```
                                IDENT     INTINIT
                000555    PROGRAM LENGTH
                          BLOCKS
        000000  000167    ABSOLUTE*  ABSOLUTE
        000000  000555    PROGRAM*   LOCAL
                          ENTRY POINTS
                             000011 INTINIA      000015 INTINIB      000000 INTINIC      000010 MC.INT
                          EXTERNAL SYMBOLS
                          CALLSYS   CAPAB     MAKEOBJ   S.ECSER   MUXQADD   MUXPNTS   S.TTY     S.NUMTT
                          MUXWRBT   SDVCPNT   SDVCQPT   DSKPNT    DSKINTQ   DISKRB0   DISKRB1   DISKRB2
                          DISKRB3   DISKWB0   DISKWB1   DISKWB2   DISKWB3   DISKUF    DISKREQ   DISKRSP
                          DISKBUF   DISKSLT   DISKRQC   DISKSF    DISKMOT   DISKADR   DSPPNT    DSPQPNT
                          DSPKPNT   DSPPPNP   DSPSCRN   DSPCLKN   DSPCLKP   INTSCR
                          *
                          *
                                    ENTRY     INTINIA,INTINIB
                                    ENTRY     INTINIC
                                    ENTRY     MC.INT
                          *
                          *
                                    EXT       CALLSYS,CAPAB
                                    EXT       MAKEOBJ,S.ECSER
                                    LIST      X
                          INTSYS    XTEXT
                          *                                                                  INTSYS  .1
                0000050   P.SCRL    EQU       50B                                            INTSYS  .1
                0000454   I.PAUSE   EQU       300          LOOP TIME (APROX 2 MICROSEC PER LOOP) INTSYS  .1
                          *                                FOR PAUSE FOR PPU INTERRUPTS      INTSYS  .1
                000000 5  I.NUNCH   EQU       5            NUMBER OF CHAINING WORDS TO UNCHAIN INTSYS  .1
                          *                                BEFORE PAUSE FOR PPU INTERRUPTS   INTSYS  .1
                0000005   I.NUSUB   EQU       5            NUMBER OF SUBPROCESS PROBES IN ECS INTSYS  .1
                          *                                DURING INTER-PROCESS INTERRUPTS   INTSYS  .1
                          *                                BEFORE PAUSE FOR PPU INTERRUPTS   INTSYS  .1
                          *                                                                  INTSYS  .1
                          ECSACT    XTEXT
                          *                                                                  ECSACT  .1
                          *                                                                  ECSACT  .1
                          *                    DECLARE VALUES FOR ECS ACTIONS                ECSACT  .1
                          *                    I.E. THE POSITION IN THE ↑ACTIONL↑ JUMP TABLE ECSACT  .1
                          *                                                                  ECSACT  .1
                          *                                                                  ECSACT  .1
                          *                                                                  ECSACT  .1
        000000                      ORG       0                                              ECSACT  .1
                          *                                                                  ECSACT  .1
                          *                                                                  ECSACT  .1
                          *                                                                  ECSACT  .1
```

```
000000   J.CRECL   BSS   2                                          ECSACT .1
         *                                                          ECSACT .1
000002   J.CPROC   BSS   2                                          ECSACT .1
         *                                                          ECSACT .1
000004   J.CREFIL  BSS   2          .CREATE FILE                    ECSACT .1
000006   J.CREBLK  BSS   1                                          ECSACT .1
000007   J.WRFILE  BSS   1                                          ECSACT .1
000010   J.REFILE  BSS   1                                          ECSACT .1
         *                                                          ECSACT .1
000011   J.MKEC    BSS   2        .MAKE EVENT CHANNEL               ECSACT .1
000013   J.EVENT   BSS   1         SEND AN EVENT                    ECSACT .1
000014   J.HANG    BSS   1         GET EVENT OR HANG                ECSACT .1
         *                                                          ECSACT .1
000015   J.CRECC   BSS   2          .CREATE CLASS CODE              ECSACT .1
000017   J.NWTMP   BSS   2          .CREATE NEW TEMP PART OF CLASS CODE ECSACT .1
         *                                                          ECSACT .1
000021   J.SREG    BSS   1       SAVE REGISTERS                     ECSACT .1
000022   J.RREG    BSS   1       RESTORE REGISTERS                  ECSACT .1
         *                                                          ECSACT .1
000023   J.MKSUBP  BSS   2                                          ECSACT .1
         *                                                          ECSACT .1
000025   J.DSPCAP  BSS   1                                          ECSACT .1
000026   J.DSPARB  BSS   1                                          ECSACT .1
000027   J.MVECAP  BSS   1                                          ECSACT .1
000030   J.CAPIN   BSS   1                                          ECSACT .1
000031   J.CAPOUT  BSS   1                                          ECSACT .1
         *                                                          ECSACT .1
         *                                                          ECSACT .1
                                                                    ECSACT .1
000032   J.CALSUB  BSS   1       CALL SUBPROCESS                    ECSACT .1
000033   J.JUMSUB  BSS   1       JUMP CALL                          ECSACT .1
000034   J.RETURN  BSS   1       RETURN                             ECSACT .1
                                                                    ECSACT .1
000035   J.FRETUR  BSS   1         FRETURN                          ECSACT .1
         *                                                          ECSACT .1
000036   J.ESMGEN  BSS   1       NEW ESM ( ANY SUBP )               ECSACT .1
000037   J.ESMLOC  BSS   1       NEW ESM ( LOCAL SUBP )             ECSACT .1
         *                                                          ECSACT .1
                                                                    ECSACT .1
         *                                                          ECSACT .1
000040   J.MKOPER  BSS   2          .MAKE OPERATION                 ECSACT .1
000042   J.ADDODR  BSS   2                                          ECSACT .1
000044   J.USRDAT  BSS   1       CHANGE PS TO USER DATUM            ECSACT .1
000045   J.FIXDAT  BSS   1       CHANGE PS TO FIXED DATUM           ECSACT .1
000046   J.USRCAP  BSS   1       CHANGE PS TO USER CAPABILITY       ECSACT .1
000047   J.FIXCAP  BSS   1       CHANGE PS TO FIXED CAPABILITY      ECSACT .1
000050   J.ANYCAP  BSS   1       CHANGE PS TO ANY CAPABILITY        ECSACT .1
000051   J.ADDOPT  BSS   1       ADD OPTION BITS                    ECSACT .1
000052   J.COPYOP  BSS   2                                          ECSACT .1
000054   J.CHKBLK  BSS   1                                          ECSACT .1
000055   J.DELBLK  BSS   1                                          ECSACT .1
000056   J.DELFIL  BSS   2          .DELETE A FILE                  ECSACT .1
000060   J.REDSHP  BSS   2          .READ SHAPE NOS.                ECSACT .1
```

```
000062   J.MAPZRO  BSS   1     . ZERO A MAP ENTRY                          ECSACT .1
000063   J.MPCHRO  BSS   1     . CHANGE A MAP ENTRY (R-O)                  ECSACT .1
000064   J.MPCHRW  BSS   1     . CHANGE A MAP ENTRY (R/W)                  ECSACT .1
000065   J.MOVBLK  BSS   1     . MOVE A FILE BLOCK                         ECSACT .1
000066   J.DISMAP  BSS   2     .DISPLAY MAP                                ECSACT .1
000070   J.JPRET   BSS   2     .JUMP RETURN                                ECSACT .1
000072   J.PINT    BSS   2                                                 ECSACT .1
000074   J.NEWUN   BSS   1     CHANGE UNIQUE NAME                          ECSACT .1
000075   J.DISPST  BSS   2     .DISPLAY STACK                              ECSACT .1
000077   J.DISSEN  BSS   2     .DISPAY STACK ENTRY                         ECSACT .1
000101   J.DSFMAP  BSS   2     .DISPLAY FULL MAP ENTRY                     ECSACT .1
000103   J.DELCL   BSS   2     .DELETE C-LIST                              ECSACT .1
000105   J.ADDORD  BSS   1     . ADD AN ORDER TO AN OPERATION              ECSACT .1
000106   J.CCCLOA  BSS   2                                                 ECSACT .1
000110   J.DONATE  BSS   1     TRANSFER BETWEEN ALLOC BKS                  ECSACT .1
000111   J.CRALBK  BSS   1     .CREATE ALLOC BK                            ECSACT .1
000112   J.MODPC   BSS   2     .MODIFY P-COUNTER                           ECSACT .1
000114   J.DLPROC  BSS   1     .DESTROY A PROCESS                          ECSACT .1
000115   J.GETEVF  BSS   1    .GET EVENT OR FRETURN                        ECSACT .1
000116   J.DELAB   BSS   2     .DESTROY AN ALLOCATION BLOCK                ECSACT .1
000120   J.DELSUB  BSS   2     .DELETE SUBP                                ECSACT .1
000122   J.CHNGWD  BSS   1     . EXAMINE/ALTER CORE/ECS                    ECSACT .1
000123   J.CLRDAE  BSS   1     . CLEAR THE DIRECT ACCESS ECS ENTRY         ECSACT .1
000124   J.SETDAE  BSS   1     . SET THE DIRECT ACCESS ECS ENTRY           ECSACT .1
000125   J.SETIIB  BSS   1     .SET INTERRUPT-INHIBIT BIT                  ECSACT .1
000126   J.CLRIIB  BSS   1     .CLEAR INTERRUPT INHIBIT BIT                ECSACT .1
000127   J.MGETH   BSS   1     GET EVENT FROM LIST OF EVCHS OR HANG        ECSACT .1
000130   J.MGETF   BSS   1     GET EVENT FROM LIST OF EVCHS OR F-RETECSACT .1
         ,                                                                 ECSACT .1
000131   J.DELEC   BSS   2     DESTROY EVENT CHANNEL                       ECSACT .1
000133   J.DCLOX   BSS   1     DISPLAY CLOCK TIMES IN USER CORE            ECSACT .1
000134   J.DSPAB   BSS   2    DISPLAY ALLOCATION BLOCK                     ECSACT .1
000136   J.TIMDT   BSS   2    . OPERATOR TIME AND DATE                     ECSACT .1
000140   J.USRER   BSS   2    USER INITIATED ERROR                         ECSACT .1
000142   J.RETPAR  BSS   1    RETURN WITH PARAMETERS                       ECSACT .1
000143   J.BLKDAT  BSS   1    CHANGE NONE TO BLOCK DATA                    ECSACT .1
000144   J.BLKCAP  BSS   1    CHANGE NONE TO BLOCK CAP                     ECSACT .1
000145   J.DISPOP  BSS   2    DISPLAY OPERATION                            ECSACT .1
000147   J.CAGEN   BSS   2    . MAKE CAP CREATING AUTHORIZATION            ECSACT .1
000151   J.CGEN    BSS   2    . CREATE A CAPABILITY                        ECSACT .1
000153   J.DSPSP   BSS   2    . DISPLAY SUBPROCESS DESCRIPTOR              ECSACT .1
         *                                                                 ECSACT .1
         *                                                                 ECSACT .1
         *                                                                 ECSACT .1
         *                                                                 ECSACT .1
         *         USE     *                                               ECSACT .1
         *                                                                 ECSACT .1
         PROCSYM   XTEXT
         *                                                                 PROCSYM .1
         *                                                                 PROCSYM .1
         *                 PROCESS SYMBOLS                                 PROCSYM .1
         *         LIST    L                                               PROCSYM .1
         *                                                                 PROCSYM .1
         TYPES     XTEXT
```

```
                 *                                                          TYPES   .1
                 *                                                          TYPES   .1
                 *                    OBJECT TYPE ASSIGNMENTS               TYPES   .1
                 *                                                          TYPES   .1
0000777          T.PROC     EQU      511                                   TYPES   .1
0000777          T.PSEUDO   EQU      T.PROC                                TYPES   .1
0001377          T.CLIST    EQU      767                                   TYPES   .1
0001577          T.FILE     EQU      895                                   TYPES   .1
0001677          T.OPER     EQU      959                                   TYPES   .1
0001737          T.CLSCD    SET      991                                   TYPES   .1
0001757          T.EVCH     EQU      1007                                  TYPES   .1
0001767          T.ALLOC    EQU      1015                                  TYPES   .1
0001773          T.CAUTH    EQU      1019     CAPABILITY CREATING AUTHORIZATION TYPES   .1
                 *                                                          TYPES   .1
                 *                                                          TYPES   .1
                 *                                                          TYPES   .1
                 *                    TYPES FOR USE IN GARBAGE COLLECTION   TYPES   .1
                 *                                                          TYPES   .1
0000000          AT.DATA    EQU      0            DATA BLOCK TYPE, MUST BE ZERO *** TYPES   .1
0000001          AT.PROC    EQU      1                                     TYPES   .1
0000002          AT.CLIST   EQU      2                                     TYPES   .1
0000004          AT.OPER    EQU      4                                     TYPES   .1
0000005          AT.EVCH    EQU      5                                     TYPES   .1
0000006          AT.ALBK    EQU      6                                     TYPES   .1
0000040          AT.FILE    EQU      40B          . MUST BE .GE. 40B       TYPES   .1
0000041          NUMTYPES   EQU      41B                                   TYPES   .1
                 *                                                          TYPES   .1
                 *                                                          TYPES   .1
                 *                                                          TYPES   .1
                 *                                                          TYPES   .1
                 *                                                          TYPES   .1
                 * OPERATION PARAMETER SPECIFICATION TYPES                  TYPES   .1
                 *                                                          TYPES   .1
0000002          PS.NONE    EQU      2                                     TYPES   .1
0000003          PS.UDAT    EQU      3                                     TYPES   .1
0000004          PS.FDAT    EQU      4                                     TYPES   .1
0000005          PS.FCAP    EQU      5                                     TYPES   .1
0000006          PS.BLK     EQU      6        .. BLOCK DATUM AND CAPABILITY TYPES   .1
0000007          PS.UCAP    EQU      7                                     TYPES   .1
```

```
*
*                    MACROS FOR READ AND WRITE ECS
*
RECS      MACRO      CNT
          RE         CNT
          RJ         S.ECSER
          ENDM
*
WECS      MACRO      CNT
          WE         CNT
          RJ         S.ECSER
          ENDM
```

```
                                  *
                                  *                COMPUTE MASTER CLIST NEEDS
                                  *
000000                            INTINIC  BSSZ     1
000001  7110000001 X                       SX1      S.NUMTT+1
                  10211                    BX2      X1
                      20201                LX2      1
000002  36612                              IX6      X1+X2          TTY NEEDS
             5110000154 +                  SA1      SDVCCNT
                      10211                BX2      X1
000003  20201                              LX2      1
             36112                         IX1      X1+X2
                  36616                    IX6      X1+X6          SDVC NEEDS
000004  7110000014                         SX1      1+11
                  36616                    IX6      X1+X6      DISK NEEDS
000005  7110000000 X                       SX1      DSPSCRN
                  36661                    IX6      X6+X1
                      20101                LX1      1
000006  36661                              IX6      X6+X1      . DISPLAY DRIVER STUFF
             7110000000 X                  SX1      DSPCLKN
                      36661                IX6      X6+X1      . CLOCK EVENT CHANNELS
000007  5160000010 +                       SA6      MC.INT
                  0200000000 +             JP       INTINIC
                                  *
000010                            MC.INT   BSSZ     1
                                  *
                                  *
                                  *
                                  *                INITIALIZE INTERRUPT OBJECTS
                                  *
000011                            INTINIA  BSSZ     1
000012  7160000012                         SX6      NITYPES
                  0100000357 +             RJ       MFILE          CREATE FILE FOR C LIST INDEXES
000013  10600                              BX6      X0
             5160000027 +                  SA6      DVCFILE
000014  0200000011 +                       JP       INTINIA
                                  *
                                  *
000015                            INTINIB  BSSZ     1
000016  7160000024                         SX6      NITYPES*2
                  0100000357 +             RJ       MFILE          CREATE FILE FOR INTERRUPT QUEUES
000017  10600                              BX6      X0
             5160000030 +                  SA6      INTQS
000020  5111000070                         SA1      B1+P.PARAM+2
                  7261777776               SX6      X1-1
000021  5161000070                         SA6      B1+P.PARAM+2     DESTROY C LIST ENTRY FOR QUEUES
                                  *
                  0100000034 +             RJ       MMUX           CREATE OBJECTS FOR MUX
000022  0100000076 +                       RJ       MSDVC          CREATE OBJECTS FOR SIMPLE DEVICES
000023  0100000155 +                       RJ       MDISK      CREATE OBJECTS FOR DISK
000024  0100000256 +                       RJ       MDSP       . MAKE DISPLAY STUFF
000025  0100000322 +                       RJ       MCLOCKS    . MAKE CLOCKED EVENT CHANNELS
                                  *
```

```
000026  0200000015 +                    JP        INTINIB
                                 *
                                 *
000027                           DVCFILE  BSSZ      1
000030                           INTQS    BSSZ      1
000031  0000000000000000000      DVCTYPE  DATA      0
                                 *
                                 *
                        000012   NITYPES  EQU       10
```

```
                                  *
                                  *
                                  *
000032  0000000000                ERROR     PS
000033  0200000032 +                        JP        ERROR
```

```
                                  *
                                  *                CREATE MUX DEVICES
                                  *
                                  *
                                            EXT     MUXQADD
                                            EXT     MUXPNTS
                                            EXT     S.TTY
                                            EXT     S.NUMTT
                                            EXT     MUXWRBT
                                  *
                     0000000 X    MUXWRBIT  EQU     MUXWRBT
                                  *
                                  *
                     0000001      MUXINTX   EQU      1
                                  *
                                  *
000034                            MMUX      BSSZ    1
000035  6120000460 +                        SB2     PQUEUE
                  6130000000 X              SB3     MUXPNTS
000036  6140000000 X                        SB4     MUXQADD
                  6150000001                SB5     MUXINTX
000037  6160000001 X                        SB6     MUXWRBIT+1
                  0100000421 +              RJ      NEWCLASS
                                  *
000040  5111000070                          SA1     B1+P.PARAM+2    PUTCLIST INDEX OF
                  7261000001                SX6     X1+1            SPECIAL TTY IN  IPROC
000041  5160000000 X                        SA6     S.TTY
                                  *
                  7160000000 X              SX6     MUXWRBIT
000042  5160000473 +                        SA6     INADDR
                  0100000051 +              RJ      MMUXDVC         MAKE SPECIAL TTY
                                  *
000043  76600                               SX6     B0
             5160000473 +                   SA6     INADDR
                                  *
000044  0100000051 +              MMUX1     RJ      MMUXDVC
000045  5110000473 +                        SA1     INADDR
                  7261000001                SX6     X1+1
000046  5160000473 +                        SA6     INADDR
                  7120000000 X              SX2      S.NUMTT
000047  37262                               IX2     X6-X2
             0332000044 +                   NG      X2,MMUX1
                                  *
000050  0200000034 +                        JP      MMUX
```

```
                                        *
                                        *          CODE TO CREATE ECS OBJECTS FOR MUX DEVICE WHOSE
                                        *               INPUT PHYSICAL ADDRESS  IS AT INADDR
                                        *
000051                                  MMUXDVC   BSSZ     1
000052  7160000021                                SX6      TTYFSIZE
                  0100000357 +                    RJ       MFILE          CONSTRUCT THE FILE
000053  10100                                     BX1      X0
             20122                                LX1      18
                  5120000463 +                    SA2      FILEADDR       PLACE FILE ADDR IN P PROC
000054  43346                                     MX3      60-22
             20322                                LX3      18
                  11623                           BX6      X2*X3
                      15113                       BX1      -X3*X1
000055  12616                                     BX6      X1+X6
             5160000463 +                         SA6      FILEADDR
000056  5100000476 +                              SA0      PFILE
                                                  WECS     TTYDTA         WRITE FILE DATA BLOCK
                                        *
000060  7160000012                                SX6      ECOUTCNT       MAX EVENTS IN OUTPUT E C
                  0100000337 +                    RJ       MEC            CONSTRUCT THE OUTPUT EVENT CHANNEL
000061  5170000471 +                              SA7      OUTCHN
                                        *
                  7160000003                      SX6      ECINCNT        MAX EVENTS IN INPUT E C
000062  0100000337 +                              RJ       MEC            CONSTRUCT INPUT EVENT CHANNEL
000063  5170000472 +                              SA7      INCHN
                                        *
                  6120000021                      SB2      PPROCSZ        SIZE OF PSEUDO PROCESS
000064  0100000352 +                              RJ       MPS
000065  10644                                     BX6      X4
             5160000474 +                         SA6      PMOT           SAVE P PROC UNIQUE NAME AND MOT INDEX
                      10055                       BX0      X5
000066  5100000455 +                              SA0      PPROC
                                                  WECS     PPROCSZ        WRITE P PROC DATA TO P PROC
000070  73060                                     SX0      X6
             5100000413 +                         SA0      TEMP
                                                  RECS     1                GET POINTER TO THIS P PROC
000072  5110000000 X                              SA1      MUXPNTS
                  5120000473 +                    SA2      INADDR
000073  36012                                     IX0      X1+X2
             5100000413 +                         SA0      TEMP
                                                  WECS     1              WRITE POINTER OF THIS DEVICE TO ECS
                                        *
000075  0200000051 +                              JP       MMUXDVC
```

```
                                  *
                                  *                 CREATE OBJECTS FOR SIMPLE DEVICES
                                  *
                                            EXT     SDVCPNT,SDVCQPT
                                  *
                        0000002   SDVCINTX  EQU     2
                                  *
                                  *
000076                            MSDVC     BSSZ    1
000077  6120000513 +                        SB2     SPQUEUE
                  6130000000 X              SB3     SDVCPNT
000100  6140000000 X                        SB4     SDVCQPT
                  6150000002                SB5     SDVCINTX
000101  5110000154 +                        SA1     SDVCCNT
                  63610                     SB6     X1
000102  0100000421 +                        RJ      NEWCLASS
                                  *
000103  5110000137 +              MSDVCLP   SA1     SDVCDPNT
                  53110                     SA1     X1
                      10611                 BX6     X1
000104  5160000517 +                        SA6     SFILESZ       SAVE DATA BLOCK SIZE
                  0100000357 +              RJ      MFILE         MAKE FILE
000105  10600                               BX6     X0
            5160000516 +                    SA6     SFILE         SAVE POINTER TO DATA BLOCK OF FILE
                                  *
000106  5110000137 +                        SA1     SDVCDPNT
                  5211000001                SA1     X1+1
000107  10611                               BX6     X1
            0100000337 +                    RJ      MEC           MAKE REQUEST EVENT CHANNEL
000110  5170000520 +                        SA7     SECREQ        SAVE MOT AND UNIQUE NAME OF EC
                                  *
                  5110000137 +              SA1     SDVCDPNT
000111  5211000002                          SA1     X1+2
                  10611                     BX6     X1
000112  0100000337 +                        RJ      MEC           MAKE RESPONSE EVENT CHANNEL
000113  5170000521 +                        SA7     SECRSP        SAVE MOT AND UNIQUE NAME OF EC
                                  *
                  6120000023                SB2     SPPROCSZ
000114  0100000352 +                        RJ      MPS           MAKE PSEUDO PROCESS
000115  10644                               BX6     X4
            5160000522 +                    SA6     SMOT          SAVE MOT AND UNIQUE NAME OF PPROC
                                  *
                      10055                 BX0     X5
000116  5100000510 +                        SA0     SPPROC
                                            WECS    SPPROCSZ      WRITE PSEUDO PROCESS DATA TO ECS
000120  73060                               SX0     X6
            5100000413 +                    SA0     TEMP
                                            RECS    1             GET MOT ENTRY
000122  5110000000 X                        SA1     SDVCPNT
                  5120000523 +              SA2     SDVCNUMB
000123  36012                               IX0     X1+X2
            5100000413 +                    SA0     TEMP
000124  5110000413 +                        SA1     TEMP
```

```
                    43647                    MX6      60-21
                         15616               BX6      -X6*X1
000125  5160000413 +                         SA6      TEMP          REMOVE UNIQUE NAME
                                             WECS     1             WRITE DEVICE POINTER TO ECS
000127  7262000001                           SX6      X2+1
                    5160000523 +             SA6      SDVCNUMB      STEP S DEVICE NUMBER
                                  *
000130  5110000154 +                         SA1      SDVCCNT
                    7261777776               SX6      X1-1
000131  5160000154 +                         SA6      SDVCCNT
                    0306000076 +             ZR       X6,MSDVC      ALL S DEVICES COMPLETED
                                  *
000132  5110000137 +                         SA1      SDVCDPNT
                    63210                    SB2      X1
000133  5112000003                           SA1      B2+3
                    7261777776               SX6      X1-1
000134  54610                                SA6      A1
                 0316000103 +                NZ       X6,MSDVCLP
                                  *
000135  7162000004                           SX6      B2+4          GO TO NEXT TYPE OF S DEVICE
                    5160000137 +             SA6      SDVCDPNT
000136  0200000103 +                         JP       MSDVCLP
                                  *
                                  *
                                  *                   S DEVICE DESCRIPTIONS
                                  *
                                  *                   IN FORM       FILE SIZE
                                  *                                 REQUEST EC SIZE
                                  *                                 RESPONSE EC SIZE
                                  *                                 NUMBER OF THIS TYPE
                                  *
                                  *
                                  *                   SDVCCNT MUXT AGREE WITH TOTAL NUMBER OF S DEVICES
                                  *
                                  *
000137                                       BSS      0
000137  0000000000000000140 +  SDVCDPNT      VFD      60/*+1
000140  0000000000000004010                  DATA     4010B,4,4,1   TAPE DRIVE
000144  0000000000000001000                  DATA     1000B,4,4,1     PRINTER
000150  0000000000000001000                  DATA      1000B,4,4,1          . CARD READER
                                  *
000154  0000000000000000003    SDVCCNT       DATA     3
```

```
                                        *
                                        *                          CREATE OBJECTS FOR DISK
                                        *
                                                  EXT       DSKPNT,DSKINTQ
                                        *
                        0000003         DSKINTX   EQU       3
                                        *
                                        *
000155                                  MDISK     BSSZ      1
000156  6120000536 +                              SB2       DPQUEUE
                   6130000000 X                   SB3       DSKPNT
000157  6140000000 X                              SB4       DSKINTQ
                   6150000003                     SB5       DSKINTX
000160  6160000011                                SB6       9
                   0100000421 +                   RJ        NEWCLASS  MAKE A NEW CLASS WITH 9 PSEUDO PROCESSES
                                        *                                  THE PPROC POINTER FILE WILL NOT BE USED
                                        *
                                        *                    MAKE DISK PSEUDO PROCESSES
                                        *
000161  7110777776                                SX1       -1
                   7120000010                     SX2       8
000162  0100000242 +                              RJ        DSKPP
000163  7110000003                                SX1       3
                   20122                          LX1       18
000164  7130000001                                SX3       1
                   12113                          BX1       X1+X3
000165  7222777776                      MDISK1    SX2       X2=1
                   7232777774                     SX3       X2=3
000166  0303000171 +                              ZR        X3,MDISK2
                   0100000242 +                   RJ        DSKPP
000167  5140000175 +                              SA4       MDISKX
                   37114                          IX1       X1=X4     STEP SZX FIELD
000170  0200000165 +                              JP        MDISK1
000171  7110000003                      MDISK2    SX1       3
                   20122                          LX1       18
000172  0332000176 +                    MDISK3    NG        X2,MDISK4
                   0100000242 +                   RJ        DSKPP
000173  5140000175 +                              SA4       MDISKX
                   37114                          IX1       X1=X4     STEP SZX FIELD
000174  7222777776                                SX2       X2=1
                   0200000172 +                   JP        MDISK3
                                        *
                                        *
000175  0000000000001000000             MDISKX    DATA      1000000B  INCREMENT FOR SZX FIELD
                                        *
                                        *                    MAKE USER FILE
                                        *
                                                  EXT       DISKRB0,DISKRB1,DISKRB2,DISKRB3
                                                  EXT       DISKWB0,DISKWB1,DISKWB2,DISKWB3
                                                  EXT       DISKUF
                                        *
                                        *
000176  7160000000 X                    MDISK4    SX6       DISKRB0    COMPUTE SIZE NEEDED
```

```
                    7266000000 X          SX6     X6+DISKWB0
000177  20606                             LX6     6
                 7110000000 X             SX1     DISKRB1
000200  7211000000 X                      SX1     X1+DISKWB1
                    36616                 IX6     X1+X6
                         20107            LX1     7
000201  36616                             IX6     X1+X6
                 7110000000 X             SX1     DISKRB2
000202  7211000000 X                      SX1     X1+DISKWB2
                    36616                 IX6     X1+X6
                         20110            LX1     8
000203  36616                             IX6     X1+X6
                 7110000000 X             SX1     DISKRB3
000204  7211000000 X                      SX1     X1+DISKWB3
                    36616                 IX6     X1+X6
                         20111            LX1     9
000205  36616                             IX6     X1+X6
                 7110000401               SX1     256+1     SPACE FOR BUFFER POINTERS AND USER THIS
                         36616            IX6     X1+X6
000206  0100000357 +                      RJ      MFILE
000207  10600                             BX6     X0
                 5160000000 X             SA6     DISKUF
                                 *
                                 *                MAKE UP 11 EVENT CHANNELS
                                 *
                                 *
                                 DODBUF   MACRO   COUNT,X
                                          SX6     COUNT+1
                                          RJ      MEC
                                          SA7     DISKBUF+X
                                          ENDM
                                 *
                                 *
                                 *
                                          EXT     DISKREQ,DISKRSP,DISKBUF,DISKSLT
                                          EXT     DISKRQC
                                 *
000210  7160000001 X                      SX6     DISKRQC+1
                    0100000337 +          RJ      MEC
000211  5170000000 X                      SA7     DISKREQ
                    7160000001 X          SX6     DISKRQC+1
000212  0100000337 +                      RJ      MEC
000213  5170000000 X                      SA7     DISKRSP
                                 *
                                          DODBUF  DISKRB0,0
                                          DODBUF  DISKRB1,1
                                          DODBUF  DISKRB2,2
                                          DODBUF  DISKRB3,3
                                          DODBUF  DISKWB0,4
                                          DODBUF  DISKWB1,5
                                          DODBUF  DISKWB2,6
                                          DODBUF  DISKWB3,7
                                 *
```

```
                    7160000001 X          SX6     DISKRQC+1
000234  0100000337 +                      RJ      MEC
000235  5170000000 X                      SA7     DISKSLT
                                  *
                                  *               MAKE UP PRIVATE FILE
                                  *
                                          EXT     DISKSF
                                  *
                    7160001500            SX6     256+64+512
000236  0100000357 +                      RJ      MFILE
000237  10600                             BX6     X0
                5160000000 X              SA6     DISKSF
000240  5111000070                        SA1     B1+P.PARAM+2
                    7261777776            SX6     X1-1
000241  54610                             SA6     A1        DESTROY C LIST ENTRY FOR THIS FILE
                                  *
                0200000155 +              JP      MDISK
```

```
                                 *
                                 *
                                 *                    MAKE UP A DISK PSEUDO PROCESS
                                 *
                                 *                    X1    DATA WD
                                 *                    X2          INDEX OF PPROC
                                 *
                                 *                    THESE WILL BE RETURNED
                                 *
                                 *
                                           EXT        DISKMOT,DISKADR
                                 *
000242                           DSKPP     BSSZ       1
000243  10611                              BX6        X1
            5160000542 +                   SA6        DDATA
                        10622              BX6        X2
000244  5160000255 +                       SA6        DSKPPSV
                   6120000010              SB2        DPPROCSZ
000245  0100000352 +                       RJ         MPS
000246  10644                              BX6        X4
            5160000541 +                   SA6        DMOT
000247  5110000542 +                       SA1        DDATA
                   5120000255 +            SA2        DSKPPSV
000250  5262000000 X                       SA6        DISKMOT+X2
                   10655                   BX6        X5
000251  5262000000 X                       SA6        DISKADR+X2
                   10066                   BX0        X6
000252  5100000533 +                       SA0        DPPROC
                                           WECS       DPPROCSZ
000254  0200000242 +                       JP         DSKPP
                                 *
000255                           DSKPPSV   BSSZ       1
```

```
                                        *
                                        *
                                        *                   MAKE DISPLAY FILES, EVENT CHANNELS AND P-PROCS
                                        *
                                        *
000256                                  MDSP      BSSZ      1
                                        *
                                                  EXT       DSPPNT,DSPQPNT,DSPKPNT,DSPPPNP,DSPSCRN
                                        *
                        0000004         DSPINTX   EQU       4
                                        *
000257  6120000546 +                              SB2       DSPQUEUE   . CHAIN WD
                   6130000000 X                   SB3       DSPPNT     . FILE FOR PTRS
000260  6140000000 X                              SB4       DSPQPNT    . INT QUEUE HEADER
                   6150000004                     SB5       DSPINTX    . INTERRUPT INDEX
000261  6160000000 X                              SB6       DSPSCRN    . NUMBER
                   0100000421 +                   RJ        NEWCLASS   . MAKE NEW CLASS OF DEVICE
                                        *
                                        *
000262  7160000000 X                              SX6       DSPSCRN
                   0100000357 +                   RJ        MFILE
000263  10600                                     BX6       X0         . FILE ADDRESS
            5160000000 X                          SA6       DSPKPNT    . PTR FILE FOR EVCH
000264  5111000070                                SA1       B1+P.PARAM+2
                   7261777776                     SX6       X1-1
000265  54610                                     SA6       A1         . KILL C-LIST ENTRIES
                                        *
            7160000000 X                          SX6       DSPSCRN
000266  0100000357 +                              RJ        MFILE
000267  10600                                     BX6       X0
            5160000000 X                          SA6       DSPPPNP    . FILE FOR P-PROC MOT+S
                                        *
000270  5111000070                                SA1       B1+P.PARAM+2
                   7261777776                     SX6       X1-1
000271  54610                                     SA6       A1         . KILL C-LIST ENTRIES
                                        *
                                        *
000272  7160000400                      MDSPLP    SX6       8*32       . FILE SIZE
                   0100000357 +                   RJ        MFILE      . MAKE USER SCREEN FILE
000273  10600                                     BX6       X0
            5110000321 +                          SA1       MDSPT      . INDEX
000274  5120000000 X                              SA2       DSPPNT     . ECS ADDRESS
                   5160000413 +                   SA6       TEMP
000275  36012                                     IX0       X1+X2
            5100000413 +                          SA0       TEMP
                                                  WECS      1          . WRITE ADDRESS INTO POINTER FILE
                                        *
                                        *
000277  7160000004                                SX6       4          . REQUEST EVCH SIZE
                   0100000337 +                   RJ        MEC        . MAKE REQUEST EVCH
000300  5170000551 +                              SA7       DSPECREQ   . PUT EVCH IN P-PROC
                                        *
                                        *
```

```
                    7160000014          SX6     12          . KEYBOARD EVCH SIZE
000301  0100000337 +                    RJ      MEC
000302  5110000000 X                    SA1     DSPKPNT     . ECS ADDRESS OF POINTER FILE
                    5120000321 +        SA2     MDSPT       . INDEX
000303  5170000413 +                    SA7     TEMP        .
                    54070               SA0     A7
                         36012          IX0     X1+X2
000304                                  WECS    1           . WRITE POINTER TO POINTER FILE
                                 *
                                 *
000305  6120000012                      SB2     DSPPROCL    . P-PROC LEN
                    0100000352 +        RJ      MPS         . MAKE P-PROC
000306  10644                           BX6     X4
             5160000552 +               SA6     DSPMOT      . PUT MOT IN P-PROC
000307  5110000000 X                    SA1     DSPPPNP
                    5120000321 +        SA2     MDSPT
000310  10722                           BX7     X2
             36012                      IX0     X1+X2
                    5170000554 +        SA7     DSPSCREN    . SCREEN INDEX IN P-PROC
000311  5160000413 +                    SA6     TEMP
                    5100000413 +        SA0     TEMP
000312                                  WECS    1           . SAVE MOT IN DSPPPNP FILE
                                 *
000313  10055                           BX0     X5          . ECS ADDRESS OF P-PROC
             10600                      BX6     X0
                    5160000553 +        SA6     DSPPROCA
000314  5100000543 +                    SA0     DSPPROC
                                        WECS    DSPPROCL    . WRITE P-PROC TO ECS
                                 *
                                 *
                                 *
000316  7277000001                      SX7     X7+1        . BUMP COUNTER
                    7160000000 X        SX6     DSPSCRN
000317  54720                           SA7     A2
             37776                      IX7     X7-X6       . CHECK FOR END
                                 *
                    0337000272 +        NG      X7,MDSPLP   . LOOP IF MORE
000320  0400000256 +                    EQ      MDSP        . ELSE RETURN
                                 *
                                 *
                                 *
000321                           MDSPT  BSSZ    1
```

```
                                        *
                                        *
                                        *
                                        *
                                        *        MAKE CLOCK EVENT CHANNELS
                                        *
                                        *
000322  0000000000000000000             MCLOCKS  DATA     0
                                        *
                                                 EXT      DSPCLKN,DSPCLKP,INTSCR
                                        *
000323  6120000546 +                             SB2      DSPQUEUE  . DUMMY
                 6130000000 X                    SB3      DSPCLKP
000324  6140000000 X                             SB4      INTSCR
                 6150000005                      SB5      DSPINTX+1
000325  6160000000 X                             SB6      DSPCLKN   . COUNT
                 0100000421 +                    RJ       NEWCLASS  . MAKE NEW CLASS OF DEVICE
                                        *
                                        *
000326  7160000000                               SX6      0
                 5160000413 +                    SA6      TEMP
000327  7160000002                      MCLOCKS1 SX6      2
                 0100000337 +                    RJ       MEC       . MAKE EVENT CHANNEL
                                        *
000330  5110000413 +                             SA1      TEMP
                 54710                           SA7      A1
                      54010                      SA0      A1
000331  5120000000 X                             SA2      DSPCLKP
                 36021                           IX0      X2+X1
000332  7271000001                               SX7      X1+1
                                                 WECS     1
000334  5071000000                               SA7      A1+0
                 7160000000 X                    SX6      DSPCLKN
000335  37776                                    IX7      X7-X6
            0337000327 +                         NG       X7,MCLOCKS1          . LOOP
000336  0200000322 +                             JP       MCLOCKS   . RETURN
                                        *
                                        *                MAKE AN EVENT CHANNEL TO HOLD NUMB OF EVENTS IN X6
                                        *                RETURN WITH ABS ECS ADDRESS IN X7
                                        *
000337                                  MEC      BSSZ     1
000340  5161000071                               SA6      B1+P.PARAM+3
                 5111000070                      SA1      B1+P.PARAM+2
000341  7261000001                               SX6      X1+1          STEP C LIST INDEX
                 54610                           SA6      A1
000342  6150000011                               SB5      J.MKEC
                 6160000344 +                    SB6      MEC1
000343  0200000000 X                             JP       CALLSYS
                                        *
000344  5110000001 X                    MEC1     SA1      CAPAB+1
                 73010                           SX0      X1                MOT INDEX TO X0
000345  5100000351 +                             SA0      MEC2
                                                 RECS     1                 GET ABS ECS ADDRESS
```

```
000347  5110000351 +                    SA1     MEC2
                43047                   MX0     60-21
                      15710             BX7     -X0*X1
000350  0200000337 +                    JP      MEC
                                 *
000351                           MEC2   BSSZ    1
```

```
                                        *
                                        *          CREATE PSEUDO PROCESS OF SIZE GIVEN IN B2
                                        *          MAKE NO C LIST ENTRY
                                        *          RETURN WITH ABS ADDRESS OF TH P PROC IN X5
                                        *           MOT INDEX IN X4
                                        *
000352                                  MPS        BSSZ     1
000353  6140000355 +                              SB4      MPS1
                  5151000067                      SA5       B1+P.PARAM+1    GET U NAME AND MOT OF ALLOC BLK
000354  7170000001                              SX7      AT.PROC
                  0200000000 X                  JP       MAKEOBJ
                                        *
000355  5140000001 X                    MPS1       SA4      CAPAB+1
                  73440                           SX4       X4              STRIP OFF UNIQUE NAME
000356  0200000352 +                             JP       MPS
```

```
                                        *
                                        *          ROUTINE TO CREATE A 1 LEVEL FILE WITH DATA BLOCK OF
                                        *               SIZE GIVEN IN X6
                                        *          RETURNS WITH ECS ADDRS OF THE DATA BLK IN X0
                                        *
000357                                  MFILE      BSSZ     1
000360  5160000420 +                               SA6      BSIZE
                  7160000001                       SX6      1
000361  5161000071                                 SA6      B1+P.PARAM+3    SET NUMBER OF LEVELS = 1
                  7160000420 +                     SX6      BSIZE
000362  5161000072                                 SA6      B1+P.PARAM+4       POINT TO BLOCK SIZE
                  5111000070                       SA1      B1+P.PARAM+2
000363  7261000001                                 SX6      X1+1            STEP CLIST INDEX
                  54610                            SA6      A1
000364  6150000004                                 SB5      J.CREFIL
                  6160000366 +                     SB6      MFILE1
000365  0200000000 X                               JP       CALLSYS
                                        *
000366  6121000066                      MFILE1     SB2      B1+P.PARAM      SET UP LOOP TO SAVE
                  6130000003                       SB3      3               FIRST 3 ACTUAL PARAMETERS
000367  56120                           MFILE2     SA1      B2
            10611                                  BX6      X1
                  5163000413 +                     SA6      B3+TEMP
000370  6122000001                                 SB2      B2+1
                  6133777776                       SB3      B3-1
000371  0530000367 +                               NE       B3,B0,MFILE2
                                        *
                  5110000000 X                     SA1      CAPAB           SET UP FILE CAPABILITY
000372  10611                                      BX6      X1              IN ACTUAL PARAM AREA
            5161000066                             SA6      B1+P.PARAM
000373  5110000001 X                               SA1      CAPAB+1
                  10611                            BX6      X1
000374  5161000067                                 SA6      B1+P.PARAM+1
                  5160000417 +                     SA6      FPOINT          SAVE MOT INDES OF FILE
000375  7160000000                                 SX6      0
                  5161000070                       SA6      B1+P.PARAM+2       PLACE AN ADDRS OF A WORD IN BLOCK
000376  6150000006                                 SB5      J.CREBLK        IN ACTUAL PARAM AREA
                  6160000400 +                     SB6      MFILE3          AND CALL FOR BLOCK CREATION
000377  0200000000 X                               JP       CALLSYS
                                        *
000400  6121000066                      MFILE3     SB2      B1+P.PARAM      SET UP TO RESTORE FIRST
                  6130000003                       SB3      3               3 ACTUAL PARAMS
000401  5113000413 +                    MFILE4     SA1      B3+TEMP
                  10611                            BX6      X1
                        56620                      SA6      B2
000402  6122000001                                 SB2      B2+1
                  6133777776                       SB3      B3-1
000403  0530000401 +                               NE       B3,B0,MFILE4
                                        *
                  5110000417 +                     SA1      FPOINT          NOW COMPUTE BLOCK ADDRESS
000404  73010                                      SX0      X1              COMPUTE MOT INDEX OF THE FILE
            5100000417 +                           SA0      FPOINT
                                                   RECS     1               READ IN MOT ENTRY
```

```
000406  5110000417 +                    SA1     FPOINT
                43247                   MX2     60-21
                     15012              BX0     -X2*X1        COMPUTE ADDRS OF FILE DESC BLOCK
000407  5100000417 +                    SA0     FPOINT
                                        RECS    1
000411  5110000417 +                    SA1     FPOINT
                43247                   MX2     60-21
                     15012              BX0     -X2*X1        COMPUTE ADDRESS OF DATA BLOCK
000412  0200000357 +                    JP      MFILE         EXIT
                                *
                                *
000413                          TEMP    BSSZ    4
000417                          FPOINT  BSSZ    1
000420                          BSIZE   BSSZ    1
```

```
                                        *
                                        *                INITIALIZE    A NEW CLASS OF OBJECTS
                                        *
                                        *        B2      LOCATION OF PROTOTYPE P PROC INT QUEUE POINTER
                                        *        B3      LOCATION OF POINTER TO P PROC POINTERS
                                        *        B4      LOCATION OF POINTER TO INTERRUPT QUEUE
                                        *        B5      INTERRUPT INDEX
                                        *        B6      NUMBER OF DEVICES IN CLASS
                                        *
                                        *
000421                                  NEWCLASS BSSZ    1
000422  76620                                   SX6     B2
            5160000450 +                        SA6     NEWC2
                     76630                      SX6     B3
000423  5160000451 +                            SA6     NEWC3
                 76640                          SX6     B4
000424  5160000452 +                            SA6     NEWC4
                 76650                          SX6     B5
000425  5160000453 +                            SA6     NEWC5
                 76660                          SX6     B6
000426  5160000454 +                            SA6     NEWC6
                                        *
                 6120000011                     SB2     NITYPES-1
000427  0725000032 +                            LT      B2,B5,ERROR   CHECK SIZE OF INTERRUPT INDEX
                                        *
                 76660                          SX6     B6            NUMBER OF DEVICES IN CLASS
000430  0100000357 +                            RJ      MFILE         FILE TO CONTAIN POINTERS TO P PROCS
000431  10600                                   BX6     X0
            5110000451 +                        SA1     NEWC3
                     53610                      SA6     X1            SAVE POINTER TO P PROC POINTERS
000432  5111000070                              SA1     B1+P.PARAM+2
                 7261777776                     SX6     X1-1
000433  54610                                   SA6     A1            DESTROY C LIST ENTRY FOR THIS FILE
                                        *
            5110000030 +                        SA1     INTQS         COMPUTE ADDRESS OF INTERRUPT QUEUE
000434  5120000453 +                            SA2     NEWC5
                 20201                          LX2     1
                     36612                      IX6     X1+X2
000435  5110000452 +                            SA1     NEWC4
                 53610                          SA6     X1
                     20622                      LX6     18
000436  5130000450 +                            SA3     NEWC2
                 53130                          SA1     X3
                     43246                      MX2     60-22
000437  20222                                   LX2     18
            11121                               BX1     X2*X1
                 15662                          BX6     -X2*X6
                     12616                      BX6     X1+X6
000440  53630                                   SA6     X3            PLACE QUEUE POINTER IN P PROC DATA
                                        *
            5110000031 +                        SA1     DVCTYPE
000441  7261000001                              SX6     X1+1
                 5160000031 +                   SA6     DVCTYPE
```

```
000442  7221777765                          SX2     X1-NITYPES
                  0322000032 +              PL      X2,ERROR        CHECK DEVICE TYPE
000443  5121000070                          SA2     B1+P.PARAM+2
                  7262000001                SX6     X2+1            FIRST C LIST INDEX FOR THESE OBJECTS
000444  5160000413 +                        SA6     TEMP
                  5120000027 +              SA2     DVCFILE
000445  36012                               IX0     X1+X2
                 5100000413 +               SA0     TEMP
                                            WEC     1               SAVE FIRST C LIST INDEX
                                 *
000447  0200000421 +                        JP      NEWCLASS
                                 *
                                 *
000450                           NEWC2      BSSZ    1
000451                           NEWC3      BSSZ    1
000452                           NEWC4      BSSZ    1
000453                           NEWC5      BSSZ    1
000454                           NEWC6      BSSZ    1
```

```
                                        *
                                        *                PROTOTYPE OF MUX DEVICE PSEUDO PROCESS
                                        *
000455  1100000100000000000     PPROC   VFD      3/1,3/1,6/0,12/1,18/FIELD1,18/0
000456                                  BSSZ     1
000457  0000000000000000000             DATA     0
000460  0000000000000000001     PQUEUE  VFD      20/0,22/FIELD2,18/MUXINTX
000461                                  BSSZ     2
                                        *
000463  0000000000000000021     FILEADDR VFD     22/0,20/FIELD3,18/TTYFSIZE
000464  0000000000000000007             VFD      60/7
000465  0000000000000000007             VFD      60/7
000466  0000000000000000014             VFD      60/7+TTYOSIZE
000467  0000000000000000014             VFD      60/7+TTYOSIZE
000470  0000000000000000021             VFD      60/TTYFSIZE
000471  0000000000000000000     OUTCHN  VFD      60/FIELD4
000472  0000000000000000000     INCHN   VFD      60/FIELD5
000473  0000000000000000000     INADDR  VFD      60/FIELD6
000474  0000000000000000000     PMOT    VFD      60/FIELD7
000475  0000000000000000000              VFD        60/FIELD8
000476                                  *
                        0000021 PPROCSZ EQU      *-PPROC
                                        *
                                        *
                                        *        DESCRIPTION OF FIELDS WHICH RECIEVE VALUES DYNAMICALY
                                        *
                        0000000 FIELD1  EQU      0              MOT INDEX
                        0000000 FIELD2  EQU      0              QUEUE ADDRESS
                        0000000 FIELD3  EQU      0              ECS ADDR FILE DATA BLOCK
                        0000000 FIELD4  EQU      0              MOT, UNIQUE NAME OUT EVENT CHANNEL
                        0000000 FIELD5  EQU      0              MOT, UNIQUE NAME OF IN EVENT CHANNEL
                        0000000 FIELD6  EQU      0              INPUT PHYSICAL ADDRESS
                        0000000 FIELD7  EQU      0              MOT, UNIQUE NAME OF THIS P PROC
                        0000000 FIELD8  EQU       0         HOLDS BROADCAST IN PROGRESS FLAG, AND COUNT ETC
```

```
                                        *
                                        *                PROTOTYPE FILE DATA FOR MUX DEVOCE
                                        *
000476  0000000000000000007     PFILE   VFD      60/7
000477  0000000000000000007             VFD      60/7
000500  0000000000000000014             VFD      60/7+TTYOSIZE
000501  0000000000000000014             VFD      60/7+TTYOSIZE
000502  0000000000000000021             VFD      60/TTYFSIZE
000503  0000000000000000012             VFD      60/TTYDTA
000504  0000000000000000014             VFD      60/7+TTYOSIZE
000505                                  *
000505  0015001201240123012 3           DATA     0015001201240123012 3B        CR  LF  TSS
000506  0240011601170127024 0           DATA     0240011601170127024 0B        NOW
000507  0125012000150012400 1           DATA     0125012000150012400 1B        UP  CR  LF  EOM
                                        *
                                        *        DATA      0015001201070117024 0B      CR  LF  GO
                                        *        DATA      0101012701010131024 1B        AWAYV
                                        *        DATA      0241024100150012400 1B        VV CR LF EOM
                        0000012         TTYDTA   EQU      *-PFILE
```

```
                    *
                    *                    COMPUTE TTY FILE AND EVENT CHANNEL CONSTANTS
                    *
0000005   TTYOSIZE  EQU     5
0000005   TTYISIZE  EQU     5
0000021   TTYFSIZE  EQU     7+TTYOSIZE+TTYISIZE
0000012   ECOUTCNT  EQU     10
0000003   ECINCNT   EQU     3
                    *
                    *
```

```
                                  *
                                  *                 PROTOTYPE OF S DEVICE PSEUDO PROCESS
                                  *
000510  110000010000000000000     SPPROC    VFD     3/1,3/1,6/0,12/1,36/0
000511                                      BSSZ    1
000512  000000000000000000000                DATA    0
000513  000000000000000000002     SPQUEUE   VFD     22/0,20/SFIELD1,18/SDVCINTX
000514                                      BSSZ    2
                                  *
000516                            SFILE     BSSZ    1          BUFFER FILE DATA BLOCK ADDRS
000517                            SFILESZ   BSSZ    1          SIZE OF BUFFER FILE DATA BLOCK
000520                            SECREQ    BSSZ    1          REQ EVENT CHANNEL
000521                            SECRSP    BSSZ    1          RESPONSE EVENT CHANNEL
000522                            SMOT      BSSZ    1          SPPROC MOT AND UNIQUE NAME
000523                            SDVCNUMB  BSSZ    1          NUMBER OF THIS DEVICE
                                  *
000524                            SEFLAG    BSSZ    1
000525                            SREQLEFT  BSSZ    1
000526                            SREQDONE  BSSZ    1
000527                            SBUFPOS   BSSZ    1
000530                            SBUFSZ    BSSZ    1
000531                            SACTION   BSSZ    1
000532                            SUSERREQ  BSSZ    1
                                  *
                       0000023    SPPROCSZ  EQU     *-SPPROC
                                  *
                                  *                 DESCRIPTIONS OF SOME FIELDS WHICH RECIEVE VALUES
                                  *
                       0000000    SFIELD1   EQU     0          QUEUE ADDRESS
```

```
                                        *
                                        *                PROTOTYPE OF DISK PSEUDO PROCESS
                                        *
000533  1100000100000000000     DPPROC     VFD       3/1,3/1,6/0,12/1,36/0
000534                                     BSSZ      1
000535  0000000000000000000                DATA      0
000536  0000000000000000003     DPQUEUE    VFD       22/0,20/SFIELD1,18/DSKINTX
000537                                     BSSZ      2
                                        *
000541                          DMOT       BSSZ      1          DISK PPROC MOT AND UNIQUE NAME
000542                          DDATA      BSSZ      1          DISKDATA WORD
                                        *
                       0000010  DPPROCSZ   EQU       *-DPPROC
```

```
                                        *
                                        *
                                        *
                                        *
                                        *                PROTOTYPE FOR DISPLAY PSEUDO-PROCESSES
                                        *
                                        *
000543  1100000100000000000     DSPPROC   VFD      3/1,3/1,6/0,12/1,36/0
000544                                    BSSZ     1
000545  0000000000000000000               DATA     0
000546  0000000000000000004     DSPQUEUE  VFD      22/0,20/0,18/DSPINTX
000547                                    BSSZ     2          . EVENT WORDS
                                        *
000551                          DSPECREQ  BSSZ     1
000552                          DSPMOT    BSSZ     1
000553                          DSPPROCA  BSSZ     1
000554                          DSPSCREN  BSSZ     1
                                        *
                                        *
                        0000012 DSPPROCL  EQU      *-DSPPROC
000555                                    END
                                     1191 STATEMENTS      285  SYMBOLS
```

SYMBOLIC REFERENCE TABLE (PAGE-LOCATION)

AT.PROC	0000001		21-00354
BSIZE	0000420	PROGRAM*	22-00360, 22-00361
CALLSYS	0000000	EXTERNAL*	19-00343, 22-00365, 22-00377
CAPAB	0000000	EXTERNAL*	19-00344, 21-00355, 22-00371, 22-00373
DDATA	0000542	PROGRAM*	16-00243, 16-00247
DISKADR	0000000	EXTERNAL*	16-00251
DISKBUF	0000000	EXTERNAL*	14-00215, 14-00217, 14-00221, 14-00223, 14-00225, 14-00227, 14-00231, 14-00233
DISKMOT	0000000	EXTERNAL*	16-00250
DISKRB0	0000000	EXTERNAL*	13-00176, 14-00213
DISKRB1	0000000	EXTERNAL*	14-00177, 14-00215
DISKRB2	0000000	EXTERNAL*	14-00201, 14-00217
DISKRB3	0000000	EXTERNAL*	14-00203, 14-00221
DISKREQ	0000000	EXTERNAL*	14-00211
DISKRQC	0000000	EXTERNAL*	14-00210, 14-00211, 15-00233
DISKRSP	0000000	EXTERNAL*	14-00213
DISKSF	0000000	EXTERNAL*	15-00237
DISKSLT	0000000	EXTERNAL*	15-00235
DISKUF	0000000	EXTERNAL*	14-00207
DISKWB0	0000000	EXTERNAL*	14-00176, 14-00223
DISKWB1	0000000	EXTERNAL*	14-00200, 14-00225
DISKWB2	0000000	EXTERNAL*	14-00202, 14-00227
DISKWB3	0000000	EXTERNAL*	14-00204, 14-00231
DMOT	0000541	PROGRAM*	16-00246
DPPROC	0000533	PROGRAM*	16-00252, 30-00543
DPPROCSZ	0000010		16-00244, 16-00253
DPQUEUE	0000536	PROGRAM*	13-00156
DSKINTQ	0000000	EXTERNAL*	13-00157
DSKINTX	0000003		13-00157, 30-00536
DSKPNT	0000000	EXTERNAL*	13-00156
DSKPP	0000242	PROGRAM*	13-00162, 13-00166, 13-00172, 16-00254
DSKPPSV	0000255	PROGRAM*	16-00244, 16-00247
DSPCLKN	0000000	EXTERNAL*	6-00006, 19-00325, 19-00334
DSPCLKP	0000000	EXTERNAL*	19-00323, 19-00331
DSPECREQ	0000551	PROGRAM*	17-00300
DSPINTX	0000004		17-00260, 19-00324, 31-00546
DSPKPNT	0000000	EXTERNAL*	17-00263, 18-00302
DSPMOT	0000552	PROGRAM*	18-00306
DSPPNT	0000000	EXTERNAL*	17-00257, 17-00274
DSPPPNP	0000000	EXTERNAL*	17-00267, 18-00307
DSPPROC	0000543	PROGRAM*	18-00314, 31-00555
DSPPROCA	0000553	PROGRAM*	18-00313
DSPPROCL	0000012		18-00305, 18-00315
DSPQPNT	0000000	EXTERNAL*	17-00260
DSPQUEUE	0000546	PROGRAM*	17-00257, 19-00323
DSPSCREN	0000554	PROGRAM*	18-00310
DSPSCRN	0000000	EXTERNAL*	6-00005, 17-00261, 17-00262, 17-00265, 18-00316
DVCFILE	0000027	PROGRAM*	6-00013, 25-00444
DVCTYPE	0000031	PROGRAM*	24-00440, 24-00441
ECINCNT	0000003		10-00061
ECOUTCNT	0000012		10-00060
ERROR	0000032	PROGRAM*	8-00033, 24-00427, 25-00442
FIELD1	0000000		26-00455
FIELD2	0000000		26-00460

SYMBOLIC REFERENCE TABLE (PAGE-LOCATION)

FIELD3	0000000		26-00463
FIELD4	0000000		26-00471
FIELD5	0000000		26-00472
FIELD6	0000000		26-00473
FIELD7	0000000		26-00474
FIELD8	0000000		26-00475
FILEADDR	0000463	PROGRAM*	10-00053, 10-00055
FPOINT	0000417	PROGRAM*	22-00374, 22-00403, 22-00404, 23-00406, 23-00407, 23-00411
INADDR	0000473	PROGRAM*	9-00042, 9-00043, 9-00045, 9-00046, 10-00072
INCHN	0000472	PROGRAM*	10-00063
INTINIA	0000011	PROGRAM*	6-00014
INTINIB	0000015	PROGRAM*	7-00026
INTINIC	0000000	PROGRAM*	6-00007
INTQS	0000030	PROGRAM*	6-00017, 24-00433
INTSCR	0000000	EXTERNAL*	19-00324
J.CREBLK	0000006		22-00376
J.CREFIL	0000004		22-00364
J.MKEC	0000011		19-00342
MAKEOBJ	0000000	EXTERNAL*	21-00354
MCLOCKS	0000322	PROGRAM*	6-00025, 19-00336
MCLOCKS1	0000327	PROGRAM*	19-00335
MC.INT	0000010	PROGRAM*	6-00007
MDISK	0000155	PROGRAM*	6-00023, 15-00241
MDISKX	0000175	PROGRAM*	13-00167, 13-00173
MDISK1	0000165	PROGRAM*	13-00170
MDISK2	0000171	PROGRAM*	13-00166
MDISK3	0000172	PROGRAM*	13-00174
MDISK4	0000176	PROGRAM*	13-00172
MDSP	0000256	PROGRAM*	6-00024, 18-00320
MDSPLP	0000272	PROGRAM*	18-00317
MDSPT	0000321	PROGRAM*	17-00273, 18-00302, 18-00307
MEC	0000337	PROGRAM*	10-00060, 10-00062, 11-00107, 11-00112, 14-00210, 14-00212, 14-00214, 14-00216, 14-00220, 14-00222, 14-00224, 14-00226, 14-00230, 14-00232, 15-00234, 17-00277, 18-00301, 19-00327, 20-00350
MEC1	0000344	PROGRAM*	19-00342
MEC2	0000351	PROGRAM*	19-00345, 20-00347
MFILE	0000357	PROGRAM*	6-00012, 6-00016, 10-00052, 11-00104, 14-00206, 15-00236, 17-00262, 17-00266, 17-00272, 23-00412, 24-00430
MFILE1	0000366	PROGRAM*	22-00364
MFILE2	0000367	PROGRAM*	22-00371
MFILE3	0000400	PROGRAM*	22-00376
MFILE4	0000401	PROGRAM*	22-00403
MMUX	0000034	PROGRAM*	6-00021, 9-00050
MMUXDVC	0000051	PROGRAM*	9-00042, 9-00044, 10-00075
MMUX1	0000044	PROGRAM*	9-00047
MPS	0000352	PROGRAM*	10-00064, 11-00114, 16-00245, 18-00305, 21-00356
MPS1	0000355	PROGRAM*	21-00353
MSDVC	0000076	PROGRAM*	6-00022, 12-00131
MSDVCLP	0000103	PROGRAM*	12-00134, 12-00136
MUXINTX	0000001		9-00036, 26-00460
MUXPNTS	0000000	EXTERNAL*	9-00035, 10-00072
MUXQADD	0000000	EXTERNAL*	9-00036
MUXWRBIT	0000000	EXTERNAL*	9-00037, 9-00041

SYMBOLIC REFERENCE TABLE (PAGE-LOCATION)

MUXWRBT	0000000	EXTERNAL*	9-00033
NEWCLASS	0000421	PROGRAM*	9-00037, 11-00102, 13-00160, 17-00261, 19-00325, 25-00447
NEWC2	0000450	PROGRAM*	24-00422, 24-00436
NEWC3	0000451	PROGRAM*	24-00423, 24-00431
NEWC4	0000452	PROGRAM*	24-00424, 24-00435
NEWC5	0000453	PROGRAM*	24-00425, 24-00434
NEWC6	0000454	PROGRAM*	24-00426
NITYPES	0000012		6-00012, 6-00016, 24-00426, 25-00442
OUTCHN	0000471	PROGRAM*	10-00061
PFILE	0000476	PROGRAM*	10-00056, 27-00510
PMOT	0000474	PROGRAM*	10-00065
PPROC	0000455	PROGRAM*	10-00066, 26-00476
PPROCSZ	0000021		10-00063, 10-00067
PQUEUE	0000460	PROGRAM*	9-00035
PS.TEMP	0000001		3-00000, 3-00000
P.PARAM	0000066		6-00020, 6-00021, 9-00040, 15-00240, 17-00264, 17-00270, 19-00340, 19-00340, 21-00353, 22-00361, 22-00362, 22-00362, 22-00366, 22-00372, 22-00374, 22-00375, 22-00400, 24-00432, 25-00443
P.PARAML	0000040		3-00000, 3-00066, 3-00000
P.ROHEAD	0000126		3-00135
P.RWHEAD	0000135		3-00167
P.SCHED	0000130		3-00135, 3-00135, 3-00135
P.SCHEDL	0000005		3-00130
P.SCRL	0000050		3-00000
P.SCR2L	0000006		3-00050
SDVCCNT	0000154	PROGRAM*	6-00002, 11-00101, 12-00130, 12-00131
SDVCDPNT	0000137	PROGRAM*	11-00103, 11-00106, 11-00110, 12-00132, 12-00135
SDVCINTX	0000002		11-00100, 29-00513
SDVCNUMB	0000523	PROGRAM*	11-00122, 12-00127
SDVCPNT	0000000	EXTERNAL*	11-00077, 11-00122
SDVCQPT	0000000	EXTERNAL*	11-00100
SECREQ	0000520	PROGRAM*	11-00110
SECRSP	0000521	PROGRAM*	11-00113
SFIELD1	0000000		29-00513, 30-00536
SFILE	0000516	PROGRAM*	11-00105
SFILESZ	0000517	PROGRAM*	11-00104
SMOT	0000522	PROGRAM*	11-00115
SPPROC	0000510	PROGRAM*	11-00116, 29-00533
SPPROCSZ	0000023		11-00113, 11-00117
SPQUEUE	0000513	PROGRAM*	11-00077
S.ECSER	0000000	EXTERNAL*	10-00057, 10-00067, 10-00071, 10-00074, 11-00117, 11-00121, 12-00126, 16-00253, 17-00276, 18-00304, 18-00312, 18-00315, 19-00333, 20-00346, 23-00405, 23-00410, 25-00446
S.NUMTT	0000000	EXTERNAL*	6-00001, 9-00046
S.TTY	0000000	EXTERNAL*	9-00041
TEMP	0000413	PROGRAM*	10-00070, 10-00073, 11-00120, 11-00123, 11-00124, 12-00125, 17-00274, 17-00275, 18-00303, 18-00311, 18-00311, 19-00326, 19-00330, 22-00367, 22-00401, 25-00444, 25-00445
TTYDTA	0000012		10-00057, 27-00503
TTYFSIZE	0000021		10-00052, 26-00463, 26-00470, 27-00502
TTYISIZE	0000005		28-00510
TTYOSIZE	0000005		26-00466, 26-00467, 27-00500, 27-00501, 27-00504, 28-00510
T.PROC	0000777		4-00000