          ST    2,PCBLPTG .       NEXT PCB DOWN POINTS BACK            08140000
                                   930          DROP  10                                                    08150000
                  R:2   00000      931          USING PCB,2                                                 08160000
00089A 50F0 200C           0000C   932          ST    15,PCBLPTG .      AND WE POINT BACKWARD                08170000
00089E 50A0 2008           00008   933          ST    10,PCBNPTG .      AND FORWARD                          08180000
                                   934          DROP  2                                                     08190000
0008A2 8200 04D8           004D8   935          LPSW  RETURN .          RETURN                               08200000
                  R:F   00000      936          USING PCB,15                                                08210000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'87A',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42
                                  938 ********************************************************************** 08230000
                                  939 *                                                                      * 08240000
                                  940 *                            XJ ROUTINE                                * 08250000
                                  941 *                                                                      * 08260000
                                  942 *        FUNCTION: TO UNCHAIN A PCB FROM PROCESS CHAINS                * 08270000
                                  943 *       DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS OF A PCB    * 08280000
                                  944 *   ROUTINES USED: NONE                                                * 08290000
                                  945 *       PROCEDURE: POINTERS TO PCB IN ALL PCB CHAIN AND THIS GROUP     * 08300000
                                  946 *                  CHAIN MODIFIED WITHOUT FREEING STORAGE; RETURN.     * 08310000
                                  947 *    ERROR CHECKS: NONE                                                * 08320000
                                  948 *      INTERRUPTS: OFF                                                 * 08330000
                                  949 *     USER ACCESS: NO                                                  * 08340000
                                  950 *                                                                      * 08350000
                                  951 ********************************************************************** 08360000

                       008A6      953 XJ       EQU   * .                THE XJ ROUTINE: UNTHREAD A PCB       08380000
                  R:1  008A6      954          USING *,1                                                     08390000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 954 IN /MBHFS/SOS4K.ASM ON VOLUME:
                                  955          DROP  15                                                      08400000
                  R:2  00000      956          USING PCB,2                                                   08410000
0008A6 58B0 2014           00014  957          L     11,PCBLPALL .      GET PRECEDING PCB                  08420000
0008AA 58A0 2010           00010  958          L     10,PCBNPALL .       AND FOLLOWING ONE IN "ALL"        08430000
                                  959          DROP  2 .                 CHAIN                             08440000
                  R:B  00000      960          USING PCB,11                                                  08450000
0008AE 50A0 B010           00010  961          ST    10,PCBNPALL .      LAST POINTS TO NEXT                08460000
                                  962          DROP  11                                                      08470000
                  R:A  00000      963          USING PCB,10                                                  08480000
0008B2 50B0 A014           00014  964          ST    11,PCBLPALL .      NEXT POINTS TO LAST                08490000
                                  965          DROP  10                                                      08500000
                  R:2  00000      966          USING PCB,2                                                   08510000
0008B6 58B0 200C           0000C  967          L     11,PCBLPTG .       REDO FOR THIS GROUP PCB CHAIN      08520000
0008BA 58A0 2008           00008  968          L     10,PCBNPTG                                            08530000
                                  969          DROP  2                                                       08540000
                  R:B  00000      970          USING PCB,11                                                  08550000
0008BE 50A0 B008           00008  971          ST    10,PCBNPTG .       LAST POINTS TO NEXT                08560000
                                  972          DROP  11                                                      08570000
                  R:A  00000      973          USING PCB,10                                                  08580000
0008C2 50B0 A00C           0000C  974          ST    11,PCBLPTG .       NEXT POINTS TO LAST                08590000
                                  975          DROP  10                                                      08600000
0008C6 8200 04D8      004D8       976          LPSW  RETURN .           AND RETURN                         08610000
                  R:F  00000      977          USING PCB,15                                                  08620000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'8A6',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

                                    979 ********************************************************************** 08640000
                                    980 *                                                                    * 08650000
                                    981 *                          XN ROUTINE                                * 08660000
                                    982 *                                                                    * 08670000
                                    983 *       FUNCTION: TO FIND THE PCB FOR A PROCESS GIVEN ITS NAME ONLY  * 08680000
                                    984 *      DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS XNX        * 08690000
                                    985 *                   XNX       DS 0D                                  * 08700000
                                    986 *                   XNXNAME   DS CL8   NAME OF PROCESS               * 08710000
                                    987 *                   XNXADDR   DS A     ADDRESS OF PCB                * 08720000
                                    988 *  ROUTINES USED: NONE                                               * 08730000
                                    989 *      PROCEDURE: SEARCH THIS GROUP PCB CHAIN FOR NAME; IF FOUND,    * 08740000
                                    990 *                 STORE POINTER IN XNXADDR. IF NOT FOUND, STORE      * 08750000
                                    991 *                 ZERO IN XNXADDR; RETURN.                           * 08760000
                                    992 *   ERROR CHECKS: NONE                                               * 08770000
                                    993 *     INTERRUPTS: OFF                                                * 08780000
                                    994 *    USER ACCESS: YES                                                * 08790000
                                    995 *                                                                    * 08800000
                                    996 ********************************************************************** 08810000

                     008CA          998 XN       EQU   * .               THE XN ROUTINE: FIND A NAMED PCB     08830000
                  R:1  008CA        999          USING *,1                                                    08840000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 999 IN /MBHFS/SOS4K.ASM ON VOLUME:
                  R:2  00000       1000          USING XNX,2 .           THE ARG LIST                         08850000
0008CA 18AF                        1001          LR    10,15 .           FIRST PCB TO LOOK AT IS OURS         08860000
                                   1002          DROP  15                                                   08870000
                  R:A  00000       1003          USING PCB,10                                               08880000
0008CC 58A0 A008            00008  1004 XNXLOOP  L     10,PCBNPTG .      LOOK AT NEXT PCB                   08890000
0008D0 D507 A000 2000 00000 00000  1005          CLC   PCBNAME,XNXNAME . HAS IT THE RIGHT NAME?             08900000
0008D6 4780 101A            008E4  1006          BE    XNXFOUND .        IF YES, OH JOY.                    08910000
0008DA 19AF                        1007          CR    10,15 .           IF NOT, ARE WE THROUGH?            08920000
0008DC 4770 1002            008CC  1008          BNE   XNXLOOP .         IF NOT, TRY THE NEXT PCB           08930000
0008E0 41A0 0000            00000  1009          LA    10,0 .            ELSE, IT'S NOT HERE                08940000
0008E4 50A0 2008            00008  1010 XNXFOUND ST    10,XNXADDR .      FOUND IT. SAY WHERE.               08950000
0008E8 8200 04D8       004D8       1011          LPSW  RETURN .          AND RETURN                         08960000
                                   1012          DROP  2,10                                                 08970000
                  R:F  00000       1013          USING PCB,15                                               08980000
```

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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'8CA',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42
                                 1015 ********************************************************************** 09000000
                                 1016 *                                                                    * 09010000
                                 1017 *                          XR ROUTINE                                * 09020000
                                 1018 *                                                                    * 09030000
                                 1019 *        FUNCTION: TO READ A MESSAGE                                 * 09040000
                                 1020 *       DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS XRX       * 09050000
                                 1021 *                    XRX       DS 0D                                  * 09060000
                                 1022 *                    XRXNAME   DS CL8   NAME OF SENDER PROCESS        * 09070000
                                 1023 *                    XRXSIZE   DS F     SIZE OF MESSAGE TEXT          * 09080000
                                 1024 *                    XRXTEXT   DS C     TEXT OF MESSAGE               * 09090000
                                 1025 *   ROUTINES USED: XP, XEXC, XN, XCOM, XF                            * 09100000
                                 1026 *       PROCEDURE: USE XP ON MESSAGE SEMAPHORE RECEIVER TO SEE IF ANY * 09110000
                                 1027 *                  MESSAGES WAITING; IF NONE, PROCESS BLOCKED UNTIL  * 09120000
                                 1028 *                  THERE IS ONE; LOCK MESSAGE CHAIN; REMOVE A MESSAGE * 09130000
                                 1029 *                  FROM CHAIN AND UNLOCK IT; MOVE TEXT OF MESSAGE,   * 09140000
                                 1030 *                  PADDING WITH BLANKS OR TRUNCATING AS NECESSARY;   * 09150000
                                 1031 *                  INDICATE CORRECT MESSAGE LENGTH AND NAME OF       * 09160000
                                 1032 *                  MESSAGE SENDER; FREE STORAGE USED TO HOLD MESSAGE, * 09170000
                                 1033 *                  AND RETURN.                                       * 09180000
                                 1034 *    ERROR CHECKS: NONE                                              * 09190000
                                 1035 *      INTERRUPTS: ON                                                * 09200000
                                 1036 *     USER ACCESS: YES                                               * 09210000
                                 1037 *                                                                    * 09220000
                                 1038 ********************************************************************** 09230000

                      008EC      1040 XR       EQU   * .                THE XR ROUTINE: READ A MESSAGE       09250000
                  R:1 008EC      1041          USING *,1                                                     09260000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 1041 IN /MBHFS/SOS4K.ASM ON VOLUME:
0008EC 1872                      1042          LR    7,2                                                     09270000
                  R:7 00000      1043          USING XRX,7 .            ARG LIST                             09280000
0008EE 4120 F024          00024  1044          LA    2,PCBMSR .         SEE IF MESSAGES WAITING              09290000
0008F2 0AD7                      1045          SVC   C'P'                                                    09300000
0008F4 0A5A                      1046          SVC   C'!' .             ENTER SMC SECTION                    09310000
0008F6 4120 F01C          0001C  1047          LA    2,PCBMSC .         THEN LOCK THE MESSAGE CHAIN          09320000
0008FA 0AD7                      1048          SVC   C'P'                                                    09330000
0008FC 5850 F02C          0002C  1049          L     5,PCBFM .          GET THE FIRST MESSAGE                09340000
                  R:5 00000      1050          USING MSG,5                                                   09350000
000900 D203 F02C 5004 0002C 00004 1051          MVC   PCBFM,MSGNEXT .    REMEMBER THE NEXT                    09360000
000906 0AE5                      1052          SVC   C'V' .             UNLOCK THE MESSAGE CHAIN             09370000
000908 5860 7008          00008  1053          L     6,XRXSIZE .        GET THE BUFFER CAPACITY              09380000
00090C 5B60 1584          00E70  1054          S     6,=F'2' .          MINUS 1, MINUS 1                     09390000
000910 9240 700C      0000C      1055          MVI   XRXTEXT,C' ' .     MOVE IN A BLANK                      09400000
000914 4740 1030          0091C  1056          BM    XRNOB                                                   09410000
000918 4460 1080          0096C  1057          EX    6,XRFILL .         THEN FILL THE REST WITH BLANKS       09420000
00091C 4166 0001          00001  1058 XRNOB    LA    6,1(6) .           THEN GET PROPER BUFFER COUNT         09430000
000920 5960 5008          00008  1059          C     6,MSGSIZE .        COMPARE WITH MESSAGE LENGTH          09440000
000924 4740 1042          0092E  1060          BL    XRTHEN .           IF LESS, HANDLE ACCORDINGLY          09450000
000928 5860 5008          00008  1061          L     6,MSGSIZE .        ELSE COUNT FOR MVC IS MESSAGE        09460000
00092C 0660                      1062          BCTR  6,0 .               SIZE MINUS ONE                    09470000
00092E 1266                      1063 XRTHEN   LTR   6,6 .               ANY CHARACTERS TO MOVE?           09480000
000930 4740 104C          00938  1064          BM    XRAFT .            IF NOT, DON'T                        09490000
000934 4460 1086          00972  1065          EX    6,XRMOVE .         ELSE MOVE THEM                       09500000
000938 4166 0001          00001  1066 XRAFT    LA    6,1(6) .           THEN GET LENGTH                      09510000
00093C 5060 7008          00008  1067          ST    6,XRXSIZE .        STORE IT                             09520000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'8EC',R1  MSG,R5  XRX,R7  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                  HLASM R6.0  2016/08/29 08.42

000940 58A0 5000            00000  1068          L     10,MSGSENDR .       GET SENDER'S PCB                    09530000
                                   1069          DROP  15                                                      09540000
                    R:A  00000     1070          USING PCB,10                                                  09550000
000944 D207 7000 A000 00000 00000  1071          MVC   XRXNAME,PCBNAME .   AND STORE SENDER'S NAME            09560000
00094A 5860 5008            00008  1072          L     6,MSGSIZE .         GET SIZE OF MESSAGE TEXT            09570000
00094E 4166 000C            0000C  1073          LA    6,LENMSG(6) .        ADD SIZE OF MESSAGE BLOCK          09580000
000952 4166 0007            00007  1074          LA    6,7(6) .            AND TRUNCATE                        09590000
000956 5460 1580            00E6C  1075          N     6,=F'-8' .          UP                                  09600000
00095A 1825                        1076          LR    2,5 .               SET UP POINTER TO XFX               09610000
                    R:2  00000     1077          USING XFX,2                                                   09620000
00095C 5050 2004            00004  1078          ST    5,XFXADDR .         STORE ADDRESS                       09630000
000960 5060 2000            00000  1079          ST    6,XFXSIZE .         STORE SIZE                          09640000
000964 0AC6                        1080          SVC   C'F' .              AND FREE THE MESSAGE BLOCK          09650000
000966 0A6B                        1081          SVC   C',' .              LEAVE SMC                           09660000
000968 8200 04D8      004D8        1082          LPSW  RETURN .            AND RETURN                          09670000
00096C D200 700D 700C 0000D 0000C  1083 XRFILL   MVC   XRXTEXT+1,XRXTEXT . FILL WITH BLANKS                   09680000
000972 D200 700C 500C 0000C 0000C  1084 XRMOVE   MVC   XRXTEXT,MSGTEXT .   MOVE TEXT                          09690000
                                   1085          DROP  2,5,7,10                                                09700000
                    R:F  00000     1086          USING PCB,15                                                  09710000

                                   1088 ********************************************************************** 09730000
                                   1089 *                                                                    * 09740000
                                   1090 *                          XS ROUTINE                                * 09750000
                                   1091 *                                                                    * 09760000
                                   1092 *        FUNCTION: TO SEND A MESSAGE                                 * 09770000
                                   1093 *       DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS XSX       * 09780000
                                   1094 *                    XSX       DS 0D                                  * 09790000
                                   1095 *                    XSXNAME   DS CL8   NAME OF TARGET PROCESS        * 09800000
                                   1096 *                    XSXSIZE   DS F     SIZE OF TEXT                  * 09810000
                                   1097 *                    XSXTEXT   DS C     TEXT OF MESSAGE               * 09820000
                                   1098 *   ROUTINES USED: XP, XV, XEXC, XCOM, XA, XQUE                      * 09830000
                                   1099 *       PROCEDURE: USE XN TO GET POINTER TO PCB OF TARGET PROCESS;   * 09840000
                                   1100 *                  USE LENGTH OF MESSAGE AND XA TO ALLOCATE BLOCK FOR * 09850000
                                   1101 *                  MESSAGE; LOCK MESSAGE CHAIN OF TARGET PROCESS;    * 09860000
                                   1102 *                  PUT MESSAGE BLOCK AT END OF CHAIN; STORE SENDER   * 09870000
                                   1103 *                  NAME, SIZE, AND TEXT OF MESSAGE; UNLOCK CHAIN;    * 09880000
                                   1104 *                  INDICATE MESSAGE CHAIN IS ONE LONGER; RETURN.     * 09890000
                                   1105 *    ERROR CHECKS: IF NO PROCESS BY GIVEN NAME, ENTER XQUE.          * 09900000
                                   1106 *      INTERRUPTS: ON                                                * 09910000
                                   1107 *     USER ACCESS: YES                                               * 09920000
                                   1108 *                                                                    * 09930000
                                   1109 ********************************************************************** 09940000

                        00978      1111 XS       EQU   * .                 THE XS ROUTINE: SEND MESSAGES       09960000
                    R:1 00978      1112          USING *,1                                                     09970000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 1112 IN /MBHFS/SOS4K.ASM ON VOLUME:
000978 1872                        1113          LR    7,2                                                     09980000
                    R:7  00000     1114          USING XSX,7 .             ARG LIST                            09990000
00097A 4120 E048            00048  1115          LA    2,SATEMP .          READY TO CALL OUT                   10000000
                    R:2  00000     1116          USING XNX,2 .             ABOUT TO CALL XN                    10010000
00097E D207 2000 7000 00000 00000  1117          MVC   XNXNAME,XSXNAME .   GIVE NAME OF TARGET PROCESS         10020000
000984 0AD5                        1118          SVC   C'N' .              SEE WHERE IT IS                     10030000
```

```
 ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'978',R1  XNX,R2  XSX,R7  SA,R14  PCB,R15

 LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                  HLASM R6.0  2016/08/29 08.42

000986 5840 2008            00008  1119          L     4,XNXADDR .          GET THE POINTER                    10040000
00098A 1244                        1120          LTR   4,4 .                IS THERE INDEED ONE?               10050000
00098C 4780 108A            00A02  1121          BZ    XSERR .              IF NOT, ERROR                      10060000
                  R:4  00000       1122          USING PCB,4                                                   10070000
** ASMA300W USING OVERRIDDEN BY A PRIOR ACTIVE USING ON STATEMENT NUMBER 1086
** ASMA435I RECORD 1122 IN /MBHFS/SOS4K.ASM ON VOLUME:
                                   1123          DROP  2,15                                                    10080000
                  R:2  00000       1124          USING XAX,2 .              READY TO CALL XA                   10090000
000990 0A5A                        1125          SVC   C'!' .               ENTERING SMC SECTION               10100000
000992 5830 7008            00008  1126          L     3,XSXSIZE .          GET THE STATED SIZE                10110000
000996 4133 000C            0000C  1127          LA    3,LENMSG(3) .        PLUS THE AMOUNT OF OVERHEAD        10120000
00099A 4133 0007            00007  1128          LA    3,7(3) .             AND TRUNCATE                       10130000
00099E 5430 14F4            00E6C  1129          N     3,=F'-8' .           UP                                 10140000
0009A2 5030 2000            00000  1130          ST    3,XAXSIZE .          THAT'S THE SIZE OF THE REGION TO   10150000
0009A6 D203 2008 14F0 00008 00E68  1131          MVC   XAXALGN,=F'8' .      ALLOCATE, ON A DOUBLEWORD BOUND    10160000
0009AC 0AC1                        1132          SVC   C'A' .               SO ALLOCATE ALREADY                10170000
0009AE 5850 2004            00004  1133          L     5,XAXADDR .          GET THE ADDRESS                    10180000
                                   1134          DROP  2                                                       10190000
0009B2 4120 401C            0001C  1135          LA    2,PCBMSC .           GET THE MESSAGE CHAIN SEMAPHORE    10200000
0009B6 0AD7                        1136          SVC   C'P' .                AND LOCK IT                       10210000
0009B8 4180 402C            0002C  1137          LA    8,PCBFM .            THEN START DOWN THE MESSAGE        10220000
0009BC 5890 402C            0002C  1138          L     9,PCBFM .             CHAIN                             10230000
                  R:9  00000       1139          USING MSG,9                                                   10240000
0009C0 1299                        1140 XSLOOP   LTR   9,9 .                ARE WE THROUGH?                    10250000
0009C2 4780 105A            009D2  1141          BZ    XSADD .              IF SO ADD IT ON                    10260000
0009C6 4180 9004            00004  1142          LA    8,MSGNEXT .          IF NOT, ON TO THE NEXT             10270000
0009CA 5890 9004            00004  1143          L     9,MSGNEXT                                               10280000
0009CE 47F0 1048            009C0  1144          B     XSLOOP .             AND TRY AGAIN                      10290000
0009D2 5058 0000            00000  1145 XSADD    ST    5,0(8) .             CHAIN OURS ON THE END              10300000
                                   1146          DROP  9                                                       10310000
                  R:5  00000       1147          USING MSG,5                                                   10320000
0009D6 D203 5004 14E8 00004 00E60  1148          MVC   MSGNEXT,=A(0) .      SET NEXT POINTER NULL              10330000
0009DC 50F0 5000            00000  1149          ST    15,MSGSENDR .        STORE THE SENDER                   10340000
0009E0 5860 7008            00008  1150          L     6,XSXSIZE .          GET THE TEXT LENGTH                10350000
0009E4 5060 5008            00008  1151          ST    6,MSGSIZE .          AND STORE IT                       10360000
0009E8 0660                        1152          BCTR  6,0 .                ONE LESS                           10370000
0009EA 1266                        1153          LTR   6,6 .                TEST LENGTH                        10380000
0009EC 4740 107C            009F4  1154          BM    XSAFT .              IF ZERO, NOTHING TO MOVE           10390000
0009F0 4460 108C            00A04  1155          EX    6,XSMOVE .           ELSE, MOVE IT                      10400000
0009F4 0AE5                        1156 XSAFT    SVC   C'V' .               UNLOCK THE MESSAGE CHAIN           10410000
0009F6 4120 4024            00024  1157          LA    2,PCBMSR .           THEN SAY THERE'S                   10420000
0009FA 0AE5                        1158          SVC   C'V' .                ONE MORE MESSAGE                  10430000
0009FC 0A6B                        1159          SVC   C',' .               LEAVE SMC SECTION                  10440000
0009FE 8200 04D8       004D8       1160          LPSW  RETURN .             AND RETURN                         10450000
000A02 0A6F                        1161 XSERR    SVC   C'?'                                                    10460000
000A04 D200 500C 700C 0000C 0000C  1162 XSMOVE   MVC   MSGTEXT,XSXTEXT .    THE MOVE FOR THE TEXT              10470000
                                   1163          DROP  4,5,7                                                   10480000
                  R:F  00000       1164          USING PCB,15                                                  10490000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'978',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                  HLASM R6.0  2016/08/29 08.42
                                 1166 ********************************************************************** 10510000
                                 1167 *                                                                    * 10520000
                                 1168 *                            XY ROUTINE                              * 10530000
                                 1169 *                                                                    * 10540000
                                 1170 *        FUNCTION: TO START A PROCESS                                * 10550000
                                 1171 *       DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS XYX       * 10560000
                                 1172 *                    XYX       DS 0D                                  * 10570000
                                 1173 *                    XYXNAME   DS CL8   NAME OF PROCESS TO BE STARTED * 10580000
                                 1174 *                    XYXADDR   DS A     STARTING ADDRESS OF PROCESS  * 10590000
                                 1175 *   ROUTINES USED: XN, XEXC, XCOM, XQUE                              * 10600000
                                 1176 *       PROCEDURE: USE XN TO GET POINTER TO THE PCB OF PROCESS TO BE * 10610000
                                 1177 *                  STARTED; STORE IN PCB INTERRUPT SAVE AREA REGISTERS* 10620000
                                 1178 *                  AND PSW WITH STARTING ADDRESS AS SENT FROM STARTING* 10630000
                                 1179 *                  PROCESS; STOPPED BIT TURNED OFF; RETURN.          * 10640000
                                 1180 *    ERROR CHECKS: IF NO PROCESS BY GIVEN NAME, XQUE ENTERED.        * 10650000
                                 1181 *      INTERRUPTS: OFF                                               * 10660000
                                 1182 *     USER ACCESS: YES                                               * 10670000
                                 1183 *                                                                    * 10680000
                                 1184 ********************************************************************** 10690000

                      00A0A      1186 XY       EQU   * .               THE XY ROUTINE: START A PROCESS      10710000
                 R:1  00A0A      1187          USING *,1                                                    10720000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 1187 IN /MBHFS/SOS4K.ASM ON VOLUME:
000A0A 1872                      1188          LR    7,2                                                    10730000
                 R:7  00000      1189          USING XYX,7 .           THE ARG LIST                         10740000
000A0C 4120 E048           00048 1190          LA    2,SATEMP .        READY TO CALL OUT                    10750000
                 R:2  00000      1191          USING XNX,2                                                  10760000
000A10 D207 2000 7000 00000 00000 1192          MVC   XNXNAME,XYXNAME . GIVE XN A NAME                     10770000
000A16 0AD5                      1193          SVC   C'N' .            CALL XN                              10780000
000A18 58A0 2008           00008 1194          L     10,XNXADDR .      WHERE IS THE PCB?                    10790000
000A1C 12AA                      1195          LTR   10,10 .            OR IS THERE ONE?                    10800000
000A1E 4780 1036           00A40 1196          BZ    XYERR .           IF NOT, OH HISS BOO                  10810000
                                 1197          DROP  2,14,15                                                10820000
                 R:A  00000      1198          USING PCB,10                                                 10830000
000A22 41D0 A04C           0004C 1199          LA    13,PCBISA .       GET INTO THAT PCB'S ISA              10840000
                 R:D  00000      1200          USING SA,13                                                  10850000
000A26 D207 D000 E000 00000 00000 1201          MVC   SAPSW,(SAPSW-SA)(14) . GIVE IT THE CALLER'S PSW      10860000
000A2C D202 D005 7009 00005 00009 1202          MVC   SAPSW+5(3),XYXADDR+1 . BUT AT THE REQUESTED ADDRESS  10870000
000A32 D23F D008 E008 00008 00008 1203          MVC   SAREGS,(SAREGS-SA)(14) .GIVE IT HIS REGISTERS        10880000
000A38 9200 A018           00018 1204          MVI   PCBSTOPT,X'00' .  IT'S NO LONGER STOPPED             10890000
000A3C 8200 04D8           004D8 1205          LPSW  RETURN .          AND RETURN                           10900000
000A40 0A6F                      1206 XYERR    SVC   C'?' .            WE DONE BAD                          10910000
                                 1207          DROP  7,10,13                                                10920000
                 R:E  00000      1208          USING SA,14                                                  10930000
                 R:F  00000      1209          USING PCB,15                                                 10940000
```

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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'A0A',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42

                                    1211 ********************************************************************** 10960000
                                    1212 *                                                                    * 10970000
                                    1213 *                            XZ ROUTINE                              * 10980000
                                    1214 *                                                                    * 10990000
                                    1215 *        FUNCTION: TO STOP A PROCESS                                 * 11000000
                                    1216 *       DATABASES: UPON ENTRY, REGISTER 2 CONTAINS ADDRESS XZX       * 11010000
                                    1217 *                    XZX       DS 0D                                 * 11020000
                                    1218 *                    XZXNAME   DS CL8   NAME OF PROCESS TO BE STOPPED * 11030000
                                    1219 *   ROUTINES USED: XN, XEXC, XCOM, XQUE, XP                          * 11040000
                                    1220 *       PROCEDURE: CHECK THAT USER PROCESS CAN'T STOP SYSTEM          * 11050000
                                    1221 *                  PROCESS; USE XN TO GET PCB POINTER; IF IN SMC, SET * 11060000
                                    1222 *                  STOP WAITING BIT AND BLOCK SELF UNTIL STOP        * 11070000
                                    1223 *                  PERFORMED; ELSE SET STOPPED BIT, AND RETURN.      * 11080000
                                    1224 *    ERROR CHECKS: IF NO PROCESS BY GIVEN NAME OR USER TRIES TO      * 11090000
                                    1225 *                  STOP A SYSTEM PROCESS, XQUE ENTERED.              * 11100000
                                    1226 *      INTERRUPTS: ON                                                * 11110000
                                    1227 *     USER ACCESS: YES                                               * 11120000
                                    1228 *                                                                    * 11130000
                                    1229 ********************************************************************** 11140000

                        00A42       1231 XZ       EQU   * .                THE XZ ROUTINE: STOP A PROCESS       11160000
                   R:1  00A42       1232          USING *,1                                                     11170000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 1232 IN /MBHFS/SOS4K.ASM ON VOLUME:
000A42 1872                         1233          LR    7,2                                                   11180000
                   R:7  00000       1234          USING XZX,7 .            ARG LIST                             11190000
000A44 955C F000       00000        1235          CLI   PCBNAME,C'*' .     IS STOPPER A * PROCESS               11200000
000A48 4780 1012             00A54  1236          BE    XZFINE .           THAT'S OK                            11210000
000A4C 955C 7000       00000        1237          CLI   XZXNAME,C'*' .      IF NOT, IS STOPPEE A * ?           11220000
000A50 4780 104A             00A8C  1238          BE    XZERR .            CAN'T DO THAT                        11230000
000A54 4120 E048             00048  1239 XZFINE   LA    2,SATEMP .         READY TO CALL OUT                    11240000
                   R:2  00000       1240          USING XNX,2 .            WILL CALL XN                         11250000
000A58 D207 2000 7000 00000 00000   1241          MVC   XNXNAME,XZXNAME .  GIVE IT THE NAME                     11260000
000A5E 0AD5                         1242          SVC   C'N' .             AND DO THE CALL                      11270000
000A60 58A0 2008             00008  1243          L     10,XNXADDR .       GET THE PCB'S ADDRESS                11280000
000A64 12AA                         1244          LTR   10,10 .            SEE IF NULL                          11290000
000A66 4780 104A             00A8C  1245          BZ    XZERR .            IF SO, ERROR                         11300000
000A6A 0A5A                         1246          SVC   C'!' .             ENTER SMC                            11310000
                                    1247          DROP  2,15                                                    11320000
                   R:A  00000       1248          USING PCB,10                                                  11330000
000A6C 9500 A01A       0001A        1249 XZSTOP   CLI   PCBINSMC,X'00' .   SEE IF IN SMC                       11340000
000A70 4770 103C             00A7E  1250          BNE   XZINSMC .          IF SO, BAD                           11350000
000A74 92FF A018       00018        1251          MVI   PCBSTOPT,X'FF' .   ELSE JUST STOP IT                    11360000
000A78 0A6B                         1252          SVC   C',' .             LEAVE SMC                            11370000
000A7A 8200 04D8       004D8        1253          LPSW  RETURN .           AND RETURN                           11380000
000A7E 92FF A01B       0001B        1254 XZINSMC  MVI   PCBSW,X'FF' .      IF IN SMC, SAY STOP WAITING          11390000
000A82 4120 A034             00034  1255          LA    2,PCBSRS .         AND STOP OURSELVES AGAINST           11400000
000A86 0AD7                         1256          SVC   C'P' .              A SEMAPHORE                         11410000
000A88 47F0 102A             00A6C  1257          B     XZSTOP .           THEN WE CAN REALLY STOP IT           11420000
000A8C 0A6F                         1258 XZERR    SVC   C'?' .             AN ERROR                             11430000
                                    1259          DROP  10,7                                                    11440000
                   R:F  00000       1260          USING PCB,15                                                  11450000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'A42',R1  SA,R14  PCB,R15

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42
                                 1262 ********************************************************************** 11470000
                                 1263 *                                                                    * 11480000
                                 1264 *                          XQUE ROUTINE                              * 11490000
                                 1265 *                                                                    * 11500000
                                 1266 *        FUNCTION: TO SIGNAL ERROR CONDITION                         * 11510000
                                 1267 *       DATABASES: NONE                                              * 11520000
                                 1268 *   ROUTINES USED: XR, XS                                            * 11530000
                                 1269 *       PROCEDURE: SEND MESSAGE TO SUPERVISOR PROCESS FOR THIS JOB   * 11540000
                                 1270 *                  INDICATING ABNORMAL TERMINATION; TRY TO READ      * 11550000
                                 1271 *                  MESSAGES, FOREVER LOOPING; BLOCK ITSELF, THEREBY  * 11560000
                                 1272 *                  NEVER RETURNING.                                  * 11570000
                                 1273 *    ERROR CHECKS: NONE                                              * 11580000
                                 1274 *      INTERRUPTS: OFF                                               * 11590000
                                 1275 *     USER ACCESS: YES                                               * 11600000
                                 1276 *                                                                    * 11610000
                                 1277 ********************************************************************** 11620000

                      00A8E      1279 XQUE     EQU   * .                THE XQUE ROUTINE: ERROR!           11640000
                  R:1 00A8E      1280          USING *,1                                                   11650000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 1280 IN /MBHFS/SOS4K.ASM ON VOLUME:
000A8E 4120 1012          00AA0  1281          LA    2,XQUEM1 .         SEND AN ERROR MESSAGE TO *IBSUP    11660000
000A92 0AE2                      1282          SVC   C'S'                                                  11670000
000A94 4120 102A          00AB8  1283 XQUELOOP LA    2,XQUEM2 .         WAIT FOR REPLY                     11680000
000A98 0AD9                      1284          SVC   C'R'                                                  11690000
000A9A 47F0 1006          00A94  1285          B     XQUELOOP .         BUT IGNORE IT                      11700000
000AA0                           1286          DS    OF                                                    11710000
000AA0 5CC9C2E2E4D74040          1287 XQUEM1   DC    CL8'*IBSUP'                                           11720000
000AA8 0000000C                  1288          DC    F'12'                                                 11730000
000AAC D7D9D6C7D9C1D440          1289          DC    CL12'PROGRAM FLOP'                                    11740000
000AB8                           1290 XQUEM2   DS    CL8                                                   11750000
000AC0 00000001                  1291          DC    F'1'                                                  11760000
000AC4                           1292          DS    CL1,OH                                                11770000
                                 1293          DROP  14,15                                                 11780000
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'A8E',R1

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

                                  1295 ********************************************************************** 11800000
                                  1296 *                                                                    * 11810000
                                  1297 *                        INPUT/OUTPUT ROUTINES                       * 11820000
                                  1298 *                                                                    * 11830000
                                  1299 ********************************************************************** 11840000

                                  1301 ********************************************************************** 11860000
                                  1302 *                                                                    * 11870000
                                  1303 *            SYSTEM SUPPLIED DEVICE HANDLER FOR READERS              * 11880000
                                  1304 *                                                                    * 11890000
                                  1305 ********************************************************************** 11900000

                       00AC6      1307 RDRHANDL EQU   * .               THE READER HANDLER                    11920000
                  R:3  00000      1308          USING UCB,3 .           STARTED WITH REG3 -> UCB              11930000
000AC6 0510                       1309          BALR  1,0                                                     11940000
                  R:1  00AC8      1310          USING *,1 .             ESTABLISH ADDRESSING                  11950000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 1310 IN /MBHFS/SOS4K.ASM ON VOLUME:
000AC8 4120 1160            00C28 1311          LA    2,RDRHSEM .       LOCK OURSELVES UNTIL WE SET UP        11960000
000ACC 0AD7                       1312          SVC   C'P' .             AN AUTOMATIC STORAGE AREA             11970000
000ACE 4120 1174            00C3C 1313          LA    2,RDRHAAS .       READY TO ALLOCATE                     11980000
                  R:2  00000      1314          USING XAX,2                                                   11990000
000AD2 0AC5                       1315          SVC   C'E' .            ALLOCATE                              12000000
000AD4 58C0 2004            00004 1316          L     12,XAXADDR .      GET A PTR                             12010000
                                  1317          DROP  2                                                       12020000
000AD8 4120 1160            00C28 1318          LA    2,RDRHSEM .       AND UNBLOCK OURSELVES                 12030000
000ADC 0AE5                       1319          SVC   C'V'                                                    12040000
000ADE 8840 0010            00010 1320          SRL   4,16 .            SHIFT KEY                             12050000
000AE2 1BAA                       1321          SR    10,10 .           CLEAR REG 10                          12060000
                  R:C  00000      1322          USING RDRHAS,12 .       AUTOMATIC AREA                        12070000
000AE4 9200 C07A      0007A       1323          MVI   JOBBIT,X'00' .    INITIALIZE                            12080000
000AE8 4160 C000            00000 1324          LA    6,RDRHCCB .       GET PTR TO CCB                        12090000
000AEC 4120 C008            00008 1325 RDRHLOOP LA    2,RDRHMSG .       TRY TO READ A MESSAGE                 12100000
                  R:2  00000      1326          USING XRX,2                                                   12110000
000AF0 D203 2008 13A0 00008 00E68 1327          MVC   XRXSIZE,=F'8' .   WE CAN TAKE 8 CHARS                   12120000
000AF6 0AD9                       1328          SVC   C'R' .            READ IT                               12130000
000AF8 D503 13AC 200C 00E74 0000C 1329          CLC   =C'READ',XRXTEXT . IF FIRST WORD IS READ, OK            12140000
000AFE 4770 1024            00AEC 1330          BNE   RDRHLOOP .        ELSE IGNORE                           12150000
000B02 5850 2010            00010 1331          L     5,XRXTEXT+4 .     GET 2ND WORD OF TEXT                  12160000
                                  1332          DROP  2                                                       12170000
000B06 4120 3004            00004 1333          LA    2,UCBUS .         LOCK THE UCB AND IT'S UNIT            12180000
000B0A 0AD7                       1334          SVC   C'P'                                                    12190000
000B0C 4120 C008            00008 1335          LA    2,RDRHMSG .       RESET ADDRESSING POINTER              12200000
                  R:2  00000      1336          USING XRX,2                                                   12210000
000B10 95FF C07A      0007A       1337          CLI   JOBBIT,X'FF' .    HAVE WE JUST READ $JOB CARD?          12220000
000B14 4770 1066            00B2E 1338          BNE   RDRHMORE .        IF NO, GO CHECK PROTECTION, ELSE      12230000
000B18 955C 2000      00000       1339          CLI   XRXNAME,C'*' .    IS JSP CALLING US?                    12240000
000B1C 4770 10F8            00BC0 1340          BNE   RDRHNO .          IF NOT, TELL HIM NO.                  12250000
000B20 D24F 5000 C01C 00000 0001C 1341          MVC   0(80,5),RDRHTEMP . IF IT IS, GIVE JSP THE $JOB CARD     12260000
000B26 9200 C07A      0007A       1342          MVI   JOBBIT,X'00' .    SAY WE DON'T HAVE $JOB WAITING        12270000
000B2A 47F0 1114            00BDC 1343          B     RDRHSOK .          AND SEND MESSAGE BACK                12280000
                                  1344          DROP  2                                                       12290000
000B2E 955C C008      00008       1345 RDRHMORE CLI   RDRHMSG,C'*' .    IS SYSTEM CALLING?                    12300000
000B32 4780 1098            00B60 1346          BE    RDRHPOK .         THEN PROTECTION OK, ELSE              12310000
000B36 18B5                       1347          LR    11,5 .            GET ADDRESS THAT'S TO HOLD CARD,      12320000
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'AC8',R1  UCB,R3  RDRHAS,R12

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                  HLASM R6.0  2016/08/29 08.42

000B38 54B0 116C            00C34  1348          N     11,PROTCON1 .       GET THE PAGE BOUNDARY                12330002
                                   1349 *        ISKE  10,11 .             FIND STORAGE KEY                     12334002
000B3C B22900AB                    1350          DC    X'B22900AB'         ASSEMBLER (XF) DOESN'T SUPPORT ISKE  12338002
000B40 54A0 1170            00C38  1351          N     10,PROTCON2 .       IGNORE LOW ORDER BITS                12342002
000B44 19A4                        1352          CR    10,4 .              DOES IT MATCH OURS?                  12350000
000B46 4770 10F8            00BC0  1353          BNE   RDRHNO .            IF NOT, TELL HIM NO                  12360000
000B4A 41B5 004F            0004F  1354          LA    11,79(5) .          CHECK LAST BYTE ADDR OF CARD         12370000
000B4E 54B0 116C            00C34  1355          N     11,PROTCON1 .       GET THE PAGE BOUNDARY                12380002
                                   1356 *        ISKE  10,11 .             FIND STORAGE KEY                     12384002
000B52 B22900AB                    1357          DC    X'B22900AB'         ASSEMBLER (XF) DOESN'T SUPPORT ISKE  12388002
000B56 54A0 1170            00C38  1358          N     10,PROTCON2 .       IGNORE LOW ORDER BITS                12392002
000B5A 19A4                        1359          CR    10,4 .              DOES IT MATCH OURS?                  12400000
000B5C 4770 10F8            00BC0  1360          BNE   RDRHNO .            IF NOT, TELL HIM NO                  12410000
000B60 5450 1168            00C30  1361 RDRHPOK  N     5,CCBCON1 .         MAKE ADDRESS INTO                    12420000
000B64 5050 C000            00000  1362          ST    5,RDRHCCB .         A CCW (OR CCB)                       12430000
000B68 9602 C000      00000        1363          OI    RDRHCCB,X'02'                                            12440000
000B6C D203 C004 13B0 00004 00E78  1364          MVC   RDRHCCB+4,=F'80' .  WE'LL READ EIGHTY CHARACTERS         12450000
000B72 D203 3014 1398 00014 00E60  1365          MVC   UCBCSW(4),=A(0) .   CLEAR THE LAST CSW THERE             12460000
000B78 D203 3018 1398 00018 00E60  1366          MVC   UCBCSW+4(4),=A(0)                                        12470000
000B7E 4120 0194            00194  1367          LA    2,CAWSEM .          LOCK THE CAW                         12480000
000B82 0AD7                        1368          SVC   C'P'                                                     12490000
000B84 5060 0048            00048  1369          ST    6,CAW .             THAT'S THE CAW                       12500000
000B88 5870 3000            00000  1370          L     7,UCBADDR .         GET THE UNIT ADDRESS                 12510000
000B8C 9C00 7000      00000        1371          SIO   0(7) .              START THE I/O                        12520000
000B90 4770 1154            00C1C  1372          BNZ   RDSTATUS .          BRANCH IF SIO UNSUCCESSFUL           12530000
000B94 0AE5                        1373          SVC   C'V' .              THEN UNLOCK THE CAW                  12540000
000B96 4120 300C            0000C  1374 RDRHWAIT LA    2,UCBWS .           NOW WAIT FOR AN INTERRUPT            12550000
000B9A 0AD7                        1375          SVC   C'P'                                                     12560000
000B9C 9185 3018      00018        1376          TM    UCBCSW+4,X'85' .    CHECK THE STATUS                     12570003
000BA0 4780 10CE            00B96  1377          BZ    RDRHWAIT .          IF NOT FINISHED, WAIT                12580000
000BA4 9101 3018      00018        1378          TM    UCBCSW+4,X'01' .    CHECK FOR EXCEPTION                  12590000
000BA8 4710 10F0            00BB8  1379          BO    RDRHEXC .           IF YES, IGNORE THIS INTERRUPT        12600003
000BAC 9180 3018      00018        1380          TM    UCBCSW+4,X'80' .    IF NO, CHECK FOR ATTENTION           12602003
000BB0 4710 1098            00B60  1381          BO    RDRHPOK .           IF YES, TRY TO RESTART THE I/O       12604003
000BB4 47F0 1102            00BCA  1382          B     RDRHOK .            ELSE, ALL IS GROOVY                  12606003
000BB8 94FE 3018      00018        1383 RDRHEXC  NI    UCBCSW+4,X'FE' .    CLEAR EXCEPTION ..                   12608003
000BBC 47F0 10CE            00B96  1384          B     RDRHWAIT .            .. AND CONTINUE WAITING            12610003
000BC0 D201 C078 13CC 00078 00E94  1385 RDRHNO   MVC   RDRHM+12(2),=C'NO' . MESSAGE BACK IS NO                 12612003
000BC6 47F0 111A            00BE2  1386          B     RDRHSEND .          GET READY TO SEND                    12620000
000BCA 955C C008      00008        1387 RDRHOK   CLI   RDRHMSG,C'*' .      IS THE SYSTEM CALLING?               12630000
000BCE 4780 1114            00BDC  1388          BE    RDRHSOK .           THAT'S FINE. OTHERWISE,              12640000
000BD2 D504 13D0 5000 00E98 00000  1389          CLC   =C'$JOB,',0(5) .    WAS IT A $JOB CARD?                  12650000
000BD8 4780 1136            00BFE  1390          BE    ENDADATA .          OOPS! WE HIT END OF DATA STREAM       12660000
000BDC D201 C078 13CE 00078 00E96  1391 RDRHSOK  MVC   RDRHM+12(2),=C'OK' .GROOVINESS MESSAGE                   12670000
000BE2 D203 C074 13A8 00074 00E70  1392 RDRHSEND MVC   RDRHM+8(4),=F'2' .   SAY THERE ARE 2 CHARACTERS          12680000
000BE8 D207 C06C C008 0006C 00008  1393          MVC   RDRHM+0(8),RDRHMSG+0 . SEND BACK TO SAME GUY             12690000
000BEE 4120 3004            00004  1394          LA    2,UCBUS .           NOW UNLOCK UCB AND UNIT              12700000
000BF2 0AE5                        1395          SVC   C'V'                                                     12710000
000BF4 4120 C06C            0006C  1396          LA    2,RDRHM .           SET UP MESSAGE                       12720000
000BF8 0AE2                        1397          SVC   C'S' .               AND SEND IT                         12730000
000BFA 47F0 1024            00AEC  1398          B     RDRHLOOP                                                 12740000
000BFE D201 C078 13CC 00078 00E94  1399 ENDADATA MVC   RDRHM+12(2),=C'NO' . TELL USER NO MORE CARDS             12750000
000C04 D24F C01C 5000 0001C 00000  1400          MVC   RDRHTEMP(80),0(5) . SAVE THE $JOB CARD                   12760000
000C0A 9240 5000      00000        1401          MVI   0(5),C' ' .         BLANK OUT THE USER'S COPY            12770000
000C0E D24E 5001 5000 00001 00000  1402          MVC   1(79,5),0(5)                                             12780000
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'AC8',R1  UCB,R3  RDRHAS,R12

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42

000C14 92FF C07A      0007A        1403          MVI   JOBBIT,X'FF' .      INDICATE WE HAVE A NEW $JOB CARD     12790000
000C18 47F0 111A            00BE2  1404          B     RDRHSEND .          AND SEND THE MESSAGE BACK            12800000
000C1C 0AE5                        1405 RDSTATUS SVC   C'V' .              UNLOCK THE CAW                       12810000
000C1E 4120 300C            0000C  1406          LA    2,UCBWS .           AND WAIT FOR AN INTERRUPT            12820000
000C22 0AD7                        1407          SVC   C'P'                                                     12830000
000C24 47F0 1098            00B60  1408          B     RDRHPOK .           AND TRY TO RESTART THE I/O           12840000
                                   1409          DROP  3,12                                                     12850000

000C28 0000000100000000            1411 RDRHSEM  DC    F'1,0'                                                   12870000
000C30 00FFFFFF                    1412 CCBCON1  DC    X'00FFFFFF' MASK                                         12880000
000C34 00FFF000                    1413 PROTCON1 DC    X'00FFF000'         PAGE ALIGNMENT                       12890002
000C38 FFFFFFF0                    1414 PROTCON2 DC    X'FFFFFFF0'         IGNORE LOW ORDER BITS                12893002
000C3C 00000080                    1415 RDRHAAS  DC    A(LENRDRHA) ALLOCATE ARGLIST FOR STORAGE                 12900000
000C40 00000000                    1416          DC    F'0'                                                     12910000
000C44 00000008                    1417          DC    F'8'                                                     12920000


                                   1419 ********************************************************************** 12940000
                                   1420 *                                                                    * 12950000
                                   1421 *            SYSTEM SUPPLIED DEVICE HANDLER FOR PRINTERS             * 12960000
                                   1422 *                                                                    * 12970000
                                   1423 ********************************************************************** 12980000

                        00C48      1425 PRTHANDL EQU   * .                 THE PRINTER HANDLER                  13000000
                  R:3   00000      1426          USING UCB,3 .             ENTERED WITH REG3 -> THE UCB         13010000
000C48 0510                        1427          BALR  1,0                                                      13020000
                  R:1   00C4A      1428          USING *,1 .               ESTABLISH ADDRESSING                 13030000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 1428 IN /MBHFS/SOS4K.ASM ON VOLUME:
000C4A 4120 1116            00D60  1429          LA    2,PRTHSEM .         LOCK UNTIL ALLOCATE STORAGE          13040000
000C4E 0AD7                        1430          SVC   C'P' .                                                   13050000
000C50 4120 111E            00D68  1431          LA    2,PRTHAAS .         READY TO ALLOCATE                    13060000
                  R:2   00000      1432          USING XAX,2                                                    13070000
000C54 0AC5                        1433          SVC   C'E' .              ALLOCATE                             13080000
000C56 58C0 2004            00004  1434          L     12,XAXADDR .        GET THE ADDRESS                      13090000
                                   1435          DROP  2                                                        13100000
000C5A 4120 1116            00D60  1436          LA    2,PRTHSEM .                                              13110000
000C5E 0AE5                        1437          SVC   C'V'                UNLOCK TO ROUTINE                    13120000
000C60 8840 0010            00010  1438          SRL   4,16 .              SHIFT KEY                            13130000
000C64 1BAA                        1439          SR    10,10 .             CLEAR REG 10                         13140000
                  R:C   00000      1440          USING PRTHAS,12 .         ADDRESSING IN THE AUTO AREA          13150000
000C66 4160 C000            00000  1441          LA    6,PRTHCCB .         MAKE A CAW                           13160000
000C6A 4120 C008            00008  1442 PRTHLOOP LA    2,PRTHMSG .         READY TO READ A MESSAGE              13170000
                  R:2   00000      1443          USING XRX,2                                                    13180000
000C6E D203 2008 121E 00008 00E68  1444          MVC   XRXSIZE,=F'8' .     WE CAN TAKE 8 CHARACTERS             13190000
000C74 0AD9                        1445          SVC   C'R' .              READ IT                              13200000
000C76 5850 2010            00010  1446          L     5,XRXTEXT+4 .       LOAD THE ADDRESS                     13210000
000C7A D503 1232 200C 00E7C 0000C  1447          CLC   =C'PRIN',XRXTEXT .  IS IT A PRIN REQUEST?                13220000
000C80 4780 1048            00C92  1448          BE    PRTHPRIN                                                 13230000
000C84 D503 1236 200C 00E80 0000C  1449          CLC   =C'STC1',XRXTEXT .  OR A SKIP REQUEST?                   13240000
000C8A 4780 1096            00CE0  1450          BE    PRTHSTC1                                                 13250000
000C8E 47F0 1020            00C6A  1451          B     PRTHLOOP .          IF NEITHER, IGNORE                   13260000
                                   1452          DROP  2                                                        13270000
000C92 4120 3004            00004  1453 PRTHPRIN LA    2,UCBUS                                                  13280000
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'C4A',R1  UCB,R3  PRTHAS,R12

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42

000C96 0AD7                      1454          SVC   C'P' .              LOCK THE UCB AND UNIT              13290000
000C98 955C C008      00008      1455          CLI   PRTHMSG,C'*' .      IS SYSTEM CALLING?                 13300000
000C9C 4780 1080            00CCA 1456          BE    PRTHPOK .           THEN PROTECTION OK. ELSE           13310000
000CA0 18B5                      1457          LR    11,5 .              GET ADDRESS THAT'S TO HOLD MSG,    13320000
000CA2 54B0 0C34            00C34 1458          N     11,PROTCON1 .       GET THE PAGE BOUNDARY              13330002
                                  1459 *        ISKE  10,11 .             FIND STORAGE KEY                   13334002
000CA6 B22900AB                   1460          DC    X'B22900AB'         ASSEMBLER (XF) DOESN'T SUPPORT ISKE 13338002
000CAA 54A0 0C38            00C38 1461          N     10,PROTCON2 .       IGNORE LOW ORDER BITS              13342002
000CAE 19A4                       1462          CR    10,4 .              DOES IT MATCH OURS?                13350000
000CB0 4770 10DC            00D26 1463          BNE   PRTHNO .            IF NOT, TELL HIM NO                13360000
000CB4 41B5 0083            00083 1464          LA    11,131(5) .         CHECK LAST BYTE ADDRESS OF LINE    13370000
000CB8 54B0 0C34            00C34 1465          N     11,PROTCON1 .       GET THE PAGE BOUNDARY              13380002
                                  1466 *        ISKE  10,11 .             FIND STORAGE KEY                   13384002
000CBC B22900AB                   1467          DC    X'B22900AB'         ASSEMBLER (XF) DOESN'T SUPPORT ISKE 13388002
000CC0 54A0 0C38            00C38 1468          N     10,PROTCON2 .       IGNORE LOW ORDER BITS              13392002
000CC4 19A4                       1469          CR    10,4 .              DOES IT MATCH OURS?                13400000
000CC6 4770 10DC            00D26 1470          BNE   PRTHNO .            IF NOT, TELL HIM NO                13410000
000CCA 5450 0C30            00C30 1471 PRTHPOK  N     5,CCBCON1 .         MAKE A WRITE REQUEST               13420000
000CCE 5050 C000            00000 1472          ST    5,PRTHCCB .         FOR THE CCB                        13430000
000CD2 9609 C000      00000       1473          OI    PRTHCCB,X'09' .     PRINT COMMAND CODE                 13440000
000CD6 D203 C004 123A 00004 00E84 1474          MVC   PRTHCCB+4,=F'132' . WE'LL PRINT 132 CHARACTERS         13450000
000CDC 47F0 10A2            00CEC 1475          B     PRTHCOMM .          BRANCH TO COMMON SECTION           13460000
000CE0 D207 C000 1206 00000 00E50 1476 PRTHSTC1 MVC   PRTHCCB(8),=X'8900000020000001' SKIP TO TOP OF PAGE     13470000
000CE6 4120 3004            00004 1477          LA    2,UCBUS                                                13480000
000CEA 0AD7                       1478          SVC   C'P' .              LOCK THE UCB AND UNIT              13490000
000CEC 4120 0194            00194 1479 PRTHCOMM LA    2,CAWSEM .          LOCK THE CAW                       13500000
000CF0 0AD7                       1480          SVC   C'P'                                                   13510000
000CF2 5060 0048            00048 1481          ST    6,CAW .             STORE OUR CAW                      13520000
000CF6 D203 3014 1216 00014 00E60 1482          MVC   UCBCSW(4),=A(0) .   CLEAR THE LAST CSW THERE           13530000
000CFC D203 3018 1216 00018 00E60 1483          MVC   UCBCSW+4(4),=A(0)                                      13540000
000D02 5870 3000            00000 1484          L     7,UCBADDR .         GET THE ADDRESS                    13550000
000D06 9C00 7000      00000       1485          SIO   0(7) .              START THE I/O                      13560000
000D0A 4770 1108            00D52 1486          BNZ   PTSTATUS .          BRANCH IF SIO UNSUCCESSFUL         13570000
000D0E 0AE5                       1487          SVC   C'V' .              AND UNLOCK THE CAW                 13580000
000D10 4120 300C            0000C 1488 PRTHWAIT LA    2,UCBWS .           START TO WAIT                      13590000
000D14 0AD7                       1489          SVC   C'P'                                                   13600000
000D16 9105 3018      00018       1490          TM    UCBCSW+4,X'05' .    IS THE UNIT READY?                 13610000
000D1A 4780 10C6            00D10 1491          BZ    PRTHWAIT .          IF NOT, ITS STILL ON. WAIT         13620000
000D1E 9101 3018      00018       1492          TM    UCBCSW+4,X'01' .    WAS THERE AN EXCEPTION?            13630000
000D22 4780 10E6            00D30 1493          BZ    PRTHOK .            IF NOT, GOOD                       13640000
000D26 D201 C028 124A 00028 00E94 1494 PRTHNO   MVC   PRTHM+12(2),=C'NO' .THERE WAS, SO SAY SO              13650000
000D2C 47F0 10EC            00D36 1495          B     PRTHSEND                                               13660000
000D30 D201 C028 124C 00028 00E96 1496 PRTHOK   MVC   PRTHM+12(2),=C'OK' .NO ERRORS                         13670000
000D36 D203 C024 1226 00024 00E70 1497 PRTHSEND MVC   PRTHM+8(4),=F'2' .  SENDING 2 CHARACTERS             13680000
000D3C D207 C01C C008 0001C 00008 1498          MVC   PRTHM+0(8),PRTHMSG+0 . SEND TO OUR SENDER            13690000
000D42 4120 3004            00004 1499          LA    2,UCBUS                                                13700000
000D46 0AE5                       1500          SVC   C'V' .              UNLOCK THE UCB                     13710000
000D48 4120 C01C            0001C 1501          LA    2,PRTHM                                                13720000
000D4C 0AE2                       1502          SVC   C'S' .              SEND IT                            13730000
000D4E 47F0 1020            00C6A 1503          B     PRTHLOOP .          AND READ ANOTHER MESSAGE           13740000
000D52 0AE5                       1504 PTSTATUS SVC   C'V' .              UNLOCK THE CAW                     13750000
000D54 4120 300C            0000C 1505          LA    2,UCBWS .           AND WAIT FOR THE INTERRUPT         13760000
000D58 0AD7                       1506          SVC   C'P'                                                   13770000
000D5A 47F0 10A2            00CEC 1507          B     PRTHCOMM .          AND TRY TO RESTART THE I/O         13780000
                                  1508          DROP  3,12                                                   13790000
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'C4A',R1

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

000D5E 0000
000D60 0000000100000000            1510 PRTHSEM  DC    F'1,0' LOCK                                    13810000
000D68 00000030                    1511 PRTHAAS  DC    A(LENPRTHA) XA ARG LIST FOR AUTO STORAGE       13820000
000D6C 00000000                    1512          DC    F'0'                                           13830000
000D70 00000008                    1513          DC    F'8'                                           13840000
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'C4A',R1

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

                                 1515 ********************************************************************** 13860000
                                 1516 *                                                                    * 13870000
                                 1517 *            SYSTEM ROUTINE FOR USER SUPPLIED DEVICE HANDLER         * 13880000
                                 1518 *                                                                    * 13890000
                                 1519 ********************************************************************** 13900000

                      00D74      1521 EXCPHNDL EQU   * .               EXCP DEVICE HANDLER                 13920000
                 R:3  00000      1522          USING UCB,3 .           WILL HAVE REG3 -> UCB               13930000
000D74 0510                      1523          BALR  1,0                                                   13940000
                 R:1  00D76      1524          USING *,1 .             ESTABLISH ADDRESSING                13950000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 1524 IN /MBHFS/SOS4K.ASM ON VOLUME:
000D76 4120 10C6           00E3C 1525          LA    2,EXCPHSEM .      LOCK OURSELVES UNTIL WE HAVE        13960000
000D7A 0AD7                      1526          SVC   C'P' .            SET UP AUTOMATIC STORAGE            13970000
000D7C 4120 10CE           00E44 1527          LA    2,EXCPHAAS .      READY TO ALLOCATE                   13980000
                 R:2  00000      1528          USING XAX,2                                                 13990000
000D80 0AC5                      1529          SVC   C'E' .            ALLOCATE                            14000000
000D82 58C0 2004           00004 1530          L     12,XAXADDR .      GET POINTER TO AUTO STORAGE         14010000
                                 1531          DROP  2                                                     14020000
000D86 4120 10C6           00E3C 1532          LA    2,EXCPHSEM .      AND UNLOCK OURSELVES                14030000
000D8A 0AE5                      1533          SVC   C'V'              UNLOCK TO ROUTINE                   14040000
000D8C 184B                      1534          LR    4,11                                                  14050000
000D8E 8940 0008           00008 1535          SLL   4,8 .             SHIFT KEY FOR CAW                   14060000
                 R:C  00000      1536          USING EXCPHAS,12 .      FOR ADDRESSING AUTO AREA            14070000
000D92 4120 C000           00000 1537 EXCPLOOP LA    2,EXCPHMSG .      TRY TO READ A MESSAGE               14080000
                 R:2  00000      1538          USING XRX,2                                                 14090000
000D96 D203 2008 1112 00008 00E88 1539          MVC   XRXSIZE,=F'12' .  WE'LL TAKE 12 CHARACTERS          14100000
000D9C 0AD9                      1540          SVC   C'R'                                                  14110000
000D9E D503 1116 200C 00E8C 0000C 1541          CLC   =C'EXCP',XRXTEXT .  IS IT AN EXCP MESSAGE?          14120000
000DA4 4770 101C           00D92 1542          BNE   EXCPLOOP .        IF NOT, IGNORE IT                   14130000
000DA8 5850 2010           00010 1543          L     5,XRXTEXT+4 .     REG 5 CONTAINS CHAN AND DEV         14140000
000DAC 5860 2014           00014 1544          L     6,XRXTEXT+8 .     REG 6 CONTAINS ADDR OF CCWS         14150000
                                 1545          DROP  2                                                     14160000
000DB0 4170 112E           00EA4 1546          LA    7,UCBTABLE .      GET PTR TO UCB TABLE                14170000
000DB4 5957 0000           00000 1547 EXCPCOMP C     5,0(7) .          COMPARE UNIT ADDRESS                14180000
000DB8 4780 1054           00DCA 1548          BE    EXCPFIND .        THAT'S THE UCB WE WANT              14190000
000DBC 4177 0020           00020 1549          LA    7,UCBLENG(7) .    GET PTR TO NEXT UCB                 14200000
000DC0 5970 111A           00E90 1550          C     7,=A(UCBTBEND) .  ARE WE THROUGH WITH TABLE?          14210000
000DC4 4770 103E           00DB4 1551          BNE   EXCPCOMP .        IF NOT, LOOK SOME MORE              14220000
000DC8 0A6F                      1552          SVC   C'?' .            ELSE ERROR                          14230000
000DCA 1837                      1553 EXCPFIND LR    3,7 .             SET REG 3 TO UCB PTR                14240000
000DCC 4120 3004           00004 1554          LA    2,UCBUS                                               14250000
000DD0 0AD7                      1555          SVC   C'P' .            LOCK THE UCB                        14260000
000DD2 1664                      1556          OR    6,4 .             OR IN THE USER'S KEY                14270000
000DD4 D203 3014 10EA 00014 00E60 1557          MVC   UCBCSW(4),=A(0) .  CLEAR THE LAST CSW THERE         14280000
000DDA D203 3018 10EA 00018 00E60 1558          MVC   UCBCSW+4(4),=A(0)                                   14290000
000DE0 4120 0194           00194 1559          LA    2,CAWSEM                                              14300000
000DE4 0AD7                      1560          SVC   C'P' .            LOCK CAW                            14310000
000DE6 5060 0048           00048 1561          ST    6,CAW .           STORE OUR CAW                       14320000
000DEA 9C00 5000      00000      1562          SIO   0(5) .            START THE I/O                       14330000
000DEE 0AE5                      1563          SVC   C'V' .            UNLOCK THE CAW                      14340000
000DF0 4120 300C           0000C 1564 EXCPWAIT LA    2,UCBWS .         NOW WAIT FOR AN INTERRUPT           14350000
000DF4 0AD7                      1565          SVC   C'P'                                                  14360000
000DF6 D207 C024 3014 00024 00014 1566          MVC   EXCPHM+12(8),UCBCSW . GIVE USER HIS CSW             14370000
000DFC D203 C020 1112 00020 00E88 1567          MVC   EXCPHM+8(4),=F'12'                                  14380000
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'D76',R1  UCB,R3  EXCPHAS,R12

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                  HLASM R6.0  2016/08/29 08.42

000E02 D207 C018 C000 00018 00000  1568          MVC   EXCPHM(8),EXCPHMSG                                    14390000
000E08 4120 C018            00018  1569          LA    2,EXCPHM                                               14400000
000E0C 0AE2                        1570          SVC   C'S' .              AND SENT THE MESSAGE             14410000
000E0E 4120 C000            00000  1571          LA    2,EXCPHMSG .        AND WAIT FOR A REPLY             14420000
                  R:2  00000       1572          USING XRX,2                                                  14430000
000E12 D203 2008 10F2 00008 00E68  1573          MVC   XRXSIZE(4),=F'8' .  FROM THE USER                    14440000
000E18 0AD9                        1574          SVC   C'R'                                                   14450000
000E1A D501 1120 200C 00E96 0000C  1575          CLC   =C'OK',XRXTEXT .    AM I DONE?                       14460000
000E20 4780 10BA            00E30  1576          BE    EXCPDONE                                               14470000
000E24 D504 1127 200C 00E9D 0000C  1577          CLC   =C'AGAIN',XRXTEXT . DOES HE WANT ANOTHER CSW?         14480000
000E2A 4780 107A            00DF0  1578          BE    EXCPWAIT                                               14490000
000E2E 0A6F                        1579          SVC   C'?' .              WRONG MESSAGE                    14500000
                                   1580          DROP  2                                                      14510000
000E30 4120 3004            00004  1581 EXCPDONE LA    2,UCBUS .           UNLOCK UNIT                      14520000
000E34 0AE5                        1582          SVC   C'V'                                                   14530000
000E36 47F0 101C            00D92  1583          B     EXCPLOOP .          AND GET ANOTHER MESSAGE          14540000
                                   1584          DROP  3,12                                                   14550000
000E3A 0000
000E3C 0000000100000000            1585 EXCPHSEM DC    F'1,0'                                                 14560000
000E44 00000030                    1586 EXCPHAAS DC    A(LENEXCPA) .       ALLOCATION OF AUTO STORAGE       14570000
000E48 00000000                    1587          DC    F'0'                                                   14580000
000E4C 00000008                    1588          DC    F'8'                                                   14590000



000E50                             1590          LTORG                                                        14610000
000E50 8900000020000001            1591                =X'8900000020000001'
000E58 00000001                    1592                =F'1'
000E5C 00000600                    1593                =A(XA)
000E60 00000000                    1594                =A(0)
000E64 00000148                    1595                =A(LENPCB)
000E68 00000008                    1596                =F'8'
000E6C FFFFFFF8                    1597                =F'-8'
000E70 00000002                    1598                =F'2'
000E74 D9C5C1C4                    1599                =C'READ'
000E78 00000050                    1600                =F'80'
000E7C D7D9C9D5                    1601                =C'PRIN'
000E80 E2E3C3F1                    1602                =C'STC1'
000E84 00000084                    1603                =F'132'
000E88 0000000C                    1604                =F'12'
000E8C C5E7C3D7                    1605                =C'EXCP'
000E90 00000FC4                    1606                =A(UCBTBEND)
000E94 D5D6                        1607                =C'NO'
000E96 D6D2                        1608                =C'OK'
000E98 5BD1D6C26B                  1609                =C'$JOB,'
000E9D C1C7C1C9D5                  1610                =C'AGAIN'
```

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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'D76',R1

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42
                                 1612 ********************************************************************** 14630000
                                 1613 *                                                                    * 14640000
                                 1614 *            UNIT CONTROL BLOCKS                                     * 14650000
                                 1615 *                                                                    * 14660000
                                 1616 ********************************************************************** 14670000

000EA4                           1618 UCBTABLE DS    0F .                TABLE OF UNIT CONTROL BLOCKS       14690000
                                 1619 *                          UCB FOR READER 1                       14700000
000EA4 00000012                  1620 UCBRDR1  DC    X'00000012' .       DEVICE ADDRESS,                14710000
000EA8 0000000100000000          1621          DC    F'1,0' .            USER SEMAPHORE,                14720000
000EB0 0000000000000000          1622          DC    F'0,0' .            WAIT SEMAPHORE,                14730000
000EB8 0000000000000000          1623          DC    F'0,0' .            CHANNEL STATUS WORD            14740000
000EC0 00                        1624          DC    X'00'                                              14750000
000EC4                           1625          DS    0F                                                 14760000
                                 1626 *                          UCB FOR PRINTER 1                      14770000
000EC4 00000010                  1627 UCBPRT1  DC    X'00000010' .       DEVICE ADDRESS,                14780000
000EC8 0000000100000000          1628          DC    F'1,0' .            USER SEMAPHORE,                14790000
000ED0 0000000000000000          1629          DC    F'0,0' .            WAIT SEMAPHORE,                14800000
000ED8 0000000000000000          1630          DC    F'0,0' .            CHANNEL STATUS WORD            14810000
000EE0 00                        1631          DC    X'00'                                              14820000
000EE4                           1632          DS    0F                                                 14830000
                                 1633 *                          UCB FOR READER 2                       14840000
000EE4 0000000C                  1634 UCBRDR2  DC    X'0000000C' .       DEVICE ADDRESS,                14850000
000EE8 0000000100000000          1635          DC    F'1,0' .            USER SEMAPHORE,                14860000
000EF0 0000000000000000          1636          DC    F'0,0' .            WAIT SEMAPHORE,                14870000
000EF8 0000000000000000          1637          DC    F'0,0' .            CHANNEL STATUS WORD            14880000
000F00 00                        1638          DC    X'00'                                              14890000
000F04                           1639          DS    0F                                                 14900000
                                 1640 *                          UCB FOR PRINTER 2                      14910000
000F04 0000000E                  1641 UCBPRT2  DC    X'0000000E' .       DEVICE ADDRESS,                14920000
000F08 0000000100000000          1642          DC    F'1,0' .            USER SEMAPHORE,                14930000
000F10 0000000000000000          1643          DC    F'0,0' .            WAIT SEMAPHORE,                14940000
000F18 0000000000000000          1644          DC    F'0,0' .            CHANNEL STATUS WORD            14950000
000F20 00                        1645          DC    X'00'                                              14960000
000F24                           1646          DS    0F                                                 14970000
                                 1647 *                          UCB FOR READER 3                       14970302
000F24 00000112                  1648 UCBRDR3  DC    X'00000112' .       DEVICE ADDRESS,                14970602
000F28 0000000100000000          1649          DC    F'1,0' .            USER SEMAPHORE,                14970902
000F30 0000000000000000          1650          DC    F'0,0' .            WAIT SEMAPHORE,                14971202
000F38 0000000000000000          1651          DC    F'0,0' .            CHANNEL STATUS WORD            14971502
000F40 00                        1652          DC    X'00'                                              14971802
000F44                           1653          DS    0F                                                 14972102
                                 1654 *                          UCB FOR PRINTER 3                      14972402
000F44 00000110                  1655 UCBPRT3  DC    X'00000110' .       DEVICE ADDRESS,                14972702
000F48 0000000100000000          1656          DC    F'1,0' .            USER SEMAPHORE,                14973002
000F50 0000000000000000          1657          DC    F'0,0' .            WAIT SEMAPHORE,                14973302
000F58 0000000000000000          1658          DC    F'0,0' .            CHANNEL STATUS WORD            14973602
000F60 00                        1659          DC    X'00'                                              14973902
000F64                           1660          DS    0F                                                 14974202
                                 1661 *                          UCB FOR READER 4                       14974502
000F64 0000010C                  1662 UCBRDR4  DC    X'0000010C' .       DEVICE ADDRESS,                14974802
000F68 0000000100000000          1663          DC    F'1,0' .            USER SEMAPHORE,                14975102
000F70 0000000000000000          1664          DC    F'0,0' .            WAIT SEMAPHORE,                14975402
000F78 0000000000000000          1665          DC    F'0,0' .            CHANNEL STATUS WORD            14975702
000F80 00                        1666          DC    X'00'                                              14976002
```

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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'D76',R1

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

000F84                           1667          DS    0F                                                    14976302
                                 1668 *                          UCB FOR PRINTER 4                     14976602
000F84 0000010E                  1669 UCBPRT4  DC    X'0000010E' .       DEVICE ADDRESS,               14976902
000F88 0000000100000000          1670          DC    F'1,0' .            USER SEMAPHORE,               14977202
000F90 0000000000000000          1671          DC    F'0,0' .            WAIT SEMAPHORE,               14977502
000F98 0000000000000000          1672          DC    F'0,0' .            CHANNEL STATUS WORD           14977802
000FA0 00                        1673          DC    X'00'                                             14978102
000FA4                           1674          DS    0F                                                14978402
                                 1675 *                          UCB FOR CONSOLE 1                     14978504
000FA4 00000009                  1676 UCBCONS1 DC    X'00000009' .       DEVICE ADDRESS,               14978604
000FA8 0000000100000000          1677          DC    F'1,0' .            USER SEMAPHORE,               14978704
000FB0 0000000000000000          1678          DC    F'0,0' .            WAIT SEMAPHORE,               14978804
000FB8 0000000000000000          1679          DC    F'0,0' .            CHANNEL STATUS WORD           14978904
000FC0 00                        1680          DC    X'00'                                             14979004
000FC4                           1681          DS    0F                                                14979104
                      00FC4      1682 UCBTBEND EQU   *                                                 14980000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'D76',R1

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

                                 1684 ********************************************************************** 15000000
                                 1685 *                                                                    * 15010000
                                 1686 *            I/O INTERRUPT HANDLER                                   * 15020000
                                 1687 *                                                                    * 15030000
                                 1688 ********************************************************************** 15040000

                      00FC4      1690 IOHANDL  EQU   * .                 THE I/O INTERRUPT HANDLER           15060000
000FC4 900F 01DC           001DC 1691         STM   0,15,IOHSAVE .      SAVE REGISTERS                      15070000
000FC8 0510                      1692         BALR  1,0                                                     15080000
                 R:1  00FCA      1693         USING *,1 .               ESTABLISH ADRESSING                 15090000
** ASMA303W MULTIPLE ADDRESS RESOLUTIONS MAY RESULT FROM THIS USING AND THE USING ON STATEMENT NUMBER 131
** ASMA435I RECORD 1673 IN /MBHFS/SOS4K.ASM ON VOLUME:
000FCA 94FD 0039      00039      1694         NI    IOOLD+1,X'FD' .     TURN OFF WAIT BIT                   15100000
000FCE 5860 172E           016F8 1695         L     6,=A(UCBTABLE) .    GET POINTER TO UCB TABLE            15110000
000FD2 D501 6002 003A 00002 0003A 1696 IOCOMP   CLC   2(2,6),IOOLD+2 .   COMPARE DEVICE AND CHANNEL          15120000
000FD8 4780 1022           00FEC 1697         BE    IODEVFND .          IF EQUAL, REG 6 INDICATES PTR       15130000
000FDC 4166 0020           00020 1698         LA    6,UCBLENG(6) .      INCREMENT TO NEXT ENTRY             15140000
000FE0 5960 1732           016FC 1699         C     6,=A(UCBTBEND) .    ARE WE AT END OF TABLE?             15150000
000FE4 4770 1008           00FD2 1700         BNE   IOCOMP .            IF NOT DONE, TRY NEXT UCB           15160000
000FE8 47F0 106C           01036 1701         B     IOBACK .            ELSE, IGNORE IT                     15170000
                 R:6  00000      1702         USING UCB,6 .             IT'S A UCB PTR                      15180000
000FEC D203 6014 0040 00014 00040 1703 IODEVFND MVC   UCBCSW(4),CSW .    MOVE IN THE NEW CSW                 15190000
000FF2 5870 0044           00044 1704         L     7,CSW+4 .           GET STATUS BYTE                     15200000
000FF6 5670 6018           00018 1705         O     7,UCBCSW+4 .        OR IN NEW STATUS INFORMATION        15210000
000FFA 5070 6018           00018 1706         ST    7,UCBCSW+4 .         AND STORE IT BACK                  15220000
000FFE D201 601A 0046 0001A 00046 1707         MVC   UCBCSW+6(2),CSW+6 . MOVE IN BYTE COUNT                  15230000
001004 4120 600C           0000C 1708         LA    2,UCBWS                                                 15240000
001008 9500 601C      0001C      1709         CLI   UCBFPR,X'00' .      IS FAST PROCESSING                  15250000
00100C 4780 106A           01034 1710         BE    IONOFPR .            REQUIRED? IF NOT, RETURN           15260000
001010 58F0 0270           00270 1711         L     15,RUNNING .        IF SO, STOP GUY NOW RUNNING         15270000
                 R:F  00000      1712         USING PCB,15                                                  15280000
001014 95FF F019      00019      1713         CLI   PCBBLOKT,X'FF' .    IS ANYONE REALLY RUNNING?           15290000
001018 4780 1062           0102C 1714         BE    IOWAIT .            IF NOT, START UP SLEEPER            15300000
00101C 41D0 F04C           0004C 1715         LA    13,PCBISA .         IF SO, STOP RUNNING PROCESS         15310000
                 R:D  00000      1716         USING SA,13                                                   15320000
001020 D207 D000 0038 00000 00038 1717         MVC   SAPSW,IOOLD .       SAVE PROCESS WHICH WAS              15330000
001026 D23F D008 01DC 00008 001DC 1718         MVC   SAREGS,IOHSAVE .     INTERRUPTED                        15340000
                                 1719         DROP  13,15                                                   15350000
00102C 9200 0278      00278      1720 IOWAIT   MVI   NEXTTRYM,X'00' .    MAKE NEXTTRY NOT MODIFIED           15360000
001030 0AE5                      1721         SVC   C'V' .              SO CAN FAST PROCESS SLEEPER          15370000
001032 0A4B                      1722         SVC   C'.' .              GO PROCESS IT RIGHT AWAY             15380000
001034 0AE5                      1723 IONOFPR SVC   C'V' .              AND WAKE UP THE SLEEPER              15390000
001036 980F 01DC           001DC 1724 IOBACK   LM    0,15,IOHSAVE .      RELOAD OUR REGISTERS                15400000
00103A 8200 0038      00038      1725         LPSW  IOOLD .             AND STEALTHILY RETURN               15410000
                                 1726         DROP  1,6                                                     15420000
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ACTIVE USINGS: PROGRAM,R0

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

                                 1728 ********************************************************************** 15440000
                                 1729 *                                                                    * 15450000
                                 1730 *             IPL ENTERED ROUTINE                                    * 15460000
                                 1731 *                                                                    * 15470000
                                 1732 *        FUNCTION: TO INITIALIZE SYSTEM PARAMETERS, SET STORAGE KEYS, * 15480000
                                 1733 *                  AND CREATE MULTIPLE JOB STREAMS.                  * 15490000
                                 1734 *                                                                    * 15500000
                                 1735 ********************************************************************** 15510000

                     0103E       1737 IPLRTN   EQU   * .               THE IPL-ENTERED ROUTINE             15530000
00103E 0510                      1738          BALR  1,0                                                     15540000
                   R:1  01040    1739          USING *,1 .             ESTABLISH ADDRESSING                  15550000
001040 D202 007D 1281 0007D 012C1 1740          MVC   IONEW+5(3),SOSIONEW ACTIVATE IO HANDLER                15553002
001046 D202 005D 1289 0005D 012C9 1741          MVC   EXTNEW+5(3),IPLEXNEW IGNORE EXTERNAL INTERRUPTS FOR NOW 15556002
00104C 41F0 10D0          01110   1742          LA    15,IPLPCB .       I'M RUNNING                           15560000
001050 50F0 0270          00270   1743          ST    15,RUNNING .      INITIALIZE 'RUNNING'                  15570000
001054 50F0 0274          00274   1744          ST    15,NEXTTRY .      INITIALIZE 'NEXTTRY'                  15580000
001058 D207 1700 1690 01740 016D0 1745          MVC   VERYEND,=A(0,CORESIZE-(VERYEND-PROGRAM)) FREE CORE      15590000
00105E 4130 0008          00008   1746          LA    3,8 .             SET ZERO KEY AND FETCH PROTECT        15600000
001062 5820 1224          01264   1747          L     2,CORESIZ .       START PAST THE LAST BLOCK             15610000
001066 5B20 161C          0165C   1748 IPLCL    S     2,PAGESIZE .      GET THE PREVIOUS BLOCK, PAGE ALIGNED  15620002
00106A 4740 1036          01076   1749          BM    IPLTH .           IF NEGATIVE, WE'RE THROUGH HERE       15630000
                                 1750 *        SSKE  3,2 .             ELSE SET THE STORAGE KEY TO           15640002
00106E B22B0032                  1751          DC    X'B22B0032'       ASSEMBLER (XF) DOESN'T SUPPORT SSKE   15643002
001072 47F0 1026          01066   1752          B     IPLCL .            ZERO, AND WORK BACKWARDS             15650000
001076 1B44                      1753 IPLTH    SR    4,4 .             INDEX IN TABLES FOR INPUT STREAM      15660000
001078 5850 1088          010C8   1754          L     5,STREAMS .       HOW MANY STREAMS?                     15670000
00107C 4120 1218          01258   1755 IPLLOOP  LA    2,IPLAPCBS .      READY TO ALLOCATE A PCB               15680000
                   R:2  00000    1756          USING XAX,2                                                   15690000
001080 0AC1                      1757          SVC   C'A' .            ALLOCATE                              15700000
001082 5820 2004          00004   1758          L     2,XAXADDR .       GET THE ADDRESS                       15710000
001086 D253 2000 1228 00000 01268 1759          MVC   0(TYPLEN,2),TYPPCB .MAKE IT LOOK LIKE A PCB           15720000
00108C 0AC9                      1760          SVC   C'I' .            CHAIN IT ON                           15730000
                   R:2  00000    1761          USING PCB,2                                                   15740000
00108E 5020 2008          00008   1762          ST    2,PCBNPTG .       BUT PUT IT IN A GROUP BY ITSELF       15750000
001092 5020 200C          0000C   1763          ST    2,PCBLPTG                                             15760000
                                 1764          DROP  2                                                       15770000
                   R:F  00000    1765          USING PCB,15                                                  15780000
001096 50F0 F00C          0000C   1766          ST    15,PCBLPTG .      LIKEWISE FOR THE IPL PCB              15790000
00109A 50F0 F008          00008   1767          ST    15,PCBNPTG                                            15800000
                                 1768          DROP  15                                                      15810000
                   R:2  00000    1769          USING PCB,2                                                   15820000
00109E 4180 204C          0004C   1770          LA    8,PCBISA .        GET THE NEW PCB'S ISA                 15830000
                   R:8  00000    1771          USING SA,8                                                    15840000
0010A2 4190 8008          00008   1772          LA    9,SAREGS .        ABOUT TO FIX INIT REGS                15850000
                   R:9  00000    1773          USING REGS,9                                                  15860000
0010A6 41A0 108C          010CC   1774          LA    10,UCBTAB                                             15870000
0010AA 1AA4                      1775          AR    10,4                                                  15880000
0010AC D203 900C A000 0000C 00000 1776          MVC   REG3,0(10) .      REG3 -> (RDRUCB,PRTUCB)               15890000
0010B2 D203 9010 A010 00010 00010 1777          MVC   REG4,KEYTAB-UCBTAB(10) . REG4 = KEY                   15900000
                                 1778          DROP  9                                                       15910000
0010B8 4144 0004          00004   1779          LA    4,4(4) .          GO TO NEXT JOB STREAM                 15920000
0010BC 4650 103C          0107C   1780          BCT   5,IPLLOOP .       DO FOR EACH STREAM                    15930000
0010C0 D202 005D 1285 0005D 012C5 1781          MVC   EXTNEW+5(3),SOSEXNEW REACTIVATE EXT INTERRUPT HANDLER 15935002
0010C6 0A4B                      1782          SVC   C'.' .              THEN ENTER TRAFFIC CONTROLLER         15940000
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'1040',R1  PCB,R2  SA,R8

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

0010C8 00000004                  1784 STREAMS  DC    F'4' .              NUMBER OF STREAMS                    15960002

                       010CC     1786 UCBTAB   EQU   * .                 TABLE OF PTRS TO UCB BLOCKS          15980000
0010CC 000010EC                  1787          DC    A(UCBLP1)                                                15990000
0010D0 000010F4                  1788          DC    A(UCBLP2)                                                16000000
0010D4 000010FC                  1789          DC    A(UCBLP3)                                                16003002
0010D8 00001104                  1790          DC    A(UCBLP4)                                                16006002

                       010DC     1792 KEYTAB   EQU   * .                 TABLE OF PROTECTION KEYS             16020000
0010DC 00100000                  1793          DC    X'00100000'         STORAGE KEY FOR STREAM 1 REGION      16030002
0010E0 00200000                  1794          DC    X'00200000'         STORAGE KEY FOR STREAM 2 REGION      16034002
0010E4 00300000                  1795          DC    X'00300000'         STORAGE KEY FOR STREAM 3 REGION      16038002
0010E8 00400000                  1796          DC    X'00400000'         STORAGE KEY FOR STREAM 4 REGION      16042002

0010EC 00000EA400000EC4          1798 UCBLP1   DC    A(UCBRDR1,UCBPRT1)                                       16060000
0010F4 00000EE400000F04          1799 UCBLP2   DC    A(UCBRDR2,UCBPRT2)                                       16070000
0010FC 00000F2400000F44          1800 UCBLP3   DC    A(UCBRDR3,UCBPRT3)                                       16073002
001104 00000F6400000F84          1801 UCBLP4   DC    A(UCBRDR4,UCBPRT4)                                       16076002

001110                           1803          DS    0D                                                       16090000
001110 4040404040404040          1804 IPLPCB   DC    CL8' ' .            IPL ROUTINE PCB                      16100000
001118 0000111000001110          1805          DC    4A(IPLPCB)                                               16110000
001128 FF000000                  1806          DC    X'FF000000' .       INITIALIZED FLAGS                    16120000
00112C 0000000100000000          1807          DC    F'1,0'                                                   16130000
001134 0000000000000000          1808          DC    5F'0,0'                                                  16140000
00115C 0002000000000000          1809          DC    X'0002000000000000'                                      16150000
001164                           1810          DS    CL76                                                     16160000
0011B0                           1811          DS    CL84                                                     16170000
001204                           1812          DS    CL84                                                     16180000

001258 00000148                  1814 IPLAPCBS DC    A(LENPCB) .         ALLOC LIST FOR PCB'S                 16200000
00125C 00000000                  1815          DC    A(0)                                                     16210000
001260 00000008                  1816          DC    F'8'                                                     16220000
001264 01000000                  1817 CORESIZ  DC    A(CORESIZE) .       BYTES OF CORE IN OBJECT MACHINE      16230000

001268                           1819          DS    0D                                                       16250000
001268 5CC9C2E2E4D74040          1820 TYPPCB   DC    CL8'*IBSUP' .       A TEMPLATE *IBSUP PCB                16260000
001270 0000000000000000          1821          DC    4A(0)                                                    16270000
001280 00000000                  1822 TEMPLATE DC    X'00000000' .       INITIALIZED FLAGS                    16280000
001284 0000000100000000          1823          DC    F'1,0'                                                   16290000
00128C 0000000000000000          1824          DC    5F'0,0'                                                  16300000
0012B4 FF000000000012CC          1825          DC    X'FF00000000',AL3(JSP)                                   16310000
                       00054     1826 TYPLEN   EQU   *-TYPPCB                                                 16320000
0012BC 8200 0018       00018     1827 EXINTRPT LPSW  EXTOLD              IGNORE EXTERNAL INTERRUPTS           16321002
0012C0                           1828          DS    0F                  ALIGN                                16322002
0012C0 00                        1829          DC    X'00'               FILLER                               16323002
0012C1 000FC4                    1830 SOSIONEW DC    AL3(IOHANDL)        SAMPLE OS IO NEW PSW INSTRUCTION ADDR 16324002
0012C4 00                        1831          DC    X'00'               FILLER                               16325002
0012C5 00027A                    1832 SOSEXNEW DC    AL3(EXTHANDL)       SAMPLE OS EXT NEW PSW INSTRUCTION ADDR 16326002
0012C8 00                        1833          DC    X'00'               FILLER                               16327002
0012C9 0012BC                    1834 IPLEXNEW DC    AL3(EXINTRPT)       IPLRTN EXT NEW PSW INSTRUCTION ADDR  16328002
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'1040',R1  PCB,R2  SA,R8

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                  HLASM R6.0  2016/08/29 08.42

                                  1836 ********************************************************************** 16340000
                                  1837 *                                                                    * 16350000
                                  1838 *            JOB STREAM PROCESSOR                                    * 16360000
                                  1839 *                                                                    * 16370000
                                  1840 ********************************************************************** 16380000

                     012CC        1842 JSP     EQU   * .                THE JOB STREAM PROCESSOR            16400000
0012CC 0510                       1843         BALR  1,0 .               (PROCESS *IBSUP)                    16410000
                R:1  012CE        1844         USING *,1 .              ESTABLISH ADDRESSING                 16420000
0012CE 4120 1392           01660  1845         LA    2,JSPSUSEM .       LOCK OURSELVES UNTIL                16430000
0012D2 0AD7                       1846         SVC   C'P' .              WE CAN ALLOCATE STORAGE             16440000
0012D4 4120 139A           01668  1847         LA    2,JSPAAS .         READY TO ALLOCATE                   16450000
                R:2  00000        1848         USING XAX,2                                                   16460000
0012D8 0AC5                       1849         SVC   C'E' .             ALLOCATE                            16470000
0012DA 58C0 2004           00004  1850         L     12,XAXADDR .       PTR TO AUTO AREA                    16480000
                                  1851         DROP  2                                                       16490000
                R:C  00000        1852         USING JSPAS,12 .         USE FOR ADDRESSING                  16500000
0012DE 4120 1392           01660  1853         LA    2,JSPSUSEM .       UNLOCK OURSELVES                    16510000
0012E2 0AE5                       1854         SVC   C'V'                                                    16520000
0012E4 D207 C164 140A 00164 016D8 1855         MVC   TREAD+0(8),=CL8'*IN' . INITIALIZE VALUES IN AUTOMATIC 16530000
0012EA D203 C16C 1432 0016C 01700 1856         MVC   TREAD+8(4),=F'8' .   STORAGE                            16540000
0012F0 D203 C170 1436 00170 01704 1857         MVC   TREAD+12(4),=C'READ'                                    16550000
0012F6 4120 C084           00084  1858         LA    2,CARD                                                  16560000
0012FA 5020 C174           00174  1859         ST    2,ACARD                                                 16570000
0012FE D207 C190 1412 00190 016E0 1860         MVC   USERL+0(8),=CL8'USERPROG'                               16580000
001304 D20B C178 1352 00178 01620 1861         MVC   WRITE(12),SKIP                                          16590000
00130A D203 C184 143A 00184 01708 1862         MVC   WRITE+12(4),=C'PRIN'                                    16600000
001310 4150 C000           00000  1863         LA    5,LINE                                                  16610000
001314 5050 C188           00188  1864         ST    5,WRITE+16                                              16620000
001318 D203 C1B0 138E 001B0 0165C 1865         MVC   CORE+8(4),PAGESIZE  ALIGN TO PAGE BOUNDARY              16630002
00131E D207 C1B8 1412 001B8 016E0 1866         MVC   TALK+0(8),=CL8'USERPROG'                                16640000
001324 D203 C1C0 143E 001C0 0170C 1867         MVC   TALK+8(4),=F'12'                                        16650000
00132A D203 C1D8 1442 001D8 01710 1868         MVC   ANYBACK+8(4),=F'1'                                      16660000
001330 D203 C1B4 1446 001B4 01714 1869         MVC   RLDTEMP,=A(0)                                           16670000
001336 5040 C18C           0018C  1870         ST    4,KEY .              STORE KEY                           16680000
00133A 1853                       1871         LR    5,3 .                GET PTR TO UCB PTR BLOCK           16690000
00133C 5835 0000           00000  1872         L     3,0(5) .             GET READER POINTER                 16700000
001340 4120 1362           01630  1873         LA    2,INSEQ .            READY TO CREATE & START *IN        16710000
001344 0AC3                       1874         SVC   C'C' .               CREATE                             16720000
001346 0AE8                       1875         SVC   C'Y' .               START                              16730000
001348 5835 0004           00004  1876         L     3,4(5) .             GET PTR TO PRINTER UCB             16740000
00134C 4120 136E           0163C  1877         LA    2,OUTSEQ .           READY TO CREATE & START *OUT       16750000
001350 0AC3                       1878         SVC   C'C' .               CREATE                             16760000
001352 0AE8                       1879         SVC   C'Y' .               START                              16770000

001354 4120 C164           00164  1881 LOOP    LA    2,TREAD .            READT TO READ A CARD               16790000
001358 0AE2                       1882         SVC   C'S' .               START TO READ                      16800000
00135A D203 C0DC 144A 000DC 01718 1883         MVC   RREPLY1,=F'132' .    132 CHARS FOR REPLY                16810000
001360 4120 C0D4           000D4  1884         LA    2,RREPLY                                                16820000
001364 0AD9                       1885         SVC   C'R' .               LISTEN FOR REPLY                   16830000
001366 D501 C0E0 145A 000E0 01728 1886         CLC   REPLY(2),=C'OK' .    IS REPLY 'OK'?                     16840000
00136C 4770 10B0           0137E  1887         BNE   STOP .               IF NOT, STOP                       16850000
001370 D504 145C C084 0172A 00084 1888         CLC   =C'$JOB,',CARD .     HAVE WE A JOB CARD?                16860000
001376 4780 10B6           01384  1889         BE    JOB .                GOOD!                              16870000
00137A 47F0 1086           01354  1890         B     LOOP .               ELSE LOOP                          16880000
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'12CE',R1  SA,R8  JSPAS,R12

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

00137E 4120 134A           01618  1891 STOP     LA    2,JSPNEVER .        WAIT FOR A "V" OPERATION            16890000
001382 0AD7                       1892           SVC   C'P' .               THAT NEVER COMES                    16900000

001384 9200 C1DD      001DD       1894 JOB      MVI   LOADED,X'00' .      REMEMBER NOT LOADED                 16920000
001388 D283 C000 141A 00000 016E8 1895           MVC   LINE,=CL8' ' .      CLEAR A LINE, PUT IN                16930000
00138E D27B C008 C007 00008 00007 1896           MVC   LINE+8(124),LINE+7 .ALL BLANKS                          16940000
001394 D24F C000 C084 00000 00084 1897           MVC   LINE(80),CARD .     GET READY TO SEND $JOB CARD         16950000
00139A 4120 C178           00178  1898           LA    2,WRITE .           TO PRINTER                          16960000
00139E 0AE2                       1899           SVC   C'S' .              SEND IT                             16970000
0013A0 4120 C0D4           000D4  1900           LA    2,RREPLY                                                16980000
0013A4 0AD9                       1901           SVC   C'R' .              AND WAIT FOR REPLY                  16990000
0013A6 4120 C190           00190  1902           LA    2,USERL .           CREATE USERPROG                     17000000
0013AA 0AC3                       1903           SVC   C'C'                                                    17010000
0013AC 4140 C088           00088  1904           LA    4,CARD+4 .          START TO SCAN CARD                  17020000
0013B0 4530 131C           015EA  1905           BAL   3,SCAN .            GET NEXT TOKEN                      17030000
0013B4 0650                       1906           BCTR  5,0 .               LESS ONE TO REMOVE K                17040002
0013B6 5650 138A           01658  1907           O     5,COREPKLN .        LENGTH OF PACKED SIZE FOR EXECUTE   17049002
0013BA 4450 137A           01648  1908           EX    5,COREPACK .        PACK CORE DIGITS                    17058002
0013BE 4F80 1382           01650  1909           CVB   8,COREPCKD .        CONVERT CORE REQUESTED TO BINARY    17067002
0013C2 1B99                       1910           SR    9,9 .               IS CORE ..                          17076002
0013C4 8C80 0002           00002  1911           SRDL  8,2 .                .. MODULO FOUR ..                  17085002
0013C8 1299                       1912           LTR   9,9 .                .. EQUAL ZERO?                     17094002
0013CA 4780 1104           013D2  1913           BZ    COREOK .             -> YES, USE IT                      17103002
0013CE 4180 8001           00001  1914           LA    8,1(,8) .            -> NO, UP ONE PAGE                  17112002
0013D2 8980 000C           0000C  1915 COREOK     SLL   8,12 .              CORE BYTES, ROUNDED UP TO FULL PAGES 17121002
0013D6 5080 C1A8           001A8  1916           ST    8,CORE .            REMEMBER CORE REQUIREMENT           17130002
0013DA 4530 131C           015EA  1917 ASGNUNIT  BAL   3,SCAN .            GET NEXT TOKEN                      17150000
0013DE 957E 4000      00000       1918           CLI   0(4),C'=' .         IS IT AN '='?                       17160000
0013E2 4770 1194           01462  1919           BNE   LOAD .              IF NOT, LOAD IN THE OBJECT DECK     17170000
0013E6 955C 9000      00000       1920           CLI   0(9),C'*' .         HAS USER NAMED IT STARTING          17180000
0013EA 4780 12C8           01596  1921           BE    EXPUNGE .            WITH '*'? IF SO, THROW HIM OUT     17190000
0013EE 4120 C19C           0019C  1922           LA    2,SEQ .             ELSE CREATE A PROCESS               17200000
0013F2 D207 C19C 141A 0019C 016E8 1923           MVC   SEQ,=CL8' ' .       BLANK OUT THE NAME                  17210000
0013F8 4450 1154           01422  1924           EX    5,UNAMMOV .         THEN MOVE THE RELEVANT              17220000
0013FC 0AC3                       1925           SVC   C'C' .               CHARACTERS AND CREATE              17230000
0013FE 4120 C19C           0019C  1926           LA    2,SEQ .             WE'LL START IT IN A MOMENT          17240000
001402 4530 131C           015EA  1927           BAL   3,SCAN .            SCAN AGAIN                          17250000
001406 4450 115A           01428  1928           EX    5,CMPIN .           IS IT 'IN'?                         17260000
00140A 4780 116C           0143A  1929           BE    ASIN .              IF SO, ASSIGN IT AS IN              17270000
00140E 4450 1160           0142E  1930           EX    5,CMPOUT .          IF IT'S 'OUT'                       17280000
001412 4780 117C           0144A  1931           BE    ASOUT .              ASSIGN IT AS OUT                   17290000
001416 4450 1166           01434  1932           EX    5,CMPEXCP .         IS IT 'EXCP'?                       17300000
00141A 4780 1184           01452  1933           BE    ASEXCP .             IF SO, ASSIGN IT AS EXCP           17310000
00141E 47F0 12C8           01596  1934           B     EXPUNGE .            ERROR: GO ON TO NEXT JOB           17320000
001422 D200 C19C 9000 0019C 00000 1935 UNAMMOV  MVC   SEQ(0),0(9) .       MOVE THE UNIT'S PROCESS NAME        17330000
001428 D500 9000 1461 00000 0172F 1936 CMPIN    CLC   0(0,9),=C'IN ' .    DOES IT SAY 'IN'?                   17340000
00142E D500 9000 144E 00000 0171C 1937 CMPOUT   CLC   0(0,9),=C'OUT ' .   DOES IT SAY 'OUT'?                  17350000
001434 D500 9000 1464 00000 01732 1938 CMPEXCP  CLC   0(0,9),=C'EXCP ' .  DOES IT SAY 'EXCP'?                 17360000

00143A 41B0 140A           016D8  1940 ASIN     LA    11,=CL8'*IN' .      POINT TO NAME OF READER HANDLER     17380000
00143E D203 C1A4 1452 001A4 01720 1941 SETDIM   MVC   UNITRTN,=A(DIM) .   USE DIM AS THE INTERFACE            17390000
001444 0AE8                       1942           SVC   C'Y'                                                    17400000
001446 47F0 110C           013DA  1943           B     ASGNUNIT                                                17410000
00144A 41B0 1422           016F0  1944 ASOUT    LA    11,=CL8'*OUT' .     POINT TO NAME OF PRINTER HANDLER    17420000
00144E 47F0 1170           0143E  1945           B     SETDIM                                                  17430000
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'12CE',R1  SA,R8  JSPAS,R12

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42

001452 D203 C1A4 1456 001A4 01724  1946 ASEXCP   MVC   UNITRTN,=A(EXCPHNDL) . USE FOR USER SUPPLIED          17440000
001458 58B0 C18C            0018C  1947          L     11,KEY                                                17450000
00145C 0AE8                        1948          SVC   C'Y' .              I/O ROUTINE                     17460000
00145E 47F0 110C            013DA  1949          B     ASGNUNIT                                              17470000

001462 4120 C1A8            001A8  1951 LOAD     LA    2,CORE .             READY TO ALLOCATE THE REGION    17490000
001466 0AC1                        1952          SVC   C'A' .               AND ALLOCATE IT                 17500000
001468 92FF C1DD      001DD        1953          MVI   LOADED,X'FF' .       REMEMBER THAT WE'RE LOADED      17510000
00146C 5890 C1AC            001AC  1954          L     9,CORE+4 .           GET THE FIRST ADDRESS           17520000
001470 5840 C18C            0018C  1955          L     4,KEY .              GET THE KEY                     17530000
001474 8840 0010            00010  1956          SRL   4,16                                                  17540000
001478 5640 13A2            01670  1957          O     4,FETCHPRT           FETCH PROTECTED                 17545002
00147C 1839                        1958          LR    3,9 .                GET THE BLOCK FOLLOWING OURS    17550000
00147E 1A38                        1959          AR    3,8                                                   17560000
001480 5B30 138E            0165C  1960 LOADSK   S     3,PAGESIZE .         GET THE PREVIOUS BLOCK, PAGE ALIGNED 17570002
001484 1939                        1961          CR    3,9 .                HAVE WE PASSED THE START?       17580000
001486 4740 11C4            01492  1962          BL    LOADLOOP .           IF SO, START LOADING            17590000
                                   1963 *        SSKE  4,3 .                ELSE SET THIS BLOCK TO THE KEY  17600002
00148A B22B0043                    1964          DC    X'B22B0043'          ASSEMBLER (XF) DOESN'T SUPPORT SSKE 17603002
00148E 47F0 11B2            01480  1965          B     LOADSK .             AND BRANCH BACK                 17610000
001492 4120 C164            00164  1966 LOADLOOP LA    2,TREAD .            READ IN OBJECT DECK             17620000
001496 0AE2                        1967          SVC   C'S' .               GET A CARD A'READING            17630000
001498 D203 C0DC 144A 000DC 01718  1968          MVC   RREPLY1,=F'132'                                       17640000
00149E 4120 C0D4            000D4  1969          LA    2,RREPLY                                              17650000
0014A2 0AD9                        1970          SVC   C'R' .               WAIT FOR ANSWER                 17660000
0014A4 D502 C085 1469 00085 01737  1971          CLC   CARD+1(3),=C'TXT' .  IS IT A TXT CARD?               17670000
0014AA 4780 11F8            014C6  1972          BE    TXTCARD                                               17680000
0014AE D502 C085 146C 00085 0173A  1973          CLC   CARD+1(3),=C'RLD' .  IS IT A RLD CARD?               17690000
0014B4 4780 1212            014E0  1974          BE    RLDCARD                                               17700000
0014B8 D502 C085 146F 00085 0173D  1975          CLC   CARD+1(3),=C'END' .  IS IT AN END CARD?              17710000
0014BE 4780 1270            0153E  1976          BE    ENDCARD                                               17720000
0014C2 47F0 11C4            01492  1977          B     LOADLOOP .           IF NONE, IGNORE.                17730000

0014C6 58A0 C088            00088  1979 TXTCARD  L     10,CARD+4 .          GET THE RELATIVE ADDRESS        17750000
0014CA 1AA9                        1980          AR    10,9 .               PLUS THE ABSOLUTE ADDRESS       17760000
0014CC 48B0 C08E            0008E  1981          LH    11,CARD+10 .         GET THE COUNT,                  17770000
0014D0 06B0                        1982          BCTR  11,0 .                DECREMENTED                    17780000
0014D2 44B0 120C            014DA  1983          EX    11,TXTMOV .          AND MOVE THE TEXT               17790000
0014D6 47F0 11C4            01492  1984          B     LOADLOOP .           AND READ ANOTHER CARD! OH WOW!  17800000
0014DA D200 A000 C094 00000 00094  1985 TXTMOV   MVC   0(0,10),CARD+16                                       17810000

0014E0 48B0 C08E            0008E  1987 RLDCARD  LH    11,CARD+10 .         GET THE BYTE COUNT              17830000
0014E4 41D0 C098            00098  1988          LA    13,CARD+20 .         AND AN INDEX INTO THE CARD      17840000
0014E8 58AD 0000            00000  1989 RLDLOOP  L     10,0(13) .           GET THE LOCATION TO BE RLD'D    17850000
0014EC 1AA9                        1990          AR    10,9 .               GET THE ABSOLUTE ADDRESS        17860000
0014EE 9103 D003      00003        1991          TM    3(13),X'03' .        IS IT A FULLWORD?               17870000
0014F2 4770 1252            01520  1992          BNZ   NOTALGND .           IF NO, HANDLE AS THREE BYTES    17880000
0014F6 587A 0000            00000  1993          L     7,0(10) .            GET THAT WORD (HAD BETTER BE    17890000
0014FA 1A79                        1994          AR    7,9 .                 ONE); ADD THE RELOCATION       17900000
0014FC 507A 0000            00000  1995          ST    7,0(10) .             ADDRESS, AND STORE IT BACK    17910000
001500 9101 D000      00000        1996 RLDCONT  TM    0(13),X'01' .        CHECK IF LONG OR SHORT FIELD    17920000
001504 4770 1242            01510  1997          BNZ   SHORT .              AND BRANCH ACCORDINGLY          17930000
001508 4140 0008            00008  1998          LA    4,8 .                SKIP EIGHT BYTES                17940000
00150C 47F0 1246            01514  1999          B     RLDFINI                                               17950000
001510 4140 0004            00004  2000 SHORT    LA    4,4 .                SKIP FOUR BYTES                 17960000
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'12CE',R1  SA,R8  JSPAS,R12

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

001514 1AD4                      2001 RLDFINI  AR    13,4 .              INCREMENT THE CARD INDEX          17970000
001516 1BB4                      2002          SR    11,4 .              DECREMENT THE BYTE COUNT          17980000
001518 4720 121A          014E8  2003          BP    RLDLOOP .           AND TRY AGAIN                     17990000
00151C 47F0 11C4          01492  2004          B     LOADLOOP .          OR READ ANOTHER CARD              18000000
001520 D202 C1B5 A000 001B5 00000  2005 NOTALGND MVC   RLDTEMP+1(3),0(10) . PUT ADDRESS HERE               18010000
001526 5870 C1B4          001B4  2006          L     7,RLDTEMP .         RELOCATE IT                       18020000
00152A 1A79                      2007          AR    7,9                                                   18030000
00152C 5070 C1B4          001B4  2008          ST    7,RLDTEMP .         AND PUT IT BACK TO                18040000
001530 D202 A000 C1B5 00000 001B5  2009          MVC   0(3,10),RLDTEMP+1 .  WHERE IT BELONGS              18050000
001536 9400 C1B4          001B4  2010          NI    RLDTEMP,X'00' .     CLEAR OUT TEMPORARY               18060000
00153A 47F0 1232          01500  2011          B     RLDCONT .           AND LOOP BACK                     18070000

00153E 4120 C190          00190  2013 ENDCARD  LA    2,USERL .           FIND THE PCB FOR USERPROG         18090000
001542 0AD5                      2014          SVC   C'N'                                                  18100000
001544 5840 C198          00198  2015          L     4,USERL+8 .         GET THE ADDRESS                   18110000
                  R:4  00000     2016          USING PCB,4                                               18120000
001548 92FF 4019          00019  2017          MVI   PCBBLOKT,X'FF' .    TEMPORARILY BLOCK IT              18130000
00154C 5090 C198          00198  2018          ST    9,USERL+8 .         STORE THE BEGINNING ADDRESS       18140000
001550 0AE8                      2019          SVC   C'Y' .              THEN START IT                     18150000
001552 5850 C18C          0018C  2020          L     5,KEY .             GET THE KEY                       18160000
001556 5650 404C          0004C  2021          O     5,PCBISA+0 .        THEN OR THIS INTO THE             18170000
00155A 5050 404C          0004C  2022          ST    5,PCBISA+0 .         FIRST WORD OF THE PCB            18180000
00155E 9601 404D    0004D        2023          OI    PCBISA+1,X'01' .    OR IN A 'PROGRAM STATE' BIT       18190000
001562 9200 4019          00019  2024          MVI   PCBBLOKT,X'00' .    AND THEN UNBLOCK IT               18200000
                                 2025          DROP  4                                                   18210000
001566 4120 C1B8          001B8  2026          LA    2,TALK .            LISTEN TO WHAT IT SAYS            18220000
00156A 0AD9                      2027          SVC   C'R'                                                  18230000

00156C D207 C000 141A 00000 016E8  2029          MVC   LINE(8),=CL8' ' .   IF JOB FINISHED, CLEAR A LINE   18250000
001572 D27B C008 C007 00008 00007  2030          MVC   LINE+8(124),LINE+7                                  18260000
001578 D20B C000 C1C4 00000 001C4  2031          MVC   LINE(12),TALK+12 .  MOVE THE MESSAGE ONTO THE LINE  18270000
00157E 4120 C178          00178  2032          LA    2,WRITE .           AND SAY TO WRITE IT               18280000
001582 0AE2                      2033          SVC   C'S'                                                  18290000
001584 4120 C1D0          001D0  2034          LA    2,ANYBACK                                             18300000
001588 0AD9                      2035          SVC   C'R'                                                  18310000
00158A 4120 1352          01620  2036          LA    2,SKIP .            SKIP TO THE TOP OF THE NEXT PAGE  18320000
00158E 0AE2                      2037          SVC   C'S'                                                  18330000
001590 4120 C1D0          001D0  2038          LA    2,ANYBACK                                             18340000
001594 0AD9                      2039          SVC   C'R'                                                  18350000

001596 5850 0270          00270  2041 EXPUNGE  L     5,RUNNING .         EXPUNGE A JOB: LOOK AT ALL PCBS   18370000
00159A 4120 C19C          0019C  2042          LA    2,SEQ                                                 18380000
                  R:5  00000     2043          USING PCB,5                                               18390000
00159E D207 C19C 5000 0019C 00000  2044 EXPLOOP  MVC   SEQ(8),PCBNAME .   GET THE PROCESS NAME            18400000
0015A4 5840 5008          00008  2045          L     4,PCBNPTG .         GET THE NEXT PTR                  18410000
0015A8 955C C19C    0019C        2046          CLI   SEQ+0,C'*' .        IS IT A '*' PROCESS?              18420000
0015AC 4780 12E6          015B4  2047          BE    EXPNXT .            IF SO, SKIP OVER                  18430000
0015B0 0AE9                      2048          SVC   C'Z' .              ELSE STOP IT                      18440000
0015B2 0AC4                      2049          SVC   C'D' .              AND DESTROY IT                    18450000
0015B4 1854                      2050 EXPNXT   LR    5,4 .               GO TO THE NEXT PCB                18460000
0015B6 5950 0270          00270  2051          C     5,RUNNING .         ARE WE THROUGH?                   18470000
0015BA 4770 12D0          0159E  2052          BNE   EXPLOOP .           IF NOT, LOOP AGAIN                18480000
0015BE 9500 C1DD    001DD        2053          CLI   LOADED,X'00' .      WAS CORE ALLOCATED?               18490000
0015C2 4780 1086          01354  2054          BE    LOOP .              IF NOT, GO READ THE NEXT $JOB CARD 18500000
0015C6 4140 0008          00008  2055          LA    4,8 .               SET ZERO KEY AND FETCH PROTECT    18510002
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'12CE',R1  PCB,R5  SA,R8  JSPAS,R12

 LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                  HLASM R6.0  2016/08/29 08.42

0015CA 1839                       2056          LR    3,9 .              AND A POINTER TO THE NEXT            18520000
0015CC 1A38                       2057          AR    3,8 .               BLOCK AFTER OURS                    18530000
0015CE 5B30 138E          0165C   2058 LOADCL   S     3,PAGESIZE .       GET THE PREVIOUS BLOCK, PAGE ALIGNED 18540002
0015D2 1939                       2059          CR    3,9 .              ARE WE THROUGH?                      18550000
0015D4 4740 1312          015E0   2060          BL    LOADD .            IF SO, GO FREE CORE                  18560000
                                  2061 *        SSKE  4,3 .              ELSE CLEAR STORAGE KEY               18570002
0015D8 B22B0043                   2062          DC    X'B22B0043'        ASSEMBLER (XF) DOESN'T SUPPORT SSKE  18573002
0015DC 47F0 1300          015CE   2063          B     LOADCL .           AND LOOP BACK                        18580000
0015E0 4120 C1A8          001A8   2064 LOADD    LA    2,CORE                                                  18590000
0015E4 0AC6                       2065          SVC   C'F' .             FREE THE STORAGE                     18600000
0015E6 47F0 1086          01354   2066          B     LOOP .             READ ANOTHER $JOB CARD               18610000

0015EA 1B55                       2068 SCAN     SR    5,5 .              START THE TOKEN COUNT AT ZERO        18630000
0015EC 4144 0001          00001   2069 SCANLOOP LA    4,1(4) .           GO TO NEXT CHARACTER                 18640000
0015F0 956B 4000    00000         2070          CLI   0(4),C',' .        DO WE HAVE A DELIMITER? IF SO,       18650000
0015F4 4780 1342          01610   2071          BE    TOKSTART                                                18660000
0015F8 957E 4000    00000         2072          CLI   0(4),C'=' .        DITTO                                18670000
0015FC 4780 1342          01610   2073          BE    TOKSTART                                                18680000
001600 9540 4000    00000         2074          CLI   0(4),C' ' .        DITTO                                18690000
001604 4780 1342          01610   2075          BE    TOKSTART                                                18700000
001608 4155 0001          00001   2076          LA    5,1(5) .           AND UP COUNT                         18710000
00160C 47F0 131E          015EC   2077          B     SCANLOOP .         AND LOOP                             18720000
001610 1894                       2078 TOKSTART LR    9,4 .              SET REG9 TO START                    18730000
001612 1B95                       2079          SR    9,5 .              OF THIS TOKEN                        18740000
001614 0650                       2080          BCTR  5,0 .              LESS ONE FOR EXECUTE INSTRUCTION     18750000
001616 07F3                       2081          BR    3                                                       18760000


001618 0000000000000000           2083 JSPNEVER DC    F'0,0' .           A GOOD WAY TO DIE: P(JSPNEVER)       18780000
001620 5CD6E4E340404040           2084 SKIP     DC    CL8'*OUT' .        MESSAGE BLOCK FOR A NEW PAGE         18790000
001628 00000008                   2085          DC    F'8'                                                    18800000
00162C E2E3C3F1                   2086          DC    CL4'STC1'                                               18810000
001630 5CC9D54040404040           2087 INSEQ    DC    CL8'*IN' .         SEQ TO CREATE & START *IN            18820000
001638 00000AC6                   2088          DC    A(RDRHANDL)                                             18830000
00163C 5CD6E4E340404040           2089 OUTSEQ   DC    CL8'*OUT' .        SEQ TO CREATE & START *OUT           18840000
001644 00000C48                   2090          DC    A(PRTHANDL)                                             18850000
001648 F200 1382 9000 01650 00000 2091 COREPACK PACK  COREPCKD(1),0(1,9) . EXECUTED TO PACK CORE SIZE REQ'D    18860002
001650                            2092 COREPCKD DS    D .                PACKED CORE REQUIREMENT GOES HERE    18880002
001658 00000070                   2093 COREPKLN DC    X'00000070' .      LENGTH OF PACKED SIZE FOR EXECUTE    18900002
00165C 00001000                   2094 PAGESIZE DC    F'4096' .          PAGE SIZE FOR CORE COMPUTATION       18920002
001660 0000000100000000           2095 JSPSUSEM DC    F'1,0' .           SEMAPHORE TO LOCK ROUTINE            18990000
001668 000001E0                   2096 JSPAAS   DC    A(LENJSPAS) .      ALLOCATE LIST FOR AUTO STORAGE       19000000
00166C                            2097          DS    A                                                       19010000
001670 00000008                   2098 FETCHPRT DC    F'8'               REUSED TO OR IN FETCH PROTECTION     19020002
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ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'12CE',R1  PCB,R5  SA,R8  JSPAS,R12

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                    HLASM R6.0  2016/08/29 08.42
                                  2100 ********************************************************************** 19040000
                                  2101 *                                                                    * 19050000
                                  2102 *                          DEVICE INTERFACE MODULE                   * 19060000
                                  2103 *                                                                    * 19070000
                                  2104 *        FUNCTION: TO INTERFACE BETWEEN USERPROG AND DEVICE HANDLER  * 19080000
                                  2105 *       DATABASES: NONE                                              * 19090000
                                  2106 *   ROUTINES USED: XA, XP, XV, XR, XS                                * 19100000
                                  2107 *       PROCEDURE: ALLOCATE AUTOMATIC STORAGE; START TO READ MESSAGE * 19110000
                                  2108 *                  FROM USER; SEND MESSAGE TO DEVICE HANDLER;        * 19120000
                                  2109 *                  CONTINUE LOOPING, SENDING MESSAGES FROM USER TO   * 19130000
                                  2110 *                  DEVICE HANDLER AND BACK.                          * 19140000
                                  2111 *    ERROR CHECKS: NONE                                              * 19150000
                                  2112 *      INTERRUPTS: ON                                                * 19160000
                                  2113 *     USER ACCESS: YES                                               * 19170000
                                  2114 *                                                                    * 19180000
                                  2115 ********************************************************************** 19190000

                       01674      2117 DIM      EQU   * .               THE DEVICE INTERFACE MODULE          19210000
001674 0510                       2118          BALR  1,0                                                    19220000
                  R:1  01676      2119          USING *,1 .             ESTABLISH ADDRESSING                 19230000
001676 4120 1042           016B8  2120          LA    2,DIMSEM .        LOCK UNTIL GET STORAGE               19240000
00167A 0AD7                       2121          SVC   C'P'                                                   19250000
00167C 4120 104A           016C0  2122          LA    2,DIMAAS .        READY TO ALLOCATE STORAGE            19260000
                  R:2  00000      2123          USING XAX,2                                                  19270000
001680 0AC5                       2124          SVC   C'E' .            DO IT                                19280000
001682 58C0 2004           00004  2125          L     12,XAXADDR .      GET THE ADDRESS                      19290000
                                  2126          DROP  2                                                      19300000
001686 4120 1042           016B8  2127          LA    2,DIMSEM .        UNLOCK OURSELVES                     19310000
00168A 0AE5                       2128          SVC   C'V'                                                   19320000
                  R:C  00000      2129          USING DIMAS,12 .        USE 12 FOR AUTO STORAGE              19330000
00168C D207 C090 B000 00090 00000 2130          MVC   DIMLMS,0(11) .    MOVE NAME OF RECIEVER                19340000
001692 4180 0084           00084  2131          LA    8,132 .           REG 8 = SIZE OF MESSAGE              19350000
001696 5080 C008           00008  2132 DIMLOOP  ST    8,DIMMSG+8 .      GET READY TO READ A MESSAGE          19360000
00169A 4120 C000           00000  2133          LA    2,DIMMSG                                               19370000
00169E 0AD9                       2134          SVC   C'R' .            READ                                 19380000
0016A0 D207 C098 C000 00098 00000 2135          MVC   DIMTEMP,DIMMSG .  SAVE SENDER NAME                     19390000
0016A6 D207 C000 C090 00000 00090 2136          MVC   DIMMSG,DIMLMS .   SEND IT BACK TO THE LAST GUY         19400000
0016AC 0AE2                       2137          SVC   C'S' .            SEND IT                              19410000
0016AE D207 C090 C098 00090 00098 2138          MVC   DIMLMS,DIMTEMP .  AND REMEMBER WHO TO SEND TO NEXT     19420000
0016B4 47F0 1020           01696  2139          B     DIMLOOP .         RELOOP                               19430000
0016B8 0000000100000000           2140 DIMSEM   DC    F'1,0' .          SEMAPHORE FOR ENTRY                  19440000
0016C0 000000A0                   2141 DIMAAS   DC    A(DIMLEN) .       ALLOCATE SEQ FOR AUTO STORAGE        19450000
0016C4 00000000                   2142          DC    A(0)                                                   19460000
0016C8 00000008                   2143          DC    F'8'                                                   19470000
                                  2144          DROP  12                                                     19480000
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'1676',R1  PCB,R5  SA,R8

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

0016D0                            2146          LTORG                                                    19500000
0016D0 0000000000FFE8C0           2147                =A(0,CORESIZE-(VERYEND-PROGRAM))
0016D8 5CC9D54040404040           2148                =CL8'*IN'
0016E0 E4E2C5D9D7D9D6C7           2149                =CL8'USERPROG'
0016E8 4040404040404040           2150                =CL8' '
0016F0 5CD6E4E340404040           2151                =CL8'*OUT'
0016F8 00000EA4                   2152                =A(UCBTABLE)
0016FC 00000FC4                   2153                =A(UCBTBEND)
001700 00000008                   2154                =F'8'
001704 D9C5C1C4                   2155                =C'READ'
001708 D7D9C9D5                   2156                =C'PRIN'
00170C 0000000C                   2157                =F'12'
001710 00000001                   2158                =F'1'
001714 00000000                   2159                =A(0)
001718 00000084                   2160                =F'132'
00171C D6E4E340                   2161                =C'OUT '
001720 00001674                   2162                =A(DIM)
001724 00000D74                   2163                =A(EXCPHNDL)
001728 D6D2                       2164                =C'OK'
00172A 5BD1D6C26B                 2165                =C'$JOB,'
00172F C9D540                     2166                =C'IN '
001732 C5E7C3D740                 2167                =C'EXCP '
001737 E3E7E3                     2168                =C'TXT'
00173A D9D3C4                     2169                =C'RLD'
00173D C5D5C4                     2170                =C'END'
001740                            2171 VERYEND  DS    6D .              BEGINNING OF FREE STORAGE          19510004
001770                            2172 LOADER   DS    0D                IPL LOADER GOES HERE               19521002
```

```
ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'1676',R1  PCB,R5  SA,R8

LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                  HLASM R6.0  2016/08/29 08.42

                    00000         2174 R0       EQU   0                                                    19521502
                    00001         2175 R1       EQU   1                                                    19522002
                    00002         2176 R2       EQU   2                                                    19522502
                    00003         2177 R3       EQU   3                                                    19523002
                    00004         2178 R4       EQU   4                                                    19523502
                    00005         2179 R5       EQU   5                                                    19524002
                    00006         2180 R6       EQU   6                                                    19524502
                    00007         2181 R7       EQU   7                                                    19525002
                    00008         2182 R8       EQU   8                                                    19525502
                    00009         2183 R9       EQU   9                                                    19526002
                    0000A         2184 R10      EQU   10                                                   19526502
                    0000B         2185 R11      EQU   11                                                   19527002
                    0000C         2186 R12      EQU   12                                                   19527502
                    0000D         2187 R13      EQU   13                                                   19528002
                    0000E         2188 R14      EQU   14                                                   19528502
                    0000F         2189 R15      EQU   15                                                   19529002
                                  2190 ********************************************************************** 19530000
                                  2191 *                                                                  * 19540000
                                  2192 *                        DATABASE DEFINITIONS                      * 19550000
                                  2193 *                                                                  * 19560000
                                  2194 ********************************************************************** 19570000

000000              00000 00148 2196 PCB      DSECT .                  PROCESS CONTROL BLOCK DEFINITION     19590000
000000                          2197 PCBNAME  DS    CL8 .              NAME                                 19600000
000008                          2198 PCBNPTG  DS    F .                NEXT POINTER THIS GROUP              19610000
00000C                          2199 PCBLPTG  DS    F .                LAST POINTER THIS GROUP              19620000
000010                          2200 PCBNPALL DS    F .                NEXT POINTER ALL                     19630000
000014                          2201 PCBLPALL DS    F .                LAST POINTER ALL                     19640000
000018                          2202 PCBSTOPT DS    C .                STOPPED                              19650000
000019                          2203 PCBBLOKT DS    C .                BLOCKED                              19660000
00001A                          2204 PCBINSMC DS    C .                 IN SMC                              19670000
00001B                          2205 PCBSW    DS    C .                STOP WAITING                         19680000
00001C                          2206 PCBMSC   DS    CL8 .              MESSAGE SEMAPHORE COMMON             19690000
000024                          2207 PCBMSR   DS    CL8 .              MESSAGE SEMAPHORE RECEIVER           19700000
00002C                          2208 PCBFM    DS    F .                FIRST MESSAGE                        19710000
000030                          2209 PCBNSW   DS    F .                NEXT SEMAPHORE WAITER                19720000
000034                          2210 PCBSRS   DS    CL8 .              STOPPER SEMAPHORE                    19730000
00003C                          2211 PCBSES   DS    CL8 .              STOPPEE SEMAPHORE                    19740000
000044                          2212 PCBASIZE DS    F .                AUTOMATIC STORAGE SIZE               19750000
000048                          2213 PCBAADDR DS    A .                AUTOMATIC STORAGE ADDRESS            19760000
00004C                          2214 PCBISA   DS    CL84 .             INTERRUPT SAVE AREA                  19770000
0000A0                          2215 PCBFSA   DS    CL84 .             FAULT SAVE AREA                      19780000
0000F4                          2216 PCBMSA   DS    CL84 .             MEMORY SAVE AREA                     19790000
000148                          2217          DS    0D .               (ALIGN)                              19800000
                    00148       2218 LENPCB   EQU   *-PCB .            (LENGTH)                             19810000

000000              00000 00054 2220 SA       DSECT .                  SAVE AREA DEFINITION                 19830000
000000                          2221 SAPSW    DS    D .                PROGRAM STATUS WORD                  19840000
000008                          2222 SAREGS   DS    CL64 .             REGISTERS                            19850000
000048                          2223 SATEMP   DS    CL12 .             TEMPORARIES                          19860000

000000              00000 00040 2225 REGS     DSECT .                  REGISTER DEFINITION                  19880000
000000                          2226 REG0     DS    F .                REGISTER 0                           19890000
000004                          2227 REG1     DS    F .                REGISTER 1                           19900000
000008                          2228 REG2     DS    F .                REGISTER 2                           19910000
```

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   ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'1676',R1  PCB,R5  SA,R8

D-LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42

00000C                             2229 REG3     DS    F .              REGISTER 3                          19920000
000010                             2230 REG4     DS    F .              REGISTER 4                          19930000
000014                             2231 REG5     DS    F .              REGISTER 5                          19940000
000018                             2232 REG6     DS    F .              REGISTER 6                          19950000
00001C                             2233 REG7     DS    F .              REGISTER 7                          19960000
000020                             2234 REG8     DS    F .              REGISTER 8                          19970000
000024                             2235 REG9     DS    F .              REGISTER 9                          19980000
000028                             2236 REG10    DS    F .              REGISTER 10                         19990000
00002C                             2237 REG11    DS    F .              REGISTER 11                         20000000
000030                             2238 REG12    DS    F .              REGISTER 12                         20010000
000034                             2239 REG13    DS    F .              REGISTER 13                         20020000
000038                             2240 REG14    DS    F .              REGISTER 14                         20030000
00003C                             2241 REG15    DS    F .              REGISTER 15                         20040000

000000                00000 00008  2243 FSB      DSECT .                FREE STORAGE BLOCK DEFINITIONS      20060000
000000                             2244 FSBNEXT  DS    A .              NEXT                                20070000
000004                             2245 FSBSIZE  DS    F .              SIZE                                20080000

000000                00000 00008  2247 SM       DSECT .                SEMAPHORE DEFINITION                20100000
000000                             2248 SMVAL    DS    F .              VALUE                               20110000
000004                             2249 SMPTR    DS    F .              PTR                                 20120000

000000                00000 0000C  2251 MSG      DSECT .                MESSAGE DEFINITION                  20140000
000000                             2252 MSGSENDR DS    A .              POINTER TO SENDER'S PCB             20150000
000004                             2253 MSGNEXT  DS    A .              NEXT                                20160000
000008                             2254 MSGSIZE  DS    F .              SIZE                                20170000
00000C                             2255 MSGTEXT  DS    0C .             TEXT                                20180000
                      0000C        2256 LENMSG   EQU   *-MSG .          (LENGTH)                            20190000

000000                00000 0000C  2258 XAX      DSECT .                XA ARGUMENT LIST                    20210000
000000                             2259 XAXSIZE  DS    F .              SIZE                                20220000
000004                             2260 XAXADDR  DS    F .              ADDRESS                             20230000
000008                             2261 XAXALGN  DS    F .              ALIGNMENT                           20240000

000000                00000 00008  2263 XFX      DSECT .                XF ARGUMENT LIST                    20260000
000000                             2264 XFXSIZE  DS    F .              SIZE                                20270000
000004                             2265 XFXADDR  DS    F .              ADDRESS                             20280000

000000                00000 00008  2267 XBX      DSECT .                XB ARGUMENT LIST                    20300000
000000                             2268 XBXSIZE  DS    F .              SIZE                                20310000
000004                             2269 XBXADDR  DS    F .              ADDRESS                             20320000

000000                00000 00008  2271 XCX      DSECT .                XC ARGUMENT LIST                    20340000
000000                             2272 XCXNAME  DS    CL8 .            NAME                                20350000

000000                00000 00008  2274 XDX      DSECT .                AD ARGUMENT LIST                    20370000
000000                             2275 XDXNAME  DS    CL8 .            NAME                                20380000

000000                00000 0000C  2277 XNX      DSECT .                XN ARGUMENT LIST                    20400000
000000                             2278 XNXNAME  DS    CL8 .            NAME                                20410000
000008                             2279 XNXADDR  DS    A .              ADDRESS                             20420000

000000                00000 0000C  2281 XRX      DSECT .                XR ARGUMENT LIST                    20440000
000000                             2282 XRXNAME  DS    CL8 .            NAME                                20450000
000008                             2283 XRXSIZE  DS    F .              SIZE                                20460000
```

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  ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'1676',R1  PCB,R5  SA,R8

D-LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                          HLASM R6.0  2016/08/29 08.42

00000C                             2284 XRXTEXT  DS    0C .              TEXT                              20470000

000000                00000 0000C  2286 XSX      DSECT .                XS ARGUMENT LIST                  20490000
000000                             2287 XSXNAME   DS    CL8 .             NAME                              20500000
000008                             2288 XSXSIZE   DS    F .               SIZE                              20510000
00000C                             2289 XSXTEXT   DS    0C .              TEXT                              20520000

000000                00000 0000C  2291 XYX      DSECT .                XY ARGUMENT LIST                  20540000
000000                             2292 XYXNAME   DS    CL8 .             NAME                              20550000
000008                             2293 XYXADDR   DS    A .               ADDR                              20560000

000000                00000 00008  2295 XZX      DSECT .                XZ ARGUMENT LIST                  20580000
000000                             2296 XZXNAME   DS    CL8 .             NAME                              20590000

000000                00000 00080  2298 RDRHAS   DSECT .                READER HANDLER AUTOMATIC STORAGE  20610000
000000                             2299 RDRHCCB   DS    2F .              CCB                               20620000
000008                             2300 RDRHMSG   DS    CL8 .             MESSAGE BLOCK FOR REQUESTS        20630000
000010                             2301           DS    F'8'                                                20640000
000014                             2302           DS    CL8                                                 20650000
00001C                             2303 RDRHTEMP  DS    CL80 .            AREA FOR $JOB IN DATA STREAM      20660000
00006C                             2304 RDRHM     DS    CL8 .             MESSAGE BLOCK FOR REPLY           20670000
000074                             2305           DS    F'2'                                                20680000
000078                             2306           DS    CL2                                                 20690000
00007A                             2307 JOBBIT    DS    1C                                                  20700000
000080                             2308           DS    0D                                                  20710000
                      00080        2309 LENRDRHA  EQU   *-RDRHAS .         (LENGTH)                          20720000

000000                00000 00030  2311 PRTHAS    DSECT .                PRINTER HANDLER AUTOMATIC STORAGE 20740000
000000                             2312 PRTHCCB   DS    2F .              CCB                               20750000
000008                             2313 PRTHMSG   DS    CL8 .             MESSAGE BLOCK FOR REQUESTS        20760000
000010                             2314           DS    F'2'                                                20770000
000014                             2315           DS    CL8                                                 20780000
00001C                             2316 PRTHM     DS    CL8 .             MESSAGE BLOCK FOR REPLY           20790000
000024                             2317           DS    F'2'                                                20800000
000028                             2318           DS    CL2                                                 20810000
000030                             2319           DS    0D                                                  20820000
                      00030        2320 LENPRTHA  EQU   *-PRTHAS .         (LENGTH)                          20830000

000000                00000 00030  2322 EXCPHAS   DSECT .                EXCP HANDLER AUTOMATIC STORAGE    20850000
000000                             2323 EXCPHMSG  DS    CL8 .             MESSAGE BLOCK FOR REQUESTS        20860000
000008                             2324           DS    F'12'                                               20870000
00000C                             2325           DS    CL12                                                20880000
000018                             2326 EXCPHM    DS    CL8 .             MESSAGE BLOCK FOR REPLY           20890000
000020                             2327           DS    F'12'                                               20900000
000024                             2328           DS    CL12                                                20910000
000030                             2329           DS    0D                                                  20920000
                      00030        2330 LENEXCPA  EQU   *-EXCPHAS .          (LENGTH)                       20930000

000000                00000 00020  2332 UCB      DSECT .                UNIT CONTROL BLOCK DEFINITION     20950000
000000                             2333 UCBADDR   DS    F .               ADDRESS                           20960000
000004                             2334 UCBUS     DS    FL8 .             USER SEMAPHORE                    20970000
00000C                             2335 UCBWS     DS    FL8 .             WAITER SEMAPHORE                  20980000
000014                             2336 UCBCSW    DS    FL8 .             CHANNEL STATUS WORD               20990000
00001C                             2337 UCBFPR    DS    CL1 .             FAST PROCESSING REQUIRED          21000000
000020                             2338           DS    0F                                                  21010000
```

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   ACTIVE USINGS: PROGRAM,R0  PROGRAM+X'1676',R1  PCB,R5  SA,R8

D-LOC  OBJECT CODE    ADDR1 ADDR2  STMT   SOURCE STATEMENT                                HLASM R6.0  2016/08/29 08.42
                      00020        2339 UCBLENG  EQU   *-UCB                                                  21020000

000000                00000 001E0  2341 JSPAS    DSECT .                  JSP AUTOMATIC STORAGE               21040000
000000                             2342 LINE     DS    CL132 .            PRINTED LINE                        21050000
000084                             2343          DS    0F                                                     21060000
000084                             2344 CARD     DS    CL80 .             CARD READ                           21070000
0000D4                             2345          DS    0F                                                     21080000
0000D4                             2346 RREPLY   DS    CL8 .              MESSAGE BLOCK FOR REPLIES           21090000
0000DC                             2347 RREPLY1  DS    F                                                      21100000
0000E0                             2348 REPLY    DS    CL132                                                  21110000
000164                             2349 TREAD    DS    0F .               MESSAGE BLOCK FOR READING           21120000
000164                             2350          DS    CL8'*IN'                                               21130000
00016C                             2351          DS    F'8'                                                   21140000
000170                             2352          DS    CL4'READ'                                              21150000
000174                             2353 ACARD    DS    A(0)                                                   21160000
000178                             2354 WRITE    DS    CL8'*OUT' .        MESSAGE BLOCK TO PRINT A LINE       21170000
000180                             2355          DS    F'8'                                                   21180000
000184                             2356          DS    CL4'PRIN'                                              21190000
000188                             2357          DS    A(LINE)                                                21200000
00018C                             2358 KEY      DS    F                                                      21210000
000190                             2359 USERL    DS    CL8'USERPROG' .    LIST FOR MANIPULATING USERPROG      21220000
000198                             2360          DS    F                                                      21230000
00019C                             2361 SEQ      DS    CL8' ' .           COMMON ARG LIST FOR I/O PROCESS     21240000
0001A4                             2362 UNITRTN  DS    A                                                      21250000
0001A8                             2363 CORE     DS    F .                MEMORY ALLOCATED AND FREE           21260000
0001AC                             2364          DS    F .                SEQUENCE                            21270000
0001B0                             2365          DS    F'4096'            ALIGN TO PAGE BOUNDARY              21280002
0001B4                             2366 RLDTEMP  DS    F                                                      21290000
0001B8                             2367 TALK     DS    CL8'USERPROG' .    MESSAGE BLOCK FOR MESSAGE FROM      21300000
0001C0                             2368          DS    F'12' .             USERPROG                           21310000
0001C4                             2369          DS    CL12                                                   21320000
0001D0                             2370 ANYBACK  DS    CL8 .              MESSAGE BLOCK FOR IGNORING MESS     21330000
0001D8                             2371          DS    F'1'                                                   21340000
0001DC                             2372          DS    CL1                                                    21350000
0001DD                             2373 LOADED   DS    C .                IS CORE ALLOCATED                   21360000
0001E0                             2374          DS    0D                                                     21370000
                      001E0        2375 LENJSPAS EQU   *-JSPAS .          (LENGTH)                            21380000

000000                00000 000A0  2377 DIMAS    DSECT .                  DEVICE INTERFACE MODULE STORAGE     21400000
000000                             2378 DIMMSG   DS    CL8 .              MESSAGE BLOCK                       21410000
000008                             2379          DS    F'132'                                                 21420000
00000C                             2380          DS    CL132                                                  21430000
000090                             2381 DIMLMS   DS    CL8 .              LAST MESSAGE SENDER                 21440000
000098                             2382 DIMTEMP  DS    CL8 .              TEMPORARY                           21450000
0000A0                             2383          DS    0D                                                     21460000
                      000A0        2384 DIMLEN   EQU   *-DIMAS .          (LENGTH)                            21470000
                                   2385          END                                                          21480000
```

POS.ID	REL.ID	ADDRESS	TYPE	ACTION
00000001	00000001	00000005	A 3	+
00000001	00000001	0000005D	A 3	+
00000001	00000001	00000065	A 3	+
00000001	00000001	0000006D	A 3	+
00000001	00000001	00000180	A 4	+
00000001	00000001	0000042D	A 3	+
00000001	00000001	00000435	A 3	+
00000001	00000001	0000043D	A 3	+
00000001	00000001	00000445	A 3	+
00000001	00000001	0000044D	A 3	+
00000001	00000001	00000455	A 3	+
00000001	00000001	0000045D	A 3	+
00000001	00000001	00000465	A 3	+
00000001	00000001	0000046D	A 3	+
00000001	00000001	00000475	A 3	+
00000001	00000001	0000047D	A 3	+
00000001	00000001	00000485	A 3	+
00000001	00000001	0000048D	A 3	+
00000001	00000001	00000495	A 3	+
00000001	00000001	0000049D	A 3	+
00000001	00000001	000004A5	A 3	+
00000001	00000001	000004AD	A 3	+
00000001	00000001	000004B5	A 3	+
00000001	00000001	000004BD	A 3	+
00000001	00000001	000004C5	A 3	+
00000001	00000001	000004C8	A 4	+
00000001	00000001	000004DD	A 3	+
00000001	00000001	0000059D	A 3	+
00000001	00000001	00000E5C	A 4	+
00000001	00000001	00000E90	A 4	+
00000001	00000001	000010CC	A 4	+
00000001	00000001	000010D0	A 4	+
00000001	00000001	000010D4	A 4	+
00000001	00000001	000010D8	A 4	+
00000001	00000001	000010EC	A 4	+
00000001	00000001	000010F0	A 4	+
00000001	00000001	000010F4	A 4	+
00000001	00000001	000010F8	A 4	+
00000001	00000001	000010FC	A 4	+
00000001	00000001	00001100	A 4	+
00000001	00000001	00001104	A 4	+
00000001	00000001	00001108	A 4	+
00000001	00000001	00001118	A 4	+
00000001	00000001	0000111C	A 4	+
00000001	00000001	00001120	A 4	+
00000001	00000001	00001124	A 4	+
00000001	00000001	000012B9	A 3	+
00000001	00000001	000012C1	A 3	+
00000001	00000001	000012C5	A 3	+
00000001	00000001	000012C9	A 3	+
00000001	00000001	00001638	A 4	+
00000001	00000001	00001644	A 4	+
00000001	00000001	000016F8	A 4	+
00000001	00000001	000016FC	A 4	+
00000001	00000001	00001720	A 4	+

POS.ID	REL.ID	ADDRESS	TYPE	ACTION
00000001	00000001	00001724	A 4	+
00000001	00000002	0000007D	A 3	+
00000003	00000001	00001815	A 3	+
00000003	00000001	00001819	A 3	+
00000003	00000001	00001821	A 3	+

SYMBOL	LENGTH	VALUE	ID	R	TYPE	ASM	PROGRAM	DEFN	REFERENCES	HLASM R6.0 2016/08/29 08.42
ACARD	4	00000174	FFFFFFEB		A	A		2353	1859M	
ANYBACK	8	000001D0	FFFFFFEB		C	C		2370	1868M 2034 2038	
ASEXCP	6	00001452	00000001		I			1946	1933B	
ASGNUNIT	4	000013DA	00000001		I			1917	1943B 1949B	
ASIN	4	0000143A	00000001		I			1940	1929B	
ASOUT	4	0000144A	00000001		I			1944	1931B	
CARD	80	00000084	FFFFFFEB		C	C		2344	1858 1888 1897 1904 1971 1973 1975 1979 1981 1985 1987 1988	
CARDLDR	1	00001770	00000002		J			43	62 66U	
CAW	4	00000048	00000001		F	F		142	74M 1369M 1481M 1561M	
CAWSEM	4	00000194	00000001		F	F		158	1367 1479 1559	
CCBCON1	4	00000C30	00000001		X	X		1412	1361 1471	
CCWCHAIN	8	00001810	00000002		D	D		123	73	
CMPEXCP	6	00001434	00000001		I			1938	1932X	
CMPIN	6	00001428	00000001		I			1936	1928X	
CMPOUT	6	0000142E	00000001		I			1937	1930X	
CONTINUE	4	000017FC	00000002		F	F		119	96M	
CORE	4	000001A8	FFFFFFEB		F	F		2363	1865M 1916M 1951 1954 2064	
COREOK	4	000013D2	00000001		I			1915	1913B	
COREPACK	6	00001648	00000001		I			2091	1908X	
COREPCKD	8	00001650	00000001		D	D		2092	1909 2091M	
COREPKLN	4	00001658	00000001		X	X		2093	1907	
CORESIZ	4	00001264	00000001		A	A		1817	1747	
CORESIZE	1	01000000	00000001	A	U			129	1817 2147	
CSW	8	00000040	00000001		D	D		141	106 1703 1704 1707	
DIM	1	00001674	00000001		U			2117	2162	
DIMAAS	4	000016C0	00000001		A	A		2141	2122	
DIMAS	1	00000000	FFFFFFEA		J			2377	2129U 2384	
DIMLEN	1	000000A0	FFFFFFEA	A	U			2384	2141	
DIMLMS	8	00000090	FFFFFFEA		C	C		2381	2130M 2136 2138M	
DIMLOOP	4	00001696	00000001		I			2132	2139B	
DIMMSG	8	00000000	FFFFFFEA		C	C		2378	2132M 2133 2135 2136M	
DIMSEM	4	000016B8	00000001		F	F		2140	2120 2127	
DIMTEMP	8	00000098	FFFFFFEA		C	C		2382	2135M 2138	
EIGHT	4	00001808	00000002		F	F		122	89	
ENBLECHO	2	000017EE	00000002		C	C		115	72	
ENDADATA	6	00000BFE	00000001		I			1399	1390B	
ENDCARD	4	0000153E	00000001		I			2013	1976B	
EXCPCOMP	4	00000DB4	00000001		I			1547	1551B	
EXCPDONE	4	00000E30	00000001		I			1581	1576B	
EXCPFIND	2	00000DCA	00000001		I			1553	1548B	
EXCPHAAS	4	00000E44	00000001		A	A		1586	1527	
EXCPHAS	1	00000000	FFFFFFED		J			2322	1536U 2330	
EXCPHM	8	00000018	FFFFFFED		C	C		2326	1566M 1567M 1568M 1569	
EXCPHMSG	8	00000000	FFFFFFED		C	C		2323	1537 1568 1571	
EXCPHNDL	1	00000D74	00000001		U			1521	2163	
EXCPHSEM	4	00000E3C	00000001		F	F		1585	1525 1532	
EXCPLOOP	4	00000D92	00000001		I			1537	1542B 1583B	
EXCPWAIT	4	00000DF0	00000001		I			1564	1578B	
EXINTRPT	4	000012BC	00000001		I			1827	1834	
EXPLOOP	6	0000159E	00000001		I			2044	2052B	
EXPNXT	2	000015B4	00000001		I			2050	2047B	
EXPUNGE	4	00001596	00000001		I			2041	1921B 1934B	
EXTHANDL	1	0000027A	00000001		U			175	146 1832	
EXTHRET	4	000002A8	00000001		I			191	180B 184B	

SYMBOL	LENGTH	VALUE	ID	R	TYPE	ASM	PROGRAM	DEFN	REFERENCES
EXTNEW	1	00000058	00000001		B	B		146	1741M 1781M
EXTOLD	8	00000018	00000001		D	D		136	179 187 192 1827
FETCHPRT	4	00001670	00000001		F	F		2098	1957
FSB	1	00000000	FFFFFFFC		J			2243	576U 662U 731U 740U
FSBNEXT	4	00000000	FFFFFFFC		A	A		2244	589 590 597 665 679 680 734 735 741M
FSBPTR	4	00000180	00000001		A	A		155	572 573 660 661 727 728
FSBSEM	4	00000184	00000001		F	F		156	570 616 658 693
FSBSIZE	4	00000004	FFFFFFFC		F	F		2245	585 598 669 672 677 732 742M
GWINC	4	00000586	00000001		I			458	455B
GWLOOP	4	00000576	00000001		I			454	460B
GWRUN	6	000005A0	00000001		I			465	457B
IDLE	1	00000598	00000001		B	B		463	461
INSEQ	8	00001630	00000001		C	C		2087	1873
IOBACK	4	00001036	00000001		I			1724	1701B
IOCOMP	6	00000FD2	00000001		I			1696	1700B
IODEVFND	6	00000FEC	00000001		I			1703	1697B
IOHANDL	1	00000FC4	00000001		U			1690	1830
IOHSAVE	4	000001DC	00000001		F	F		161	1691M 1718 1724
IOINTRPT	1	000017DA	00000002		U			105	70 150
IOINTRTN	4	000017EA	00000002		I			110	107B
IONEW	1	00000078	00000001		B	B		150	71M 448 1740M
IONOFPR	2	00001034	00000001		I			1723	1710B
IOOLD	8	00000038	00000001		D	D		140	108M 109M 110 1694M 1696 1717 1725
IOWAIT	4	0000102C	00000001		I			1720	1714B
IPLAPCBS	4	00001258	00000001		A	A		1814	1755
IPLCL	4	00001066	00000001		I			1748	1752B
IPLEXNEW	3	000012C9	00000001		R	A		1834	1741
IPLLOOP	4	0000107C	00000001		I			1755	1780B
IPLPCB	8	00001110	00000001		C	C		1804	1742 1805
IPLRTN	1	0000103E	00000001		U			1737	133
IPLTH	2	00001076	00000001		I			1753	1749B
JOB	4	00001384	00000001		I			1894	1889B
JOBBIT	1	0000007A	FFFFFFEF		C	C		2307	1323M 1337 1342M 1403M
JSP	1	000012CC	00000001		U			1842	1825
JSPAAS	4	00001668	00000001		A	A		2096	1847
JSPAS	1	00000000	FFFFFFEB		J			2341	1852U 2375
JSPNEVER	4	00001618	00000001		F	F		2083	1891
JSPSUSEM	4	00001660	00000001		F	F		2095	1845 1853
KEY	4	0000018C	FFFFFFEB		F	F		2358	1870M 1947 1955 2020
KEYTAB	1	000010DC	00000001		U			1792	1777
LENEXCPA	1	00000030	FFFFFFED	A	U			2330	1586
LENJSPAS	1	000001E0	FFFFFFEB	A	U			2375	2096
LENMSG	1	0000000C	FFFFFFFA	A	U			2256	1073 1127
LENPCB	1	00000148	FFFFFFFF	A	U			2218	1595 1814
LENPRTHA	1	00000030	FFFFFFEE	A	U			2320	1511
LENRDRHA	1	00000080	FFFFFFEF	A	U			2309	1415
LINE	132	00000000	FFFFFFEB		C	C		2342	1863 1895M 1896M 1896 1897M 2029M 2030M 2030 2031M 2357
LOAD	4	00001462	00000001		I			1951	1919B
LOADADDR	4	00001800	00000002		F	F		120	76
LOADCL	4	000015CE	00000001		I			2058	2063B
LOADD	4	000015E0	00000001		I			2064	2060B
LOADED	1	000001DD	FFFFFFEB		C	C		2373	1894M 1953M 2053
LOADER	8	00001770	00000001		D	D		2172	49 50 52
LOADLOOP	4	00001492	00000001		I			1966	1962B 1977B 1984B 2004B
LOADSK	4	00001480	00000001		I			1960	1965B

SYMBOL	LENGTH	VALUE	ID	R	TYPE	ASM	PROGRAM	DEFN	REFERENCES	HLASM R6.0 2016/08/29 08.42
LOOP	4	00001354	00000001		I			1881	1890B 2054B 2066B	
MEMORY	4	0000018C	00000001		F	F		157	593 688	
MSG	1	00000000	FFFFFFFA		J			2251	839U 1050U 1139U 1147U 2256	
MSGNEXT	4	00000004	FFFFFFFA		A	A		2253	840 1051 1142 1143 1148M	
MSGSENDR	4	00000000	FFFFFFFA		A	A		2252	1068 1149M	
MSGSIZE	4	00000008	FFFFFFFA		F	F		2254	841 1059 1061 1072 1151M	
MSGTEXT	1	0000000C	FFFFFFFA		C	C		2255	1084 1162M	
NEXTCARD	2	0000179C	00000002		I			80	88B	
NEXTTRY	4	00000274	00000001		A	A		166	424M 451 465M 1744M	
NEXTTRYM	1	00000278	00000001		C	C		167	422 425M 466M 1720M	
NOTALGND	6	00001520	00000001		I			2005	1992B	
NUMCARDS	4	00001804	00000002		F	F		121	75	
OUTSEQ	8	0000163C	00000001		C	C		2089	1877	
PAGESIZE	4	0000165C	00000001		F	F		2094	1748 1865 1960 2058	
PCB	1	00000000	FFFFFFFF		J			2196	182U 222U 317 318 319 373U 380U 419U 453U 473U 782U 825U 830U 834U 862U 917U 920U 924U 928U 931U 936U 956U 960U 963U 966U 970U 973U 977U 1003U 1013U 1070U 1086U 1122U 1164U 1198U 1209U 1248U 1260U 1712U 1761U 1765U 1769U 2016U 2043U 2218	
PCBAADDR	4	00000048	FFFFFFFF		A	A		2213	621M 850	
PCBASIZE	4	00000044	FFFFFFFF		F	F		2212	620M 852	
PCBBLOKT	1	00000019	FFFFFFFF		C	C		2203	183 383M 421M 454 785 785M 1713 2017M 2024M	
PCBFM	4	0000002C	FFFFFFFF		F	F		2208	836 1049 1051M 1137 1138	
PCBFSA	84	000000A0	FFFFFFFF		C	C		2215	318	
PCBINSMC	1	0000001A	FFFFFFFF		C	C		2204	492 494M 517 519M 1249	
PCBISA	84	0000004C	FFFFFFFF		C	C		2214	185 317 384M 468 785 1199 1715 1770 2021 2022M 2023M	
PCBLPALL	4	00000014	FFFFFFFF		F	F		2201	918M 921M 957 964M	
PCBLPTG	4	0000000C	FFFFFFFF		F	F		2199	929M 932M 967 974M 1763M 1766M	
PCBMSA	84	000000F4	FFFFFFFF		C	C		2216	319	
PCBMSC	8	0000001C	FFFFFFFF		C	C		2206	1047 1135	
PCBMSR	8	00000024	FFFFFFFF		C	C		2207	1044 1157	
PCBNAME	8	00000000	FFFFFFFF		C	C		2197	783M 1005 1071 1235 2044	
PCBNPALL	4	00000010	FFFFFFFF		F	F		2200	458 465 914 915M 922M 958 961M	
PCBNPTG	4	00000008	FFFFFFFF		F	F		2198	925 926M 933M 968 971M 1004 1762M 1767M 2045	
PCBNSW	4	00000030	FFFFFFFF		F	F		2209	376 377 382M 420	
PCBSES	8	0000003C	FFFFFFFF		C	C		2211	527	
PCBSRS	8	00000034	FFFFFFFF		C	C		2210	525 1255	
PCBSTOPT	1	00000018	FFFFFFFF		C	C		2202	456 784M 826 1204M 1251M	
PCBSW	1	0000001B	FFFFFFFF		C	C		2205	522 524M 1254M	
PGMHANDL	1	000002B0	00000001		U			194	148	
PROGRAM	1	00000000	00000001		J			42	68U 127 2147	
PROTCON1	4	00000C34	00000001		X	X		1413	1348 1355 1458 1465	
PROTCON2	4	00000C38	00000001		X	X		1414	1351 1358 1461 1468	
PRTHAAS	4	00000D68	00000001		A	A		1511	1431	
PRTHANDL	1	00000C48	00000001		U			1425	2090	
PRTHAS	1	00000000	FFFFFFEE		J			2311	1440U 2320	
PRTHCCB	4	00000000	FFFFFFEE		F	F		2312	1441 1472M 1473M 1474M 1476M	
PRTHCOMM	4	00000CEC	00000001		I			1479	1475B 1507B	
PRTHLOOP	4	00000C6A	00000001		I			1442	1451B 1503B	
PRTHM	8	0000001C	FFFFFFEE		C	C		2316	1494M 1496M 1497M 1498M 1501	
PRTHMSG	8	00000008	FFFFFFEE		C	C		2313	1442 1455 1498	
PRTHNO	6	00000D26	00000001		I			1494	1463B 1470B	
PRTHOK	6	00000D30	00000001		I			1496	1493B	
PRTHPOK	4	00000CCA	00000001		I			1471	1456B	

SYMBOL	LENGTH	VALUE	ID	R	TYPE	ASM	PROGRAM	DEFN	REFERENCES
PRTHPRIN	4	00000C92	00000001		I			1453	1448B
PRTHSEM	4	00000D60	00000001		F	F		1510	1429 1436
PRTHSEND	6	00000D36	00000001		I			1497	1495B
PRTHSTC1	6	00000CE0	00000001		I			1476	1450B
PRTHWAIT	4	00000D10	00000001		I			1488	1491B
PTSTATUS	2	00000D52	00000001		I			1504	1486B
QUANTUM	4	000005BC	00000001		X	X		471	469
RDRHAAS	4	00000C3C	00000001		A	A		1415	1313
RDRHANDL	1	00000AC6	00000001		U			1307	2088
RDRHAS	1	00000000	FFFFFFEF		J			2298	1322U 2309
RDRHCCB	4	00000000	FFFFFFEF		F	F		2299	1324 1362M 1363M 1364M
RDRHEXC	4	00000BB8	00000001		I			1383	1379B
RDRHLOOP	4	00000AEC	00000001		I			1325	1330B 1398B
RDRHM	8	0000006C	FFFFFFEF		C	C		2304	1385M 1391M 1392M 1393M 1396 1399M
RDRHMORE	4	00000B2E	00000001		I			1345	1338B
RDRHMSG	8	00000008	FFFFFFEF		C	C		2300	1325 1335 1345 1387 1393
RDRHNO	6	00000BC0	00000001		I			1385	1340B 1353B 1360B
RDRHOK	4	00000BCA	00000001		I			1387	1382B
RDRHPOK	4	00000B60	00000001		I			1361	1346B 1381B 1408B
RDRHSEM	4	00000C28	00000001		F	F		1411	1311 1318
RDRHSEND	6	00000BE2	00000001		I			1392	1386B 1404B
RDRHSOK	6	00000BDC	00000001		I			1391	1343B 1388B
RDRHTEMP	80	0000001C	FFFFFFEF		C	C		2303	1341 1400M
RDRHWAIT	4	00000B96	00000001		I			1374	1377B 1384B
RDSTATUS	2	00000C1C	00000001		I			1405	1372B
READ	1	000017F0	00000002		X	X		116	81
REGS	1	00000000	FFFFFFFD		J			2225	1773U
REG3	4	0000000C	FFFFFFFD		F	F		2229	1776M
REG4	4	00000010	FFFFFFFD		F	F		2230	1777M
REPLY	132	000000E0	FFFFFFEB		C	C		2348	1886
RETURN	1	000004D8	00000001		B	B		328	369 416 426 470 495 529 623 696 743 788 859 935 976 1011 1082 1160 1205 1253
RETURNR	1	000004E0	00000001		U			330	328
RLDCARD	4	000014E0	00000001		I			1987	1974B
RLDCONT	4	00001500	00000001		I			1996	2011B
RLDFINI	2	00001514	00000001		I			2001	1999B
RLDLOOP	4	000014E8	00000001		I			1989	2003B
RLDTEMP	4	000001B4	FFFFFFEB		F	F		2366	1869M 2005M 2006 2008M 2009 2010M
RREPLY	8	000000D4	FFFFFFEB		C	C		2346	1884 1900 1969
RREPLY1	4	000000DC	FFFFFFEB		F	F		2347	1883M 1968M
RUNNING	4	00000270	00000001		A	A		165	181 221 381 467M 1711 1743M 2041 2051
R11	1	0000000B	00000001	A	U			2185	67M 68U 111D
R12	1	0000000C	00000001	A	U			2186	63M 65M 66U 111D
R2	1	00000002	00000001	A	U			2176	64M 65 69M 71 80M 81M 82 83M 84 95M 96
R3	1	00000003	00000001	A	U			2177	70M 71 75M 88M
R4	1	00000004	00000001	A	U			2178	76M 80 86M 86
R5	1	00000005	00000001	A	U			2179	73M 74 82 84 85 87M 87 89M 90
SA	1	00000000	FFFFFFFE		J			2220	186U 230U 1200U 1201 1203 1208U 1716U 1771U
SAPSW	8	00000000	FFFFFFFE		D	D		2221	187M 231M 331 1201M 1201 1202M 1717M
SAREGS	64	00000008	FFFFFFFE		C	C		2222	188M 232M 332 1203M 1203 1718M 1772
SATEMP	12	00000048	FFFFFFFE		C	C		2223	599 682 768 817 833 854 1115 1190 1239
SCAN	2	000015EA	00000001		I			2068	1905B 1917B 1927B
SCANLOOP	4	000015EC	00000001		I			2069	2077B
SEQ	8	0000019C	FFFFFFEB		C	C		2361	1922 1923M 1926 1935M 2042 2044M 2046

SYMBOL	LENGTH	VALUE	ID	R	TYPE	ASM	PROGRAM	DEFN	REFERENCES	HLASM R6.0 2016/08/29 08.42
SETDIM	6	0000143E	00000001		I			1941	1945B	
SHORT	4	00001510	00000001		I			2000	1997B	
SKIP	8	00001620	00000001		C	C		2084	1861 2036	
SM	1	00000000	FFFFFFFB		J			2247	363U 411U 687U	
SMPTR	4	00000004	FFFFFFFB		F	F		2249	370 371 417 420M	
SMVAL	4	00000000	FFFFFFFB		F	F		2248	364 366M 412 414M 690	
SOSEXNEW	3	000012C5	00000001		R	A		1832	1781	
SOSIONEW	3	000012C1	00000001		R	A		1830	1740	
STOP	4	0000137E	00000001		I			1891	1887B	
STREAMS	4	000010C8	00000001		F	F		1784	1754	
SVCCONST	4	00000314	00000001		F	F		241	215	
SVCHANDL	1	000002B2	00000001		U			211	147	
SVCHPROT	4	00000302	00000001		I			235	220B	
SVCHTABL	1	00000328	00000001		X	X		243	217 244 246 248 250 252 254 256 258 260	
									262 264 266 268 270 272 274 276 278 280	
									282 284	
SVCOK	4	000002D0	00000001		I			221	237B 239B	
SVCOLD	8	00000020	00000001		D	D		137	216 228 231 235 331M 333	
SVCRTN	8	00000428	00000001		D	D		286	218 238	
SVCSAVE	4	000004C8	00000001		F	F		315	227	
SVCXPER	4	000002FA	00000001		I			233	229B	
SYSSEM	4	000002DE	00000001		I			226	224B	
SYSSEMSA	84	0000021C	00000001		C	C		163	316 384	
TALK	8	000001B8	FFFFFFEB		C	C		2367	1866M 1867M 2026 2031	
TEMPLATE	4	00001280	00000001		X	X		1822	785	
TIMER	4	00000050	00000001		F	F		144	469M	
TOKSTART	2	00001610	00000001		I			2078	2071B 2073B 2075B	
TRAPSAVE	4	0000019C	00000001		F	F		160	176M 188 191 212M 232	
TREAD	4	00000164	FFFFFFEB		F	F		2349	1855M 1856M 1857M 1881 1966	
TXTCARD	4	000014C6	00000001		I			1979	1972B	
TXTMOV	6	000014DA	00000001		I			1985	1983X	
TYPLEN	1	00000054	00000001	A	U			1826	1759	
TYPPCB	8	00001268	00000001		C	C		1820	1759 1826	
UCB	1	00000000	FFFFFFEC		J			2332	1308U 1426U 1522U 1702U 2339	
UCBADDR	4	00000000	FFFFFFEC		F	F		2333	1370 1484	
UCBCSW	8	00000014	FFFFFFEC		G	F		2336	1365M 1366M 1376 1378 1380 1383M 1482M 1483M 1490 1492	
									1557M 1558M 1566 1703M 1705 1706M 1707M	
UCBFPR	1	0000001C	FFFFFFEC		C	C		2337	1709	
UCBLENG	1	00000020	FFFFFFEC	A	U			2339	1549 1698	
UCBLP1	4	000010EC	00000001		A	A		1798	1787	
UCBLP2	4	000010F4	00000001		A	A		1799	1788	
UCBLP3	4	000010FC	00000001		A	A		1800	1789	
UCBLP4	4	00001104	00000001		A	A		1801	1790	
UCBPRT1	4	00000EC4	00000001		X	X		1627	1798	
UCBPRT2	4	00000F04	00000001		X	X		1641	1799	
UCBPRT3	4	00000F44	00000001		X	X		1655	1800	
UCBPRT4	4	00000F84	00000001		X	X		1669	1801	
UCBRDR1	4	00000EA4	00000001		X	X		1620	1798	
UCBRDR2	4	00000EE4	00000001		X	X		1634	1799	
UCBRDR3	4	00000F24	00000001		X	X		1648	1800	
UCBRDR4	4	00000F64	00000001		X	X		1662	1801	
UCBTAB	1	000010CC	00000001		U			1786	1774 1777	
UCBTABLE	4	00000EA4	00000001		F	F		1618	1546 2152	
UCBTBEND	1	00000FC4	00000001		U			1682	1606 2153	
UCBUS	8	00000004	FFFFFFEC		G	F		2334	1333 1394 1453 1477 1499 1554 1581	

SYMBOL	LENGTH	VALUE	ID	R	TYPE	ASM	PROGRAM	DEFN	REFERENCES	HLASM R6.0 2016/08/29 08.42
UCBWS	8	0000000C	FFFFFFEC		G	F		2335	1374 1406 1488 1505 1564 1708	
UNAMMOV	6	00001422	00000001		I			1935	1924X	
UNITRTN	4	000001A4	FFFFFFEB		A	A		2362	1941M 1946M	
USERL	8	00000190	FFFFFFEB		C	C		2359	1860M 1902 2013 2015 2018M	
VERYEND	8	00001740	00000001		D	D		2171	155 1745M 2147	
WAITPSWD	4	000017F8	00000002		X	X		118	97	
WRITE	8	00000178	FFFFFFEB		C	C		2354	1861M 1862M 1864M 1898 2032	
XA	1	00000600	00000001		U			557	299 565U 1593	
XABACK	2	000006B0	00000001		I			622	619B	
XACOM	2	0000060E	00000001		I			566	560B	
XAFOUND	4	00000662	00000001		I			596	588B	
XALOOP	2	0000062A	00000001		I			577	591B	
XANF	2	00000686	00000001		I			607	603B	
XARETURN	4	0000069C	00000001		I			616	611B	
XATOP	4	00000616	00000001		I			570	595B	
XAUTO	1	00000608	00000001		U			561	313	
XAWAIT	2	00000656	00000001		I			592	578B	
XAX	1	00000000	FFFFFFF9		J			2258	568U 776U 1124U 1314U 1432U 1528U 1756U 1848U 2123U	
XAXADDR	4	00000004	FFFFFFF9		F	F		2260	596M 780 1133 1316 1434 1530 1758 1850 2125	
XAXALGN	4	00000008	FFFFFFF9		F	F		2261	574 778M 1131M	
XAXSIZE	4	00000000	FFFFFFF9		F	F		2259	569 777M 1130M	
XB	1	00000744	00000001		U			722	298	
XBINSERT	4	00000770	00000001		I			738	730B 733B	
XBLOOP	4	0000075A	00000001		I			732	737B	
XBX	1	00000000	FFFFFFF7		J			2267	600U 683U 724U	
XBXADDR	4	00000004	FFFFFFF7		F	F		2269	604M 612M 685M 726	
XBXSIZE	4	00000000	FFFFFFF7		F	F		2268	605M 613M 684M 725	
XC	1	00000780	00000001		U			764	306	
XCERR	2	000007C4	00000001		I			789	773B	
XCOM	1	000005D2	00000001		U			514	297	
XCOMRET	4	000005FC	00000001		I			529	521B 523B	
XCX	1	00000000	FFFFFFF6		J			2271	767U	
XCXNAME	8	00000000	FFFFFFF6		C	C		2272	770 783	
XD	1	000007C6	00000001		U			813	310	
XDCHECK	6	0000081A	00000001		I			850	838B	
XDERR	2	00000840	00000001		I			860	824B 827B	
XDLOOP	2	000007F4	00000001		I			837	849B	
XDTHEN	4	0000082E	00000001		I			855	851B	
XDX	1	00000000	FFFFFFF5		J			2274	816U	
XDXNAME	8	00000000	FFFFFFF5		C	C		2275	819	
XEXC	1	000005C0	00000001		U			489	296	
XF	1	000006B6	00000001		U			649	300	
XFBACKUP	2	00000706	00000001		I			678	670B	
XFINC	4	00000708	00000001		I			679	674B	
XFLINK	4	00000714	00000001		I			682	664B	
XFLOOP	2	000006D4	00000001		I			663	681B	
XFTHEN	2	000006F0	00000001		I			671	667B	
XFVDO	2	0000073E	00000001		I			697	692B	
XFVLOOP	4	0000072E	00000001		I			692	698B	
XFX	1	00000000	FFFFFFF8		J			2263	653U 844U 1077U	
XFXADDR	4	00000004	FFFFFFF8		F	F		2265	655 845M 855M 1078M	
XFXSIZE	4	00000000	FFFFFFF8		F	F		2264	654 846M 856M 1079M	
XH	1	00000842	00000001		U			882	312	
XHLOOP	4	00000848	00000001		I			886	888B	
XHMSG1	8	00000854	00000001		C	C		890	884	

SYMBOL	LENGTH	VALUE	ID	R	TYPE	ASM	PROGRAM	DEFN	REFERENCES
XHMSG2	8	0000086C	00000001		C	C		893	886
XI	1	0000087A	00000001		U			912	301
XJ	1	000008A6	00000001		U			953	302
XN	1	000008CA	00000001		U			998	307
XNX	1	00000000	FFFFFFF4		J			2277	769U 818U 1000U 1116U 1191U 1240U
XNXADDR	4	00000008	FFFFFFF4		A	A		2279	772 821 1010M 1119 1194 1243
XNXFOUND	4	000008E4	00000001		I			1010	1006B
XNXLOOP	4	000008CC	00000001		I			1004	1008B
XNXNAME	8	00000000	FFFFFFF4		C	C		2278	770M 819M 1005 1117M 1192M 1241M
XP	1	000004EE	00000001		U			361	294
XPER	1	0000056A	00000001		U			447	189B 303 385B 463
XPLOOP	2	0000050A	00000001		I			374	378B
XPTHEN	6	0000051C	00000001		I			381	375B
XPWAIT	4	00000502	00000001		I			370	368B
XQUE	1	00000A8E	00000001		U			1279	311
XQUELOOP	4	00000A94	00000001		I			1283	1285B
XQUEM1	8	00000AA0	00000001		C	C		1287	1281
XQUEM2	8	00000AB8	00000001		C	C		1290	1283
XR	1	000008EC	00000001		U			1040	304
XRAFT	4	00000938	00000001		I			1066	1064B
XRFILL	6	0000096C	00000001		I			1083	1057X
XRMOVE	6	00000972	00000001		I			1084	1065X
XRNOB	4	0000091C	00000001		I			1058	1056B
XRTHEN	2	0000092E	00000001		I			1063	1060B
XRX	1	00000000	FFFFFFF3		J			2281	1043U 1326U 1336U 1443U 1538U 1572U
XRXNAME	8	00000000	FFFFFFF3		C	C		2282	1071M 1339
XRXSIZE	4	00000008	FFFFFFF3		F	F		2283	1053 1067M 1327M 1444M 1539M 1573M
XRXTEXT	1	0000000C	FFFFFFF3		C	C		2284	1055M 1083M 1083 1084M 1329 1331 1446 1447 1449 1541 1543 1544 1575 1577
XS	1	00000978	00000001		U			1111	305
XSADD	4	000009D2	00000001		I			1145	1141B
XSAFT	2	000009F4	00000001		I			1156	1154B
XSERR	2	00000A02	00000001		I			1161	1121B
XSLOOP	2	000009C0	00000001		I			1140	1144B
XSMOVE	6	00000A04	00000001		I			1162	1155X
XSX	1	00000000	FFFFFFF2		J			2286	1114U
XSXNAME	8	00000000	FFFFFFF2		C	C		2287	1117
XSXSIZE	4	00000008	FFFFFFF2		F	F		2288	1126 1150
XSXTEXT	1	0000000C	FFFFFFF2		C	C		2289	1162
XV	1	00000534	00000001		U			409	295
XVRET	4	00000566	00000001		I			426	423B
XVWAKEUP	4	00000548	00000001		I			417	415B
XY	1	00000A0A	00000001		U			1186	308
XYERR	2	00000A40	00000001		I			1206	1196B
XYX	1	00000000	FFFFFFF1		J			2291	1189U
XYXADDR	4	00000008	FFFFFFF1		A	A		2293	1202
XYXNAME	8	00000000	FFFFFFF1		C	C		2292	1192
XZ	1	00000A42	00000001		U			1231	309
XZERR	2	00000A8C	00000001		I			1258	1238B 1245B
XZFINE	4	00000A54	00000001		I			1239	1236B
XZINSMC	4	00000A7E	00000001		I			1254	1250B
XZSTOP	4	00000A6C	00000001		I			1249	1257B
XZX	1	00000000	FFFFFFF0		J			2295	1234U
XZXNAME	8	00000000	FFFFFFF0		C	C		2296	1237 1241
=A(DIM)	4	00001720	00000001		A			2162	1941

SYMBOL	LENGTH	VALUE	ID	R	TYPE	ASM	PROGRAM	DEFN	REFERENCES
=A(EXCPHNDL)	4	00001724	00000001		A			2163	1946
=A(LENPCB)	4	00000E64	00000001		A			1595	777 856
=A(UCBTABLE)	4	000016F8	00000001		A			2152	1695
=A(UCBTBEND)	4	00000E90	00000001		A			1606	1550
=A(UCBTBEND)	4	000016FC	00000001		A			2153	1699
=A(XA)	4	00000E5C	00000001		A			1593	564
=A(0)	4	00000E60	00000001		A			1594	772 850 1148 1365 1366 1482 1483 1557 1558
=A(0)	4	00001714	00000001		A			2159	1869
=A(0,CORESIZE-(VERYEND-PROGRAM))	4	000016D0	00000001		A			2147	1745
=C'$JOB,'	5	00000E98	00000001		C			1609	1389
=C'$JOB,'	5	0000172A	00000001		C			2165	1888
=C'AGAIN'	5	00000E9D	00000001		C			1610	1577
=C'END'	3	0000173D	00000001		C			2170	1975
=C'EXCP '	5	00001732	00000001		C			2167	1938
=C'EXCP'	4	00000E8C	00000001		C			1605	1541
=C'IN '	3	0000172F	00000001		C			2166	1936
=C'NO'	2	00000E94	00000001		C			1607	1385 1399 1494
=C'OK'	2	00000E96	00000001		C			1608	1391 1496 1575
=C'OK'	2	00001728	00000001		C			2164	1886
=C'OUT '	4	0000171C	00000001		C			2161	1937
=C'PRIN'	4	00000E7C	00000001		C			1601	1447
=C'PRIN'	4	00001708	00000001		C			2156	1862
=C'READ'	4	00000E74	00000001		C			1599	1329
=C'READ'	4	00001704	00000001		C			2155	1857
=C'RLD'	3	0000173A	00000001		C			2169	1973
=C'STC1'	4	00000E80	00000001		C			1602	1449
=C'TXT'	3	00001737	00000001		C			2168	1971
=CL8' '	8	000016E8	00000001		C			2150	1895 1923 2029
=CL8'*IN'	8	000016D8	00000001		C			2148	1855 1940
=CL8'*OUT'	8	000016F0	00000001		C			2151	1944
=CL8'USERPROG'	8	000016E0	00000001		C			2149	1860 1866
=F'-8'	4	00000E6C	00000001		F			1597	843 1075 1129
=F'1'	4	00000E58	00000001		F			1592	413
=F'1'	4	00001710	00000001		F			2158	1868
=F'12'	4	00000E88	00000001		F			1604	1539 1567
=F'12'	4	0000170C	00000001		F			2157	1867
=F'132'	4	00000E84	00000001		F			1603	1474
=F'132'	4	00001718	00000001		F			2160	1883 1968
=F'2'	4	00000E70	00000001		F			1598	1054 1392 1497
=F'8'	4	00000E68	00000001		F			1596	778 1131 1327 1444 1573
=F'8'	4	00001700	00000001		F			2154	1856
=F'80'	4	00000E78	00000001		F			1600	1364

SYMBOL LENGTH VALUE ID R TYPE ASM PROGRAM DEFN REFERENCES HLASM R6.0 2016/08/29 08.42

=X'8900000020000001'
8 00000E50 00000001 X 1591 1476

DEFN	SYMBOL	HLASM R6.0 2016/08/29 08.42
50	CCW1	
52	CCW2	
47	IPLCARD	
134	IPLCCW1	
135	IPLCCW2	
133	IPLPSW	
149	MCHKNEW	
139	MCHKOLD	
148	PGMNEW	
138	PGMOLD	
48	PSWD	
2174	R0	
2175	R1	
2184	R10	
2187	R13	
2188	R14	
2189	R15	
2180	R6	
2181	R7	
2182	R8	
2183	R9	
147	SVCNEW	
1676	UCBCONS1	
143	UNUSED0	
145	UNUSED1	

DSECT	LENGTH	ID	DEFN
DIMAS	000000A0	FFFFFFEA	2377
EXCPHAS	00000030	FFFFFFED	2322
FSB	00000008	FFFFFFFC	2243
JSPAS	000001E0	FFFFFFEB	2341
MSG	0000000C	FFFFFFFA	2251
PCB	00000148	FFFFFFFF	2196
PRTHAS	00000030	FFFFFFEE	2311
RDRHAS	00000080	FFFFFFEF	2298
REGS	00000040	FFFFFFFD	2225
SA	00000054	FFFFFFFE	2220
SM	00000008	FFFFFFFB	2247
UCB	00000020	FFFFFFEC	2332
XAX	0000000C	FFFFFFF9	2258
XBX	00000008	FFFFFFF7	2267
XCX	00000008	FFFFFFF6	2271
XDX	00000008	FFFFFFF5	2274
XFX	00000008	FFFFFFF8	2263
XNX	0000000C	FFFFFFF4	2277
XRX	0000000C	FFFFFFF3	2281
XSX	0000000C	FFFFFFF2	2286
XYX	0000000C	FFFFFFF1	2291
XZX	00000008	FFFFFFF0	2295

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STMT	-----LOCATION----- COUNT	ID	ACTION	----------USING---------- TYPE	VALUE	RANGE	ID	REG	MAX DISP	LAST STMT	LABEL AND USING TEXT
66	00001778	00000002	USING	ORDINARY	00001770	00001000	00000002	12	000A0	107	CARDLDR,R12
68	0000177C	00000002	USING	ORDINARY	00000000	00001000	00000001	11	00078	110	PROGRAM,R11
111	000017EE	00000002	DROP					11			R11
111	000017EE	00000002	DROP					12			R12
131	00000000	00000001	USING	ORDINARY	00000000	00001000	00000001	0	00C38	2051	*,0
178	00000280	00000001	USING	ORDINARY	00000280	00001000	00000001	1	002EA	189	*,1
182	0000028C	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	0004C	185	PCB,15
186	00000298	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFE	14	00008	188	SA,14
190	000002A8	00000001	DROP					14			14
190	000002A8	00000001	DROP					15			15
214	000002B8	00000001	USING	ORDINARY	000002B8	00001000	00000001	9	00210	239	*,9
222	000002D4	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	00000		PCB,15
230	000002EE	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFE	14	00048	1190	SA,14
240	00000314	00000001	DROP					9			9
362	000004EE	00000001	USING	ORDINARY	000004EE	00001000	00000001	1	0007C	385	*,1
363	000004EE	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFB	2	00004	371	SM,2
372	0000050A	00000001	DROP					15			15
373	0000050A	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	5	00030	377	PCB,5
379	0000051C	00000001	DROP					5			5
380	0000051C	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	0004C	384	PCB,15
386	00000534	00000001	DROP					2			2
410	00000534	00000001	USING	ORDINARY	00000534	00001000	00000001	1	00924	423	*,1
411	00000534	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFB	2	00004	420	SM,2
418	0000054C	00000001	DROP					15			15
419	0000054C	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	4	00030	421	PCB,4
427	0000056A	00000001	DROP					2			2
427	0000056A	00000001	DROP					4			4
450	00000570	00000001	USING	ORDINARY	00000570	00001000	00000001	1	0004C	469	*,1
453	00000576	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	10	0004C	468	PCB,10
472	000005C0	00000001	DROP					10			10
473	000005C0	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	00048	621	PCB,15
490	000005C0	00000001	USING	ORDINARY	000005C0	00001000	00000001	1	00000		*,1
515	000005D2	00000001	USING	ORDINARY	000005D2	00001000	00000001	1	0002A	523	*,1
558	00000600	00000001	USING	ORDINARY	00000600	00001000	00000001	1	0000E	560	*,1
562	00000608	00000001	USING	ORDINARY	00000608	00001000	00000001	1	00854	564	*,1
565	0000060E	00000001	USING	ORDINARY	00000600	00001000	00000001	1	000B0	619	XA,1
568	00000612	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF9	7	00008	596	XAX,7
576	0000062A	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFC	4	00004	598	FSB,4
600	00000674	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF7	2	00004	613	XBX,2
615	0000069C	00000001	DROP					2			2
624	000006B6	00000001	DROP					4			4
624	000006B6	00000001	DROP					7			7
650	000006B6	00000001	USING	ORDINARY	000006B6	00001000	00000001	1	00088	698	*,1
653	000006BA	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF8	7	00004	655	XFX,7
662	000006D4	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFC	6	00004	680	FSB,6
683	00000718	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF7	2	00004	685	XBX,2
687	00000722	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFB	2	00000	690	SM,2
691	0000072E	00000001	DROP					2			2
699	00000744	00000001	DROP					6			6
699	00000744	00000001	DROP					7			7
723	00000744	00000001	USING	ORDINARY	00000744	00001000	00000001	1	0002C	737	*,1
724	00000744	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF7	2	00004	726	XBX,2
731	0000075A	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFC	6	00004	735	FSB,6

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STMT	LOCATION COUNT	LOCATION ID	ACTION	USING TYPE	USING VALUE	USING RANGE	USING ID	REG	MAX DISP	LAST STMT	LABEL AND USING TEXT
739	00000774	00000001	DROP					6			6
740	00000774	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFC	4	00004	742	FSB,4
744	00000780	00000001	DROP					2			2
744	00000780	00000001	DROP					4			4
765	00000780	00000001	USING	ORDINARY	00000780	00001000	00000001	1	00B01	785	*,1
767	00000782	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF6	7	00000	783	XCX,7
769	00000786	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF4	2	00008	772	XNX,2
775	0000079A	00000001	DROP					2			2
776	0000079A	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF9	2	00008	780	XAX,2
781	000007AC	00000001	DROP					2			2
781	000007AC	00000001	DROP					15			15
782	000007AC	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	2	00019	785	PCB,2
790	000007C6	00000001	DROP					2			2
790	000007C6	00000001	DROP					7			7
814	000007C6	00000001	USING	ORDINARY	000007C6	00001000	00000001	1	006A6	856	*,1
816	000007C8	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF5	7	00000	819	XDX,7
818	000007CC	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF4	2	00008	821	XNX,2
822	000007D8	00000001	DROP					2			2
825	000007DE	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	2	00018	826	PCB,2
829	000007E8	00000001	DROP					2			2
830	000007E8	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	00000		PCB,15
834	000007F0	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	8	00048	852	PCB,8
835	000007F0	00000001	DROP					15			15
839	000007FA	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFA	9	00008	841	MSG,9
844	0000080A	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF8	2	00004	856	XFX,2
861	00000842	00000001	DROP					2			2
861	00000842	00000001	DROP					7			7
861	00000842	00000001	DROP					8			8
861	00000842	00000001	DROP					9			9
862	00000842	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	00010	915	PCB,15
883	00000842	00000001	USING	ORDINARY	00000842	00001000	00000001	1	0002A	888	*,1
913	0000087A	00000001	USING	ORDINARY	0000087A	00001000	00000001	1	00000		*,1
916	00000882	00000001	DROP					15			15
917	00000882	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	10	00014	918	PCB,10
919	00000886	00000001	DROP					10			10
920	00000886	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	2	00014	922	PCB,2
923	0000088E	00000001	DROP					2			2
924	0000088E	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	00008	926	PCB,15
927	00000896	00000001	DROP					15			15
928	00000896	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	10	0000C	929	PCB,10
930	0000089A	00000001	DROP					10			10
931	0000089A	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	2	0000C	933	PCB,2
934	000008A2	00000001	DROP					2			2
936	000008A6	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	00000		PCB,15
954	000008A6	00000001	USING	ORDINARY	000008A6	00001000	00000001	1	00000		*,1
955	000008A6	00000001	DROP					15			15
956	000008A6	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	2	00014	958	PCB,2
959	000008AE	00000001	DROP					2			2
960	000008AE	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	11	00010	961	PCB,11
962	000008B2	00000001	DROP					11			11
963	000008B2	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	10	00014	964	PCB,10
965	000008B6	00000001	DROP					10			10
966	000008B6	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	2	0000C	968	PCB,2

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STMT	-----LOCATION----- COUNT	ID	ACTION	----------USING---------- TYPE	VALUE	RANGE	ID	REG	MAX DISP	LAST STMT	LABEL AND USING TEXT
969	000008BE	00000001	DROP					2			2
970	000008BE	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	11	00008	971	PCB,11
972	000008C2	00000001	DROP					11			11
973	000008C2	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	10	0000C	974	PCB,10
975	000008C6	00000001	DROP					10			10
977	000008CA	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	00000		PCB,15
999	000008CA	00000001	USING	ORDINARY	000008CA	00001000	00000001	1	0001A	1008	*,1
1000	000008CA	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF4	2	00008	1010	XNX,2
1002	000008CC	00000001	DROP					15			15
1003	000008CC	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	10	00008	1005	PCB,10
1012	000008EC	00000001	DROP					2			2
1012	000008EC	00000001	DROP					10			10
1013	000008EC	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	0002C	1051	PCB,15
1041	000008EC	00000001	USING	ORDINARY	000008EC	00001000	00000001	1	00584	1075	*,1
1043	000008EE	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF3	7	0000D	1084	XRX,7
1050	00000900	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFA	5	0000C	1084	MSG,5
1069	00000944	00000001	DROP					15			15
1070	00000944	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	10	00000	1071	PCB,10
1077	0000095C	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF8	2	00004	1079	XFX,2
1085	00000978	00000001	DROP					2			2
1085	00000978	00000001	DROP					5			5
1085	00000978	00000001	DROP					7			7
1085	00000978	00000001	DROP					10			10
1086	00000978	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	00000		PCB,15
1112	00000978	00000001	USING	ORDINARY	00000978	00001000	00000001	1	004F4	1155	*,1
1114	0000097A	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF2	7	0000C	1162	XSX,7
1116	0000097E	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF4	2	00008	1119	XNX,2
1122	00000990	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	4	0002C	1157	PCB,4
1123	00000990	00000001	DROP					2			2
1123	00000990	00000001	DROP					15			15
1124	00000990	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF9	2	00008	1133	XAX,2
1134	000009B2	00000001	DROP					2			2
1139	000009C0	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFA	9	00004	1143	MSG,9
1146	000009D6	00000001	DROP					9			9
1147	000009D6	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFA	5	0000C	1162	MSG,5
1163	00000A0A	00000001	DROP					4			4
1163	00000A0A	00000001	DROP					5			5
1163	00000A0A	00000001	DROP					7			7
1164	00000A0A	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	00000		PCB,15
1187	00000A0A	00000001	USING	ORDINARY	00000A0A	00001000	00000001	1	00036	1196	*,1
1189	00000A0C	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF1	7	00009	1202	XYX,7
1191	00000A10	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF4	2	00008	1194	XNX,2
1197	00000A22	00000001	DROP					2			2
1197	00000A22	00000001	DROP					14			14
1197	00000A22	00000001	DROP					15			15
1198	00000A22	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	10	0004C	1204	PCB,10
1200	00000A26	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFE	13	00008	1203	SA,13
1207	00000A42	00000001	DROP					7			7
1207	00000A42	00000001	DROP					10			10
1207	00000A42	00000001	DROP					13			13
1208	00000A42	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFE	14	00048	1239	SA,14
1209	00000A42	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	00000	1235	PCB,15
1232	00000A42	00000001	USING	ORDINARY	00000A42	00001000	00000001	1	0004A	1257	*,1

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STMT	-----LOCATION----- COUNT	ID	ACTION	USING---------- TYPE	VALUE	RANGE	ID	REG	MAX DISP	LAST STMT	LABEL AND USING TEXT
1234	00000A44	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF0	7	00000	1241	XZX,7
1240	00000A58	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF4	2	00008	1243	XNX,2
1247	00000A6C	00000001	DROP					2			2
1247	00000A6C	00000001	DROP					15			15
1248	00000A6C	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	10	00034	1255	PCB,10
1259	00000A8E	00000001	DROP					10			10
1259	00000A8E	00000001	DROP					7			7
1260	00000A8E	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	00000		PCB,15
1280	00000A8E	00000001	USING	ORDINARY	00000A8E	00001000	00000001	1	0002A	1285	*,1
1293	00000AC6	00000001	DROP					14			14
1293	00000AC6	00000001	DROP					15			15
1308	00000AC6	00000001	USING	ORDINARY	00000000	00001000	FFFFFFEC	3	00018	1406	UCB,3
1310	00000AC8	00000001	USING	ORDINARY	00000AC8	00001000	00000001	1	003D0	1408	*,1
1314	00000AD2	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF9	2	00004	1316	XAX,2
1317	00000AD8	00000001	DROP					2			2
1322	00000AE4	00000001	USING	ORDINARY	00000000	00001000	FFFFFFEF	12	0007A	1403	RDRHAS,12
1326	00000AF0	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF3	2	00010	1331	XRX,2
1332	00000B06	00000001	DROP					2			2
1336	00000B10	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF3	2	00000	1339	XRX,2
1344	00000B2E	00000001	DROP					2			2
1409	00000C28	00000001	DROP					3			3
1409	00000C28	00000001	DROP					12			12
1426	00000C48	00000001	USING	ORDINARY	00000000	00001000	FFFFFFEC	3	00018	1505	UCB,3
1428	00000C4A	00000001	USING	ORDINARY	00000C4A	00001000	00000001	1	0024C	1507	*,1
1432	00000C54	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF9	2	00004	1434	XAX,2
1435	00000C5A	00000001	DROP					2			2
1440	00000C66	00000001	USING	ORDINARY	00000000	00001000	FFFFFFEE	12	00028	1501	PRTHAS,12
1443	00000C6E	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF3	2	00010	1449	XRX,2
1452	00000C92	00000001	DROP					2			2
1508	00000D5E	00000001	DROP					3			3
1508	00000D5E	00000001	DROP					12			12
1522	00000D74	00000001	USING	ORDINARY	00000000	00001000	FFFFFFEC	3	00018	1581	UCB,3
1524	00000D76	00000001	USING	ORDINARY	00000D76	00001000	00000001	1	0012E	1583	*,1
1528	00000D80	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF9	2	00004	1530	XAX,2
1531	00000D86	00000001	DROP					2			2
1536	00000D92	00000001	USING	ORDINARY	00000000	00001000	FFFFFFED	12	00024	1571	EXCPHAS,12
1538	00000D96	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF3	2	00014	1544	XRX,2
1545	00000DB0	00000001	DROP					2			2
1572	00000E12	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF3	2	0000C	1577	XRX,2
1580	00000E30	00000001	DROP					2			2
1584	00000E3A	00000001	DROP					3			3
1584	00000E3A	00000001	DROP					12			12
1693	00000FCA	00000001	USING	ORDINARY	00000FCA	00001000	00000001	1	00732	1714	*,1
1702	00000FEC	00000001	USING	ORDINARY	00000000	00001000	FFFFFFEC	6	0001C	1709	UCB,6
1712	00001014	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	0004C	1715	PCB,15
1716	00001020	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFE	13	00008	1718	SA,13
1719	0000102C	00000001	DROP					13			13
1719	0000102C	00000001	DROP					15			15
1726	0000103E	00000001	DROP					1			1
1726	0000103E	00000001	DROP					6			6
1739	00001040	00000001	USING	ORDINARY	00001040	00001000	00000001	1	00700	1781	*,1
1756	00001080	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF9	2	00004	1758	XAX,2
1761	0000108E	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	2	0000C	1763	PCB,2

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STMT	-----LOCATION----- COUNT	ID	ACTION	----------USING---------- TYPE	VALUE	RANGE	ID	REG	MAX DISP	LAST STMT	LABEL AND USING TEXT
1764	00001096	00000001	DROP					2		2	
1765	00001096	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	15	0000C	1767	PCB,15
1768	0000109E	00000001	DROP					15		15	
1769	0000109E	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	2	0004C	1770	PCB,2
1771	000010A2	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFE	8	00008	1772	SA,8
1773	000010A6	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFD	9	00010	1777	REGS,9
1778	000010B8	00000001	DROP					9		9	
1844	000012CE	00000001	USING	ORDINARY	000012CE	00001000	00000001	1	0046F	2091	*,1
1848	000012D8	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF9	2	00004	1850	XAX,2
1851	000012DE	00000001	DROP					2		2	
1852	000012DE	00000001	USING	ORDINARY	00000000	00001000	FFFFFFEB	12	001DD	2064	JSPAS,12
2016	00001548	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	4	0004D	2024	PCB,4
2025	00001566	00000001	DROP					4		4	
2043	0000159E	00000001	USING	ORDINARY	00000000	00001000	FFFFFFFF	5	00008	2045	PCB,5
2119	00001676	00000001	USING	ORDINARY	00001676	00001000	00000001	1	0004A	2139	*,1
2123	00001680	00000001	USING	ORDINARY	00000000	00001000	FFFFFFF9	2	00004	2125	XAX,2
2126	00001686	00000001	DROP					2		2	
2129	0000168C	00000001	USING	ORDINARY	00000000	00001000	FFFFFFEA	12	00098	2138	DIMAS,12
2144	000016CC	00000001	DROP					12		12	

REGISTER REFERENCES (M=MODIFIED, B=BRANCH, U=USING, D=DROP, N=INDEX) HLASM R6.0 2016/08/29 08.42

```
     0(0)     131U  176   191M  212   332M  559M  563M  563   618M  618   1691  1724M
     1(1)     176   177M  178U  191M  212   233M  332M  362U  410U  449M  450U  490U  515U  558U  562U  564M  565U  650U
               723U  765U  814U  883U  913U  954U  999U 1041U 1112U 1187U 1232U 1280U 1309M 1310U 1427M 1428U 1523M 1524U
              1691  1692M 1693U 1724M 1726D 1738M 1739U 1843M 1844U 2118M 2119U
     2(2)      64M   65    69M   71    80M   81M   82    83M   84    95M   96    176   191M  212   332M  363U  386D  411U
               427D  525M  527M  567   570M  593M  599M  600U  615D  616M  652   658M  682M  683U  687U  688M  691D  693M
               724U  744D  766   768M  769U  775D  776U  780M  781D  782U  790D  815   817M  818U  821M  822D  823M  823
               825U  829D  832   833M  844U  852M  854M  861D  884M  886M  915   918   920U  923D  926   929   931U  934D
               956U  959D  966U  969D 1000U 1012D 1042  1044M 1047M 1076M 1077U 1085D 1113  1115M 1116U 1123D 1124U 1134D
              1135M 1157M 1188  1190M 1191U 1197D 1233  1239M 1240U 1247D 1255M 1281M 1283M 1311M 1313M 1314U 1317D 1318M
              1325M 1326U 1332D 1333M 1335M 1336U 1344D 1367M 1374M 1394M 1396M 1406M 1429M 1431M 1432U 1435D 1436M 1442M
              1443U 1452D 1453M 1477M 1479M 1488M 1499M 1501M 1505M 1525M 1527M 1528U 1531D 1532M 1537M 1538U 1545D 1554M
              1559M 1564M 1569M 1571M 1572U 1580D 1581M 1691  1708M 1724M 1747M 1748M 1755M 1756U 1758M 1759  1761U 1762
              1763  1764D 1769U 1845M 1847M 1848U 1851D 1853M 1858M 1859  1873M 1877M 1881M 1884M 1891M 1898M 1900M 1902M
              1922M 1926M 1951M 1966M 1969M 2013M 2026M 2032M 2034M 2036M 2038M 2042M 2064M 2120M 2122M 2123U 2126D 2127M
              2133M
     3(3)      70M   71    75M   88M   176   191M  212   332M  364M  365M  366   367M  367   412M  413M  414   585M  586M
               587   654M  656   669M  677M  684   725M  732   742   1126M 1127M 1127N 1128M 1128N 1129M 1130  1308U 1409D
              1426U 1508D 1522U 1553M 1584D 1691  1724M 1746M 1871  1872M 1876M 1905M 1917M 1927M 1958M 1959M 1960M 1961
              2056M 2057M 2058M 2059  2081B
     4(4)      76M   80    86M   86    176   191M  212   332M  370M  376M  381   417M  419U  424   427D  573M  576U  577M
               577   579   584   590M  602   604   624D  655M  657   673   676M  685   726M  738   740U  744D 1119M 1120M
              1120  1122U 1163D 1320M 1352  1359  1438M 1462  1469  1534M 1535M 1556  1691  1724M 1753M 1753  1775  1779M
              1779N 1870  1904M 1918  1955M 1956M 1957M 1998M 2000M 2001  2002  2015M 2016U 2025D 2045M 2050  2055M 2069M
              2069N 2070  2072  2074  2078
     5(5)      73M   74    82    84    85    87M   87    89M   90    176   191M  212   332M  371M  373U  374M  374   377M
               379D  382   572M  589M  597   656M  657M  666   1049M 1050U 1076  1078  1085D 1133M 1145  1147U 1163D 1331M
              1341  1347  1354N 1361M 1362  1389  1400  1401  1402  1402  1446M 1457  1464N 1471M 1472  1543M 1547  1562
              1691  1724M 1754M 1780M 1863M 1864  1871M 1872N 1876N 1906M 1907M 1908  1924  1928  1930  1932  2020M 2021M
              2022  2041M 2043U 2050M 2051  2068M 2068  2076M 2076N 2079  2080M
     6(6)      176   191M  212   332M  569M  587   608   610   620   661M  662U  663M  663   666   671   676   678M  680M
               699D  728M  729M  729   731U  735M  736M  736   739D  741   1053M 1054M 1057  1058M 1058N 1059  1061M 1062M
              1063M 1063  1065  1066M 1066N 1067  1072M 1073M 1073N 1074M 1074N 1075M 1079  1150M 1151  1152M 1153M 1153
              1155  1324M 1369  1441M 1481  1544M 1556M 1561  1691  1695M 1696  1698M 1698N 1699  1702U 1724M 1726D
     7(7)      176   191M  212   332M  567M  568U  624D  652M  653U  699D  766M  767U  790D  815M  816U  861D 1042M 1043U
              1085D 1113M 1114U 1163D 1188M 1189U 1207D 1233M 1234U 1259D 1370M 1371  1484M 1485  1546M 1547N 1549M 1549N
              1550  1553  1691  1704M 1705M 1706  1724M 1993M 1994M 1995  2006M 2007M 2008
     8(8)      176   191M  212   332M  491M  491   492M  493M  493N  494   516M  516   517M  518M  519   520M  520   574M
               575M  581   660M  668N  675N  678   679M  727M  734M  738N  832M  834U  855   861D 1137M 1142M 1145N 1691
              1724M 1770M 1771U 1909M 1911M 1914M 1914  1915M 1916  1959  2057  2131M 2132
     9(9)      176   191M  212   213M  214U  240D  332M  583M  584M  586   665M  668   675   836M  837M  837   839U  845
               848M  861D 1138M 1139U 1140M 1140  1143M 1146D 1691  1724M 1772M 1773U 1778D 1910M 1910  1911M 1912M 1912
              1920  1935  1936  1937  1938  1954M 1958  1961  1980  1990  1994  2007  2018  2056  2059  2078M 2079M 2091
     10(A)     176   191M  212   215M  216M  217M  217N  218M  218N  219   223   226N  233N  234   238M  332M  451M  452
               453U  458M  459   467   472D  601M  602M  605   609   671M  672M  673   840M  848   914M  917U  919D  922
               925M  928U  930D  933   958M  961   963U  965D  968M  971   973U  975D 1001M 1003U 1004M 1007  1009M 1010
              1012D 1068M 1070U 1085D 1194M 1195M 1195  1198U 1207D 1243M 1244M 1244  1248U 1259D 1321M 1321  1351M 1352
              1358M 1359  1439M 1439  1461M 1462  1468M 1469  1691  1724M 1774M 1775M 1776  1777  1979M 1980M 1985  1989M
              1990M 1993N 1995N 2005  2009
     11(B)     67M   68U   111D  176   191M  212   215M  226M  227N  332M  452M  459   607M  608M  612   689M  690M  692M
               841M  842M  842N  843M  846   957M  960U  962D  964   967M  970U  972D  974   1347M 1348M 1354M 1355M 1457M
              1458M 1464M 1465M 1534  1691  1724M 1940M 1944M 1947M 1981M 1982M 1983  1987M 2002M 2130
     12(C)     63M   65M   66U   111D  176   191M  212   215M  235M  236M  332M  598M  609M  610M  613   1316M 1322U 1409D
              1434M 1440U 1508D 1530M 1536U 1584D 1691  1724M 1850M 1852U 2125M 2129U 2144D
     13(D)     176   191M  212   215M  236   332M  579M  580M  581M  582M  582N  583   596   601   607   621   1199M 1200U
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REGISTER REFERENCES (M=MODIFIED, B=BRANCH, U=USING, D=DROP, N=INDEX) HLASM R6.0 2016/08/29 08.42

	1207D	1691	1715M	1716U	1719D	1724M	1988M	1989N	1991	1996	2001M							
14(E)	176	185M	186U	190D	191M	212	215M	225M	227M	230U	332M	468M	1197D	1201	1203	1208U	1293D	1691
	1724M																	
15(F)	176	181M	182U	190D	191M	212	221M	222U	225	332M	372D	380U	418D	473U	781D	830U	835D	862U
	916D	921	924U	927D	932	936U	955D	977U	1001	1002D	1007	1013U	1069D	1086U	1123D	1149	1164U	1197D
	1209U	1247D	1260U	1293D	1691	1711M	1712U	1719D	1724M	1742M	1743	1744	1765U	1766	1767	1768D		

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STATEMENTS FLAGGED

178(P1,178), 214(P1,214), 362(P1,362), 410(P1,410), 450(P1,450), 490(P1,490), 515(P1,515), 558(P1,558),
562(P1,562), 565(P1,565), 650(P1,650), 723(P1,723), 765(P1,765), 814(P1,814), 834(P1,834), 883(P1,883), 913(P1,913),
954(P1,954), 999(P1,999), 1041(P1,1041), 1112(P1,1112), 1122(P1,1122), 1187(P1,1187), 1232(P1,1232), 1280(P1,1280),
1310(P1,1310), 1428(P1,1428), 1524(P1,1524), 1693(P1,1673)

29 STATEMENTS FLAGGED IN THIS ASSEMBLY 4 WAS HIGHEST SEVERITY CODE

HIGH LEVEL ASSEMBLER, 5696-234, RELEASE 6.0, PTF UK37157

SYSTEM: Z/OS 01.10.00 JOBNAME: IBMUSER7 STEPNAME: *OMVSEX PROCSTEP: (NOPROC)

DATA SETS ALLOCATED FOR THIS ASSEMBLY

CON	DDNAME	DATA SET NAME	VOLUME	MEMBER
P1	SYSIN	/MBHFS/SOS4K.ASM		
L1	SYSLIB	CEE.SCEEMAC	ZAPRD2	
L2		SYS1.MACLIB	ZARES1	
L3		SYS1.MODGEN	ZARES1	
	SYSLIN	/MBHFS/SOS4K.O		
	SYSPRINT	/DEV/FD1		
	SYSTERM	/DEV/FD2		

1028584K ALLOCATED TO BUFFER POOL STORAGE REQUIRED 360K

2341	PRIMARY INPUT RECORDS READ	0	LIBRARY RECORDS READ	0	WORK FILE READS
0	ASMAOPT RECORDS READ	3473	PRIMARY PRINT RECORDS WRITTEN	0	WORK FILE WRITES
137	OBJECT RECORDS WRITTEN	0	ADATA RECORDS WRITTEN		

ASSEMBLY START TIME: 08.42.21 STOP TIME: 08.42.22 PROCESSOR TIME: 00.00.00.3254

RETURN CODE 004