ADDRESS	LENGTH
0	2022
2022	

BINARY CONTROL CARDS.

```
IDENT    IPROC
END
```

BLOCKS	TYPE	ADDRESS	LENGTH
ABSOLUTE*	ABSOLUTE	0	17
PROGRAM*	LOCAL	0	2022

ENTRY POINTS.

IPROC01	-	0	RUNORG2	-	2022	IPSTART	-	1372	S.IPROC	-	21
IPROC02	-	2022	IPWDS1	-	2022	IPROCSZ	-	2022	MC.IPRC	-	22
RUNORG1	-	0	IPWDS2	-	0	LIMIT	-	2022	S.TTY	-	20

```
          IDENT     IPROC
*
*
*
*                   IPROC READS IN NEXT FILE ON TAPE, MAKES A FILE OUT OF IT,
*                   ANDS READS IN 1ST 10 WORDS AS A SPECIAL HEADER, FORM
*                   OF THE SPECIAL HEADER IS AS FOLLOWS.
*
*                   0         2
*                   1         0
*                   2         LOGICAL MAP COUNT
*                   3         COMPILER MAP SIZE
*                   4         FIELD LENGTH
*                   5         ENTRY POINT
*                   6         C LIST SIZE
*                   7         L1
*                   10        L2
*                   11        L3
*                   12        L4
*
*                   A SCRATCH FILE OF SIZE L1 IS CONSTRUCTED. A SUBPROCESS
*                   IS CREATED WITH PARAMETERS AS INDICATED. LOGICAL
*                   MAP ENTRY 0 IS SET UP WITH READ WRITE ENTRY, FILE ADDRS
*                   0, CM ADDRES 0, COUNT L1, FILE THE SCRATCH FILE.
*                   LOGICAL MAP ENTRY 1 IS SET UP WITH READ ONLY ENTRY,
*                   FILE ADDRESS L1, CM ADDRESS L1, COUNT L2 - L1,
*                   FILE THE FILE JUST READ IN FROM TAPE.
*
*                   THE FOLLOWING ITEMS ARE THEN PLACED IN THE CLIST WITH
*                   INDEX L4 + I WHERE I IS INDICATED BELOW
*
*                   0         MASTER CLIST ( I PROCS CLIST )
*                   1         CLASS CODE OF IPROC
*                   2         CALL IN IPROC ( FOR A NEW FILE )
*                   3         CALL ON SELF
*                   4         OWN CLIST
*                   5         OWN SCRATCH FILE
*                   6         OWN CLASS CODE
*                   7         OWN CODE FILE
*                   8         A FILE OF LENGTH L3+1
*                   9         A CLIST OF LENGTH L3
*                   10        AN ALLOCATION BLOCK
*                   11        BEAD CALL ( TEST VERSION ONLY )
*
```

```
*
*
*
          ENTRY   IPROCO1,IPROCO2
          ENTRY   RUNORG1,RUNORG2
          ENTRY   IPWDS1,IPWDS2
          ENTRY   IPSTART,IPROCSZ,LIMIT
          ENTRY   S.IPROC,MC.IPRC,S.TTY
*         ENTRY POITS
```

```
                    *
                    *
                    *                   THIS TABLE COMES FROM OPNAMES,XTEXT
                    *
0                   OPNAMES   XTEXT
                    *
                    *
                    *                   END OF OPNAMES,XTEXT STUFF
                    *
                    *                   REDIFINITION OF BADLY NAMED ITEMS
                    *
1       C.LCLALC    EQU       C.ALLOC
0       C.MAST      EQU       C.SELF
                                        INTERRUPT OBJECT INDEXEX
                    *
                    *
```

```
                       *
                       *
                       *
                       *                   C LIST INDEXES TO BE USED IN IPROCS CLIST
                       *
                       *                   HAVE TO BE RESET AS BASE NOT KNOWN UNTILL RUN TIME
                       *
  0                             ORG        0
                       *
  0                    CX.FATH  BSS        1          CLASS CODE OF IPROC ROOT
  1                    CX.CODE  BSS        1          CODE FILE FOR IPROC ROOT
  2                    CX.IPROC BSS        1          CAPABILITY FOR IPROC AS A PROCESS
  3                    CX.CLIPR BSS        1          WILL CONTAIN A CALL ON IPROC
  4                    CX.LIPR  BSS        1          WILL CONTAIN A CALL ON IPROC
  5                    CX.SFILE BSS        1          FILE CONTAINING CODE FOR CONSTRUCTED SUBPROCESS
  6                    CX.SPCAL BSS        1          OPERATEION TO CALL ON CONSTRUCTED SUBPROCESS
  7                    CX.SPCC  BSS        1          CLSASS CODE FOR CONSTRUCTED SUBPROCESS
 10                    CX.SPCL  BSS        1          CLIST FOR SAME
 11                    CX.SPFL  BSS        1          SCRATCH FILE FOR SAME
 12                    CX.RFILE BSS        1          CLIST INDEX FOR FILE JUST READ IN FROM TAPE
 13                    CX.GLBLD BSS        1          C LIST INDEX FOR DIRECTORY FILE
 14                    CX.GLBLC BSS        1          C LIST INDEX FOR DIRECTORY CLIST
                       *
 15                             BSS        2          TO ALLOW FOR WRING SIZE MASTRER CLIST
                       *
 17                    CXSPACE  BSS        0
                       *
                                USE        *
                       *
                       *
  0                             LOC        0
                  0 +  IPROCOI  EQU        *0
                  0    RUNORGI  EQU        *L
  0                             BSSZ       16
                 20 +  S.TTY    EQU        *0         WILL CONTAIN CLIST INDEX OF SPECIAL TTY
 20                    L.TTY    BSSZ       1
                       *
                       *
                 21 +  S.IPROC  EQU        *0         WILL CONTAIN CLIST INDEX OF IPROC
 21                    CXBASE   BSSZ       1
                       *
                 22 +  MC.IPRC  EQU        *0         SPCE NEEDED IN MASTER CLIST FOR IPROC RT
 22  00000000000000000017  +    VFD        60/CXSPACE
                       *
```

```
*
*
MOVE    MACRO   FROM,TO
        SA1     FROM
        BX6     X1
        SA6     TO
        ENDM
*
*
CMOVE   MACRO   FROM,TO
        SA1     FROM
        BX6     X1
        SA6     CPYCAP+1
        SA1     TO
        BX6     X1
        SA6     CPYCAP+2
        XJ      CPYCAP
        ENDM
*
*
FREAD   MACRO   AFILE,FILEAD,CMAD,CNT
        SA1     AFILE
        SX2     FILEAD
        SX3     CMAD
        SX4     CNT
        CALL    FREAD
        ENDM
*
*
CALL    MACRO   LOC
+       SB7     *+1
        JP      LOC
        ENDM
*
*
XJ      MACRO   LOC
+       VFD     12/0130B,18/LOC,12/0,18/2
        SB6     B7
+       SB7     *+1
        JP      ERR
        ENDM
*
*
*               THESE NEXT 3 MACROS USED TO REFERANCE IPROCS
*               CLIST INDEXES FOR LATER RUN TIME FIX UP.
*
CX      MACRO   X
        LOCAL   A
A       VFD     60/X
        RMT
        VFD     60/A
        RMT
        ENDM
```

```
*
*
DX      MACRO   C,X
        LOCAL   A
A       VFD     30/C,30/X
        RMT
        VFD     60/A
        RMT
        ENDM
*
*
CXI     MACRO   I,X
        LOCAL   A
A       VFD     1/1,29/I,30/X
        RMT
        VFD     60/A
        RMT
        ENDM
*
*
MCAP    MACRO   X
*       VFD     1/1,29/C.X,30/C,MAST
        ENDM
*
*
TAPEACT MACRO   CODE
        SX3     CODE
        CALL    TAPEACT
        ENDM
*
*
TAPECHK MACRO   ITEMS,VALUES,FAIL
        SX1     ITEMS
        SX2     VALUES
        SX3     FAIL
        CALL    TAPECHK
        ENDM
```

```
                                   *
                                   *
 23  40000000260000000000   SETESM    MCAP      ESMLOC
 24  00000000000000000025             VFD       60/*+1
 25  77777777777777777777             DATA      -0
                                   *
                                   *
 26  40000000270000000000   MKIPCL    MCAP      MKOPR
 27  40000000010000000000             MCAP      ALLOC
 30  00000000000000000003             CX        CX.CLIPR
 31  00000000000000000000             DATA      0
 32  00000000000000000000             CX        CX.FATH
 33  00000000000000000000             DATA      0
                                   *
                                   *
 34  40000000220000000000   CPYCAP    MCAP      MVECAP
 35                                   BSSZ      2
 37  77777777777777777777             DATA      -0
                                   *
 40  40000000030000000000   XFREAD    MCAP      READ
 41                                   BSSZ      4
                                   *
 45  40000000150000000000   MKCC      MCAP      CCC
 46  00000000000000000007             CX        CX.SPCC
                                   *
 47  40000000270000000000   MKOP      MCAP      MKOPR
 50  40000000010000000000             MCAP      ALLOC
 51  00000000000000000006             CX        CX.SPCAL
 52  00000000000000000000             DATA      0
 53  00000000000000000007             CX        CX.SPCC
 54  00000000000000000000             DATA      0
                                   *
 55  40000000070000000000   MKCLST    MCAP      CCLIST
 56  40000000010000000000             MCAP      ALLOC
 57  00000000000000000010             CX        CX.SPCL
 60                                   BSSZ      1
                                   *
 61  40000000100000000000   MKSFILE   MCAP      CFILE
 62  40000000010000000000             MCAP      ALLOC
 63  00000000000000000011             CX        CX.SPFL
 64  00000000000000000001             DATA      1
 65  00000000000000000066             VFD       60/*+1
 66                                   BSSZ      1
                                   *
 67  40000000110000000000   MKSBLK    MCAP      CBLK
 70  00000000000000000011             CX        CX.SPFL
 71  00000000000000000000             DATA      0
                                   *
 72  40000000140000000000   MKSUB     MCAP      CSPROC
 73  00000000000000000007             CX        CX.SPCC
 74  00000000000000000000             CX        CX.FATH
 75                                   BSSZ      4
101  00000000000000000010             CX        CX.SPCL
```

```
                                     *
 102  40000000470000000000   MKSCRMP   MCAP    MPCHRW
 103  00000000000000000007             CX      CX.SPCC
 104  00000000000000000000             DATA    0
 105  00000000000000000011             CX      CX.SPFL
 106  00000000000000000000             DATA    0
 107  00000000000000000000             DATA    0
 110                                   BSSZ    1
                                     *
 111  40000000460000000000   MKROMP    MCAP    MPCHRD
 112  00000000000000000007             CX      CX.SPCC
 113  00000000000000000001             DATA    1
 114  00000000000000000005             CX      CX.SFILE
 115                                   BSSZ    1
 116                                   BSSZ    1
 117                                   BSSZ    1
                                     *
 120  00000000000000000006   CALLSUB   CX      CX.SPCAL
                                     *
 121  40000000720000000000   KILLSUB   MCAP    DELSUB
 122  00000000000000000007             CX      CX.SPCC
                                     *
 123  40000000570000000000   KILLCLST  MCAP    DELCL
 124  00000000000000000010             CX      CX.SPCL
                                     *
 125  40000000420000000000   KILLSPBK  MCAP    DELBLK
 126  00000000000000000011             CX      CX.SPFL
 127  00000000000000000000             DATA    0
                                     *
 130  40000000430000000000   KILLSPFL  MCAP    DELFIL
 131  00000000000000000011             CX      CX.SPFL
                                     *
 132  40000000300000000000   RETURN    MCAP    RETURN
 133  40000000660000000000   HARIKARI  MCAP    DLPROC    IPROCS SUICIDE
 134  00000000000000000002             CX      CX.IPROC
                                     *
 135  40000000160000000000   SAVEREG   MCAP    SAVE
 136  00000000000000001343             VFD     60/REGS
                                     *
 137  40000000170000000000   RSTREG    MCAP    RESTOR
 140  00000000000000001343             VFD     60/REGS
                                     *
 141  40000001110000000000   SRETURN   MCAP    RETPAR
 142  00000000000000000000             VFD     30/0,30/0
 143  00000000010000000012             DX      1,CX.RFILE
                                     *
 144  40000000240000000000   SENDCP    MCAP    CAPOUT
 145                                   BSSZ    3
                                     *
                                     *
                                     *
 150  40000000030000000000   RDTPCX    MCAP    READ
 151  40000000020000000000             MCAP    INTFIL
```

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IP LISTS

```
152  0000000000000000001          VFD     60/1,60/TPCPX,60/1
153  0000000000000000336
154  0000000000000000001
                          *
                          *
155  4000000006000000000  TGET    MCAP    GETE
156                       BSSZ    1
                          *
                          *
157  4000000005000000000  TPUT    MCAP    SENDE
160                       BSSZ    1
161                       TAPEREQ BSSZ    1
                          *
                          *
162  4000000003000000000  TREAD   MCAP    READ
163                       BSSZ    1
164  0000000000000000000          VFD     60/0,60/TAPEDATA,60/1001B
165  0000000000000000337
166  0000000000000001001
                          *
                          *
                          *
167  4000000001000000000  MKFILE  MCAP    CFILE
170  4000000001000000000          MCAP    ALLOC
171  0000000000000000012          CX      CX.RFILE
172  0000000000000000002          DATA    2
173  0000000000000000174          VFD     60/*+1
174  0000000000000000100          DATA    100B
175  0000000000000000400  FBLKSZ  DATA    400B
                          *
                          *
176  4000000011000000000  NWFBLK  MCAP    CBLK
177  0000000000000000012          CX      CX.RFILE
200                       BSSZ    1
                          *
                          *
201  4000000004000000000  NWFWRITE MCAP   WRITE
202  0000000000000000012          CX      CX.RFILE
203                       FPNT    BSSZ    1
204                       FCMPNT  BSSZ    1
205                       FWCNT   BSSZ    1
                          *
                          *
                          *
                          *
                          *
206  4000000055000000000  RDSTK   MCAP    DISSEN
207  0000000000000001340          VFD     60/STKBUFF
210  0000000000000000001          DATA    1
                          *
                          *
                          *
                          *                MISC CLIST INDEXE REFERANCES
```

```
                                   *
 211  00000000000000000012        D.RFILE    CX        CX.RFILE
 212  00000000000000000005        D.SFILE    CX        CX.SFILE
 213  00000000000000000010        D.SPCL     CX        CX.SPCL
 214  00000000000000000007        D.SPCC     CX        CX.SPCC
 215  00000000000000000006        D.SPCAL    CX        CX.SPCAL
 216  00000000000000000011        D.SPFL     CX        CX.SPFL
 217  00000000000000000013        D.GLBLD    CX        CX.GLBLD
 220  00000000000000000014        D.GLBLC    CX        CX.GLBLC
 221  00000000000000000000        D.FATH     CX        CX.FATH
 222  00000000000000000003        D.CLIPRC   CX        CX.CLIPR
                                   *
                                   *
                                   *                   DATA FOR RUNSPCL
                                   *
 223                              RUNSPCL7   BSSZ      1
                                   *
                                   *
                                   *                   HEADER FOR SPECIAL SUBPROCESS
                                   *
 224                              SHEAD      BSS       0
                                   *
 224                                         BSSZ      1
 225                                         BSSZ      1
 226                                         BSSZ      1
 227                                         BSSZ      1
 230                                         BSSZ      1
 231                                         BSSZ      1
 232                              CLSTSZ     BSSZ      1
 233                              SCRSZ      BSSZ      1
 234                              END        BSSZ      1
 235                              GLMXSZ     BSSZ      1
 236                              BLDCXBS    BSSZ      1
                                   *
                            13    SHEADCNT   EQU       *-SHEAD
                                   *
                                   *
                                   *
                                   *
                                   *                   DATA FOR POSTAPE
                                   *
                                   *
 237                              POSTAPE7   BSSZ      1
                                   *
                                   *
                                   *                   DATA FOR DIRECTORY OBJECT CONSTRUCTION
                                   *
                                   *
 240                              DIRECTY7   BSSZ      1
                                   *
                                   *
 241  40000000100000000000        MKDFILE    MCAP      CFILE
 242  40000000010000000000                   MCAP      ALLOC
```

```
  243  0000000000000000013          CX      CX.GLBLD
  244  0000000000000000001          DATA    1
  245  0000000000000000246          VFD     60/*+1
  246                               BSSZ    1
                          *
                          *
  247  4000000011000000000  MKDBLK  MCAP    CBLK
  250  0000000000000000013          CX      CX.GLBLD
  251  0000000000000000000          DATA    0
                          *
                          *
  252  4000000007000000000  MKDCL   MCAP    CCLIST
  253  4000000001000000000          MCAP    ALLOC
  254  0000000000000000014          CX      CX.GLBLC
  255                               BSSZ    1
                          *
                          *
                          *
                          *
                          *                 DATA FOR FIX UP OF CLIST REFERANCES
                          *
                          *
  256                     FIXADS  BSS     0
                                  HERE
  324                             BSS     0
                          *
                    46    FIXCNT  EQU     *-FIXADS
                          *
                          *
                          *                 MISC DATA
                          *
                          *
  324  0000000000000000001  AGAIN   DATA    1         SECOND AND LATER TIME FLAG
                          *
                          *
                          *                 DATA FOR NEWFILE
                          *
  325                     NEWFILE7 BSSZ   1
  326                     FCNT     BSSZ   1
  327                     FCMCNT   BSSZ   1
                          *
                          *
                          *
                          *                 TAPE PACKAGE DATA
                          *
                          *
  330                     INITAPE7 BSSZ   1
  331                     RDRCD7   BSSZ   1
  332                     TAPE7B   BSSZ   1
                          *
  333                     TACT     BSSZ   1         CURRENT TAPE ACTION
  334  0001000110010000000  TAPECODE VFD     1/0,11/1,12/1,12/513,12/0,12/0  SKELETON TAPE RQST
                                                   SIGN BIT CHANGES
                          *
```

```
  335                   TAPERSP   BSSZ    1          LATEST TAPE RESPONSE
  336                   TPCPX     BSSZ    1          INDEX OF FIRST TAPE CAPABILITY
                        *
  337                   TAPEDATA  BSSZ    1001B
                        *
                        *
                        *                  IN CASE OF ERROR
                        *
                        *
 1340                   STKBUFF   BSSZ    3
                        *
 1343                   REGS      BSSZ    20
                        *
                        *
                        *
                        *
                        *                  END OF SCRATCH AREA
                        *
 1367                   SCRCNT    BSS     0
```

```
                                *
                                *
                                *                       THIS IS THE MAIN CODE
                                *
1367  0200001373                        JP      MAIN1     .. -3  INITIAL CALL
1370  0200001370                        JP      *         .. -2  INTERRUPT CALL
1371  0200001415                        JP      ERRC      .. -1  ERROR CALL
1372  0200001410                IPSTART JP      MAIN2     .. -0  CALL FOR NEW FILE
                                *
                                *
                                *                       INITIAL ENTRY CODE
                                *
1373  6170001374                MAIN1   CALL    FIXCX
1374  6170001375                        CALL    INITAPE
1375  0130000023000000002               XJ      SETESM  ?
1400  0130000026000000002               XJ      MKIPCL  no
1403  6170001404                        CALL    RUNSPCL
1404  0130000133000000002               XJ      HARIKARI
1407  0200001407                *       JP      *
                                *
                                *
                                *                       CALL FOR NEW FILE
                                *
1410  6170001411                MAIN2   CALL    NEWFILE
1411  0130000141000000002               XJ      $RETURN
1414  0200001414                *       JP      *
                                *
                                *
                                *                       AN ERROR HAS OCCURED
                                *
                                *
1415  0130000135000000002       ERRC    XJ      SAVEREG
1420  0130000206000000002               XJ      RDSTK
1423  0200001423                *       JP      *
                                *
```

```
                                *
                                *
                                *                THIS SUBROUTINE GETS SPECIAL FILE FROM TAPE AND
                                *                CONSTRUCTS SPECIAL SUBPROCESS AND CALLS IT
                                *
1424  76670                     RUNSPCL   SX6      B7
                5160000223                SA6      RUNSPCL7
1425  6170001426                          CALL     NEWFILE
1426  5110000211                          CMOVE    D.RFILE,D.SFILE
1434  5110000212                          FREAD    D.SFILE,0,SHEAD,SHEADCNT
1437  5110000212                          FREAD    D.SFILE,2,MKSUB+3,4
1442  6170001443                          CALL     CCY
1443  0130000047000000002               XJ       MKOP
1446  5110000232                          MOVE     CLSTSZ,MKCLST+3
1450  0130000055000000002               XJ       MKCLST
1453  5110000233                          MOVE     SCRSZ,MKSFILE+5
1455  0130000061000000002               XJ       MKSFILE
1460  0130000067000000002               XJ       MKSBLK
1463  0130000072000000002               XJ       MKSUB
1466  5110000233                          MOVE     SCRSZ,MKSCRMP+6
1470  0130000102000000002               XJ       MKSCRMP
1473  5110000233                          MOVE     SCRSZ,MKROMP+4
                5110000233                MOVE     SCRSZ,MKROMP+5
1476  5110000233                          SA1      SCRSZ
                5120000234                SA2      END
1477  37621                             IX6      X2-X1
                5160000117                SA6      MKROMP+6
1500  0130000111000000002               XJ       MKROMP
1503  6170001504                          CALL     DIRECTY
1504  5110000213                          SA1      D.SPCL
                10611                     BX6      X1
1505  5160000145                          SA6      SENDCP+1
                5110000236                SA1      BLDCXBS
1506  10611                             BX6      X1
                5160000146                SA6      SENDCP+2
1507  7110000000                          SX1      C.MAST
1510  6170001511                          CALL     PUTCX
1511  5110000221                          SA1      D.FATH
1512  6170001513                          CALL     PUTCX
1513  5110000222                          SA1      D.CLIPRC
1514  6170001515                          CALL     PUTCX
1515  5110000215                          SA1      D.SPCAL
1516  6170001517                          CALL     PUTCX
1517  5110000213                          SA1      D.SPCL
1520  6170001521                          CALL     PUTCX
1521  5110000216                          SA1      D.SPFL
1522  6170001523                          CALL     PUTCX
1523  5110000214                          SA1      D.SPCC
1524  6170001525                          CALL     PUTCX
1525  5110000212                          SA1      D.SFILE
1526  6170001527                          CALL     PUTCX
1527  5110000217                          SA1      D.GLBLD
1530  6170001531                          CALL     PUTCX
```

```
1531  5110000220                        SA1     D.GLBLC
1532  6170001533                        CALL    PUTCX
1533  7110000001                        SX1     C.LCLALC
1534  6170001535                        CALL    PUTCX
1535  0130000120000000002               XJ      CALLSUB
1540  0130000121000000002               XJ      KILLSUB
1543  0130000123000000002               XJ      KILLCLST
1546  0130000125000000002               XJ      KILLSPBK
1551  0130000130000000002               XJ      KILLSPFL
1554  6170001555                        CALL    DIRECTZ
1555  5110000223                        SA1     RUNSPCL7
                63710                   SB7     X1
1556  0270000000                        JP      B7
                              *
                              *
                              *         THIS SUBROUTINE DOES A FILE READ. GOS TO ERR ON
                              *         F RETURN.
                              *
                              *         ( SAVES B7 IN B5 IN CASE OF FRETURN )
                              *
1557  66570                   FREAD     SB5     B7
            10611                       BX6     X1
                  5160000041            SA6     XFREAD+1
1560  10622                             BX6     X2
            5160000042                  SA6     XFREAD+2
                  10633                 BX6     X3
1561  5160000043                        SA6     XFREAD+3
                  10644                 BX6     X4
1562  5160000044                        SA6     XFREAD+4
1563  0130000040000000002               XJ      XFREAD
1566  0270000000                        JP      B7
                              *
                              *
                              *         THIS SUBROUTINE FIXES UP CLIST INDEX REFERANCES
                              *         FOR IPROC. SINCE BASE OF INDEXES NOT KNOWN
                              *         UNTIL RUN TIME
                              *
1567  6110000256              FIXCX     SB1     FIXADS
                  6120000046            SB2     FIXCNT
1570  5110000021                        SA1     CXBASE
                  43036                 MX0     30
                              *
1571  56210                   FIXCXL    SA2     B1
            53220                       SA2     X2
                  15620                 BX6     -X0*X2
                        36661           IX6     X6+X1
1572  11202                             BX2     X0*X2
            12626                       BX6     X2+X6
                  12626                 BX6     X2+X6
                        54620           SA6     A2
1573  6111000001                        SB1     B1+1
                  6122777776            SB2     B2-1
1574  0520001571                        NE      B2,B0,FIXCXL
```

```
                                   *
             0270000000                      JP        B7
                                   *
                                   *
                                   *                   SUBROUTINE TO MAKE ENTRIES IN SUBPROCESS CLIST
                                   *
1575  73610                        PUTCX     SX6       X1
          5160000147                         SA6       SENDCP+3           SOURCE INDEX
1576  0130000144000000002                    XJ        SENDCP
1601  5120000146                             SA2       SENDCP+2
             7262000001                      SX6       X2+1
1602  54620                                  SA6       A2                 STEP SINK INDEX
          0270000000                         JP        B7
                                   *
                                   *
                                   *                   ERROR SUBROUTINE.
                                   *
                                   *
1603  0130000135000000002          ERR       XJ        SAVEREG
1606  0200001606                   *         JP        *
```

```
                                *
                                *
                                *                       POSITION TAPE, PART OF TEST VERSION ONLY
                                *
1607  76670                     POSTAPE   SX6     B7
            5160000237                    SA6     POSTAPE7
                                *
1610  7130000005                          TAPEACT 05B     ( CLEAR )
1612  7130000001                          TAPEACT 01B     ( BINARY )
1614  7130000010                          TAPEACT 10B     ( REWIND )
1616  7130000003                          TAPEACT 03B     ( 556 BPI )
                                *
1620  6170001621                POSTAPE1  CALL    RDRCD
1621  5110000337                          SA1     TAPEDATA
                  0321001620              PL      X1,POSTAPE1
                                *
1622  6170001623                POSTAPE2  CALL    RDRCD
1623  5110000337                          SA1     TAPEDATA
                  7120001000              SX2     1000B
1624  37212                               IX2     X1-X2
            0302001622                    ZR      X2,POSTAPE2       SCAN FOR SHORT RCD AFTER CM CODE
                                *
1625  5110000237                          SA1     POSTAPE7
                  63710                   SB7     X1
1626  0270000000                          JP      B7
```

```
                                *
                                *
                                *               GET A NEW FILE
                                *
                                *               INITIALIZE
                                *
1627  76670                     NEWFILE   SX6     B7
            5160000325                    SA6     NEWFILE7
                       76600              SX6     B0
1630  5160000326                          SA6     FCNT
                  5160000203              SA6     FPNT
1631  6170001632                          CALL    RDRCD     READ IN 1ST RECORD
1632  5110000337                          SA1     TAPEDATA
                  0331001675              NG      X1,NEWFLR8          END OF FILE, NO MORE FILES
1633  10611                               BX6     X1
            5160000327                    SA6     FCMCNT
1634  7160000340                          SX6     TAPEDATA+1
                  5160000204              SA6     FCMPNT
1635  01300001670000000002               XJ      MKFILE
                                *
                                *               FILE READING LOOP
                                *
1640  5110000326                NEWFLR1   SA1     FCNT      SPACE LEFT IN FILE
                  5120000327              SA2     FCMCNT    SPACE LEFT IN CM BUFFER
                                *
1641  0301001654                NEWFLR2   ZR      X1,NEWFLR4          ADD A BLOCK TO FILE
                  0302001663              ZR      X2,NEWFLR5          READ A RECORD FROM TAPE
                                *
1642  73610                     NEWFLR3   SX6     X1
            37312                         IX3     X1-X2
1643  0330001644                +         NG      X3,*+1
                       73620              SX6     X2
                                *
1644  5160000205                          SA6     FWCNT     MINIMUM COUNT
1645  01300002010000000002               XJ      NWFWRITE  COPY SOURDS TO FILE
1650  37716                               IX7     X1-X6     DECREMENT
            54710                         SA7     A1          ASSORTED
                  37756                   IX7     X2-X6         COUNTS
                       54720              SA7     A2
1651  5130000204                          SA3     FCMPNT    INCREMENT
                  36736                   IX7     X3+X6       ASSORTED
                       54730              SA7     A3            POINTERS
1652  5130000203                          SA3     FPNT
                  36736                   IX7     X3+X6
                       54730              SA7     A3
1653  0200001640                          JP      NEWFLR1
                                *
                                *               NEED A NEW BLOCK IN FILE
                                *
1654  5130000203                NEWFLR4   SA3     FPNT
                  10633                   BX6     X3
1655  5160000200                          SA6     NWFBLK+2
1656  01300001760000000002               XJ      NWFBLK
```

```
1661  5130000175                    SA3     FBLKSZ
                10133               BX1     X3
                    10633           BX6     X3
1662  54610                         SA6     A1
          02000001641               JP      NEWFLR2
                                *
                                *       INEED A NEW RECORD FROM TAPE
                                *
1663  5130000337            NEWFLR6  SA3     TAPEDATA
                    7140001000      SX4     1000B
1664  37443                         IX4     X4-X3
          03140001672               NZ      X4,NEWFLR6          LAST WAS A SHORT PHYSICAL RCD
1665  6170001666                    CALL    RDRCD
1666  5110000337                    SA1     TAPEDATA
                    0331001674      NG      X1,NEWFLR7          UNEXPECTED EOF
1667  10611                         BX6     X1
          5160000327                SA6     ECMCNT
1670  7160000340                    SX6     TAPEDATA+1
                    5160000204      SA6     FCMPNT
1671  0200001640                    JP      NEWFLR1
                                *
                                *       SHORT RECORD. FILE READ COMPLETE
                                *
1672  5110000325            NEWFLR6  SA1     NEWFILE7
                    6371O           SB7     X1
1673  0270000000                    JP      B7
                                *       UNEXPECTED EOF
                                *
1674  6170001675            NEWFLR7  CALL    ERR
                                *
                                *
                                *       END OF FILE. NO MORE FILES. REWIND. UNLOAD
                                *
1675  7130000011            NEWFLR8  TAPEACT 11B         ( REWIND UNLOAD )
1677  0200001672                     JP      NEWFLR6
```

```
                                *
                                *
                                *                THIS SUBROUTINE PREPARES DIRECTORY FILE AND CLIST
                                *
                                *
1700  76670                     DIRECTY   SX6     B7
            5160000240                    SA6     DIRECTY7
                                *
1701  5110000235                          SA1     GLMXSZ
                  7261000001              SX6     X1+1
1702  5160000246                          SA6     MKDFILE+5
1703  0130000241000000002                XJ      MKDFILE
1706  0130000247000000002                XJ      MKDBLK
1711  5110000235                          SA1     GLMXSZ
                  10611                   BX6     X1
1712  5160000255                          SA6     MKDCL+3
1713  0130000252000000002                XJ      MKDCL
                                *
1716  5110000240                          SA1     DIRECTY7
                  63710                   SB7     X1
1717  0270000000                          JP      B7
                                *
                                *
                                *                DUMMY RELEASE OF DIRECTORY
                                *
1720  0270000000                DIRECTZ   JP      B7
                                *
                                *
                                *
                                *                MAKE CLASS CODE FOR BUILDER  ( DUMMY )
                                *
1721  0130000045000000002       CCY       XJ      MKCC
1724  0270000000                          JP      B7
```

```
                                *
                                *
                                *
                                *                READ A RECORD FROM TAPE
                                *
                                *                TAPEDATA CONTAINS -1 ON EOF
                                *                  WORD COUNT OTHERWISE
                                *
1725  76670                     RDRCD     SX6      B7
            5160000331                    SA6      RDRCD7
                                *
1726  7130000101                RDRCD1    TAPEACT  101B
1730  0327001740                          PL       X7,RDRCD3           OK READ
                  7110000010                TAPECHK  10B,00B,RDRCD2      WAS EOF
1733  7130000012                          TAPEACT  12B                  ( BACK SPACE )
1735  0200001726                          JP       RDRCD1              RE READ
                                *
1736  7160777776                RDRCD2    SX6      -1                  SET EOF FLAG
                  5160000337              SA6      TAPEDATA
1737  0200001746                          JP       RDRCD4
                                *
1740  0130000162000000000002    RDRCD3    XJ       TREAD
1743  5110000337                          SA1      TAPEDATA   PICK UP BYTE COUNT
                  5120001750              SA2      FPFIVE     FLOATING POINT 5
1744  27101                               PX1      X1
            44112                         FX1      X1/X2
                  26121                   UX1      X1,B2
                        22621             LX6      X1,B2
1745  5160000337                          SA6      TAPEDATA
                                *
1746  5110000331                RDRCD4    SA1      RDRCD7
                        63710             SB7      X1
1747  0270000000                          JP       B7
                                *
1750  1722500000000000000000    FPFIVE    DATA     5.0
```

```
                                *
                                *
                                *                THIS CODE EXECUTES A TAPE ACTION
                                *
1751  76670                     TAPEACT   SX6     B7
           5160000332                     SA6     TAPE7B
                      10633               BX6     X3
1752  5160000333                          SA6     TACT
                                *
1753  5110000334                TAPEACT1  SA1     TAPECODE
                12613                    BX6     X1+X3
1754  5160000161                         SA6     TAPEREQ
1755  0130000157000000000002             XJ      TPUT
1760  0130000155000000000002             XJ      TGET
1763  5170000335                         SA7     TAPERSP
                03570017 67              OR      X7,TAPEACT3          REQUEST IGNORED
1764  0337001767                         NG      X7,TAPEACT3          ERROR RESPONSE
                                *
1765  5110000332                TAPEACT2  SA1     TAPE7B
                63710                    SB7     X1
1766  0270000000                         JP      B7
                                *
1767  5110000334                TAPEACT3  SA1     TAPECODE  FLIP ERROR RECOVERY BIT
                43001                    MX0     1
                      13601              BX6     X0-X1
1770  54610                              SA6     A1
           0327001777                    PL      X7,TAPEACT4          REMAKE REQUEST IF IGNORED
                                *
1771  5110000335                         SA1     TAPERSP
                      20160              LX1     60-12
1772  7100000003                         SX0     3
                      11101              BX1     X0*X1
1773  0311001777                         NZ      X1,TAPEACT4          REMAKE REQUEST IF REJECTED
                                *
                7110004001       TAPECHK         4001B,0001B,TAPEACT4 REMAKE RQST ON SOME ERRORS
1776  0200001765                         JP      TAPEACT2
                                *
1777  5130000333                TAPEACT4  SA3     TACT
                02000017 53              JP      TAPEACT1  REMAKE REQUEST
```

```
                                    *
                                    *
                                    *
                                    *                   CHECK STATUS FROM LAST RESPONSE
                                    *
                                    *                   BITS TO CHECK IN X1
                                    *                   DESIRED VALUES IN X2
                                    *                   FAILURE JUMP IN X3
                                    *
                                    *                   DESTROYS X4, B7
                                    *
2000  5140000335                    TAPECHK   SA4       TAPERSP
                20444                         LX4       60-24
                    13442                     BX4       X4-X2
2001  11414                                   BX4       X1*X4
          03140020003                         NZ        X4,TAPECHK1
2002  0270000000                              JP        B7
                                    *
2003  63730                         TAPECHK1  SB7       X3
          0270000000                          JP        B7
```

```
                                *
                                *
                                *       IINITIALIZE TAPE CAPABILITIES
                                *
                                *
2004  76670                     INITAPE SX6     B7
            5160000330                  SA6     INITAPE7
2005  0130000150000000000002           XJ      BDTPCX
2010  5110000336                        SA1     TPCPX
                  7120000000            SX2     C.MAST
2011  43001                             MX0     1
            12202                       BX2     X0+X2
                  10611                 BX6     X1
                        20636           LX6     30
2012  12662                             BX6     X6+X2
            5160000163                  SA6     TREAD+1
2013  7211000001                        SX1     X1+1
                  10611                 BX6     X1
                        20636           LX6     30
2014  12662                             BX6     X6+X2
            5160000160                  SA6     TPUT+1
2015  7211000001                        SX1     X1+1
                  10611                 BX6     X1
                        20636           LX6     30
2016  12662                             BX6     X6+X2
            5160000156                  SA6     TGET+1
2017  5110000330                        SA1     INITAPE7
                  63710                 SB7     X1
2020  0270000000                        JP      B7
```

```
                                    *
                                    *
2021  0000000000000000001                DATA    1
                                    *
                                    *
                          2022 +    IPROCO2   EQU     *0
                          2022      RUNORG2   EQU     *L
                                    *
                          2022      IPWDS1    EQU     RUNORG2-RUNORG1
                             0      IPWDS2    EQU     *L-RUNORG2
                                    *
                          2022 +    LIMIT     EQU     *0
                          2022      IPROCSZ   EQU     IPWDS1+IPWDS2
                                    *
2022                                END

                         35620      STORAGE USED          1413 STATEMENTS     290 SYMBOLS     00003B INVENTED SYMBOLS
                                    6600 ASSEMBLY         8.469 SECONDS       521 REFERENCES
```

AGAIN	324	12/33 L							
BLDCXBS	236	11/33 L	15/33						
CALLSUB	120	9/18 L	16/05						
CCY	1721	15/13	21/32 L						
CLSTSZ	232	11/29 L	15/14						
CPYCAP	34	8/16 L	15/10 S	15/10 S	15/10				
CXBASE	21	5/40 L	16/40						
CXSPACE	17	5/26 L	5/43						
CX.CLIPR	3	5/13 L	8/10	11/11					
CX.CODE	1	5/11 L							
CX.FATH	0	5/10 L	8/12	8/51	11/10				
CX.GLBLC	14	5/22 L	11/09	12/14					
CX.GLBLD	13	5/21 L	11/08	12/01	12/08				
CX.IPROC	2	5/12 L	9/35						
CX.LIPR	4	5/14 L							
CX.RFILE	12	5/20 L	9/45	10/25	10/33	10/38	11/02		
CX.SFILE	5	5/15 L	9/13	11/03					
CX.SPCAL	6	5/16 L	8/28	9/18	11/06				
CX.SPCC	7	5/17 L	8/24	8/30	8/50	9/03	9/11	9/21	11/05
CX.SPCL	10	5/18 L	8/35	8/53	9/24	11/04			
CX.SPFL	11	5/19 L	8/40	8/46	9/05	9/27	9/31	11/07	
C.ALLOC	1	4/12	8/09	8/27	8/34	8/39	10/24	11/53	12/13
C.CAPOUT	24	9/47							
C.CBLK	11	8/45	10/32	12/07					
C.CCC	15	8/23							
C.CCLIST	7	8/33	12/12						
C.CFILE	10	8/38	10/23	11/52					
C.CSPROC	14	8/49							
C.DELBLK	42	9/26							
C.DELCL	57	9/23							
C.DELFIL	43	9/30							
C.DELSUB	72	9/20							
C.DISSEN	55	10/47							
C.DLPROC	66	9/34							
C.ESMLOC	26	8/03							
C.GETE	6	10/06							
C.INTFIL	2	9/53							
C.LCLALC	1	4/12 D	16/03						
C.MAST	0	4/13 D	8/23	8/39	9/23	9/40	10/10	10/47	15/36
		8/03	8/26	8/45	9/26	9/43	10/15	11/52	25/10
		8/08	8/27	8/49	9/30	9/47	10/23	11/53	
		8/09	8/33	9/02	9/33	9/52	10/24	12/07	
		8/16	8/34	9/10	9/34	9/53	10/32	12/12	
		8/20	8/38	9/20	9/37	10/06	10/37	12/13	
C.MKOPR	27	8/08	8/26						
C.MPCHRO	46	9/10							
C.MPCHRW	47	9/02							
C.MVECAP	22	8/16							
C.READ	3	8/20	9/52	10/15					
C.RESTOR	17	9/40							
C.RETPAR	111	9/43							
C.RETURN	30	9/33							
C.SAVE	16	9/37							

C.SELF	0		4/13						
C.SENDE	5		10/10						
C.WRITE	4		10/37						
DIRECTY	1700		15/30		21/06 L				
DIRECTY7	240		11/49 L		21/07 S	21/19			
DIRECTZ	1720		16/11		21/26 L				
D.CLIPRC	222		11/11 L		15/40				
D.FATH	221		11/10 L		15/38				
D.GLBLC	220		11/09 L		16/01				
D.GLBLD	217		11/08 L		15/52				
D.RFILE	211		11/02 L		15/09				
D.SFILE	212		11/03 L		15/10	15/10	15/11	15/50	
D.SPCAL	215		11/06 L		15/42				
D.SPCC	214		11/05 L		15/48				
D.SPCL	213		11/04 L		15/30	15/44			
D.SPFL	216		11/07 L		15/46				
END	234		11/31 L		15/25				
ERR	1603		14/16		14/34	15/19	16/07	17/10	20/01	21/33
			14/17		15/10	15/20	16/08	17/19 L	20/31	22/23
			14/19		15/14	15/22	16/09	17/20	21/13	23/14
			14/26		15/16	15/29	16/10	19/20	21/14	23/15
			14/33		15/18	16/06	16/31	19/36	21/18	25/09
ERRC	1415		14/07		14/32 L				
FBLKSZ	175		10/29 L		20/01				
FCMCNT	327		12/40 L		19/16 S	19/24	20/17 S		
FCMPNT	204		10/40 L		19/18 S	19/40	20/19 S		
FCNT	326		12/39 L		19/10 S	19/23			
FIXADS	256		12/23 L		12/27	16/38			
FIXCNT	46		12/27 D		16/39				
FIXCX	1567		14/14		16/38 L				
FIXCXL	1571		16/43 L		16/53				
FPFIVE	1750		22/24		22/35 L				
FPNT	203		10/39 L		19/11 S	19/43	19/50		
FREAD	1557		15/11		15/12	16/21 L			
FWCNT	205		10/41 L		19/34 S				
GLMXSZ	235		11/32 L		21/09	21/14			
HARIKARI	133		9/34 L		14/18				
INITAPE	2004		14/15		25/06 L				
INITAPE7	330		12/47 L		25/07 S	25/27			
IPROC01	0	PROGRAM*	3/04 E		5/32 D				
IPROC02	2022	PROGRAM*	3/04 E		26/06 D				
IPROCSZ	2022		3/07 E		26/13 D				
IPSTART	1372		3/07 E		14/08 L				
IPWDS1	2022		3/06 E		26/09 D	26/13			
IPWDS2	0		3/06 E		26/10 D	26/13			
KILLCLST	123		9/23 L		16/07				
KILLSPBK	125		9/26 L		16/08				
KILLSPFL	130		9/30 L		16/09				
KILLSUB	121		9/20 L		16/06				
LIMIT	2022	PROGRAM*	3/07 E		26/12 D				
L.TTY	20		5/36 L						
MAIN1	1373		14/05		14/13 L				
MAIN2	1410		14/08		14/24 L				

SYMBOLIC REFERENCE TABLE.

MC.IPRC	22	PROGRAM*	3/08 E	5/42 D							
MKCC	45		8/23 L	21/32							
MKCLST	55		8/33 L	15/15 S	15/15						
MKDBLK	247		12/07 L	21/13							
MKDCL	252		12/12 L	21/16 S	21/17						
MKDFILE	241		11/52 L	21/11 S	21/12						
MKFILE	167		10/23 L	19/19							
MKIPCL	26		8/08 L	14/16							
MKOP	47		8/26 L	15/13							
MKROMP	111		9/10 L	15/23 S	15/24 S	15/27 S	15/28				
MKSBLK	67		8/45 L	15/18							
MKSCRMP	102		9/02 L	15/21 S	15/21						
MKSFILE	61		8/38 L	15/17 S	15/17						
MKSUB	72		8/49 L	15/12	15/19						
NEWFILE	1627		14/25	15/09	19/07 L						
NEWFILE7	325		12/38 L	19/08 S	20/24						
NEWFLR1	1640		19/23 L	19/46	20/20						
NEWFLR2	1641		19/26 L	20/05							
NEWFLR3	1642		19/29 L								
NEWFLR4	1654		19/26	19/50 L							
NEWFLR5	1663		19/27	20/09 L							
NEWFLR6	1672		20/12	20/24 L	20/36						
NEWFLR7	1674		20/15	20/30 L							
NEWFLR8	1675		19/14	20/35 L							
NWFBLK	176		10/32 L	19/52 S	19/53						
NWFWRITE	201		10/37 L	19/35							
POSTAPE	1607		18/05 L								
POSTAPE1	1620		18/13 L	18/15							
POSTAPE2	1622		18/17 L	18/21							
POSTAPE7	237		11/43 L	18/06 S	18/23						
PUTCX	1575		15/38	15/42	15/46	15/50	16/01	16/05			
			15/40	15/44	15/48	15/52	16/03	17/07 L			
RDRCD	1725		18/14	18/18	19/13	20/14	22/09 L				
RDRCD1	1726		22/12 L	22/16							
RDRCD2	1736		22/15	22/18 L							
RDRCD3	1740		22/13	22/22 L							
RDRCD4	1746		22/20	22/31 L							
RDRCD7	331		12/48 L	22/10 S	22/31						
RDSTK	206		10/47 L	14/33							
RDTPCX	150		9/52 L	25/08							
REGS	1343		9/38	9/41	13/12 L						
RETURN	132		9/33 L								
RSTREG	137		9/40 L								
RUNORG1	0		3/05 E	5/33 D	26/09						
RUNORG2	2022		3/05 E	26/07 D	26/09	26/10					
RUNSPCL	1424		14/18	15/06 L							
RUNSPCL7	223		11/16 L	15/07 S	16/11						
SAVEREG	135		9/37 L	14/32	17/19						
SCRCNT	1367		13/19 L								
SCRSZ	233		11/30 L	15/16	15/20	15/22	15/23	15/24			
SENDCP	144		9/47 L	15/32 S	15/35 S	17/08 S	17/09	17/10			
SETESM	23		8/03 L	14/15							
SHEAD	224		11/21 L	11/35	15/11						

SHEADCNT	13		11/35 D	15/11						
SRETURN	141		9/43 L	14/25						
STKBUFF	1340		10/48	13/10 L						
S.IPROC	21	PROGRAM*	3/08 E	5/39 D						
S.TTY	20	PROGRAM*	3/08 E	5/35 D						
TACT	333		12/51 L	23/08 S	23/38					
TAPEACT	1751		18/09	18/10	18/11	18/12	20/36	22/13	22/16	23/05 L
TAPEACT1	1753		23/10 L	23/39						
TAPEACT2	1765		23/19 L	23/36						
TAPEACT3	1767		23/16	23/17	23/23 L					
TAPEACT4	1777		23/27	23/33	23/36	23/38 L				
TAPECHK	2000		22/15	23/36	24/12 L					
TAPECHK1	2003		24/16	24/19 L						
TAPECODE	334		12/52 L	23/10	23/23					
TAPEDATA	337		10/18	18/14	19/13	20/09	20/18	22/23		
			13/04 L	18/18	19/17	20/14	22/19 S	22/29 S		
TAPEREQ	161		10/12 L	23/12 S						
TAPERSP	335		13/01 L	23/15 S	23/29	24/12				
TAPE7B	332		12/49 L	23/06 S	23/19					
TGET	155		10/06 L	23/14	25/26 S					
TPCPX	336		10/02	13/02 L	25/09					
TPUT	157		10/10 L	23/13	25/21 S					
TREAD	162		10/15 L	22/22	25/16 S					
XFREAD	40		8/20 L	16/23 S	16/25 S	16/27 S	16/29 S	16/30		