STORAGE ALLOCATION.

ADDRESS	LENGTH		BINARY CONTROL CARDS.
0	0		IDENT CMMD1
0		FL	END

EXTERNAL SYMBOLS.

CP:NPSW	CP:NUSR	CP:SONS	CP:CHRG	CP:SPAC	CP:FIND
CP:DLPF	CP:MONY	CP:DSPF	LC:ASCI	CP:ASKU	

```
          IDENT     CMMD1
```

```
                                 *
                                 *
                                 *                   OOPNAMES HERE
                                 *
                                           LIST      X
                                 *
       0                         OPNAMES   XTEXT
                        0        C.SELF    EQU       0                   CAPABILITY FOR THIS C LIST            OPNAMES   1
                        1        C.ALLOC   EQU       1                   ALLOCATION BLOKC C LIST INDEX         OPNAMES   1
                        2        C.INTFIL  EQU       2                                                         OPNAMES   1
                        3        C.RFILE   EQU       2+1                 READ ON FILE                          OPNAMES   1
                        4        C.WFILE   EQU       3+1                 WRITE ON FILE                         OPNAMES   1
                        5        C.SENDE   EQU       4+1                 SEND EVENT                            OPNAMES   1
                        6        C.GETE    EQU       5+1                 GET EVENT OR HANG                     OPNAMES   1
                        7        C.CCLIST  EQU       6+1                 CREATE C LIST OPERATION               OPNAMES   1
                       10        C.CFILE   EQU       7+1                 CREATE FILE                           OPNAMES   1
                       11        C.CBLK    EQU       8+1                 CREATE FILE BLOCK                     OPNAMES   1
                       12        C.CPROC   EQU       9+1                 CREATE PROCESS                        OPNAMES   1
                       13        C.CEVCH   EQU       10+1                CREATE EVENT CHANNEL                  OPNAMES   1
                       14        C.CSPROC  EQU       11+1                CREATE SUB PROCESS                    OPNAMES   1
                       15        C.CCC     EQU       12+1                CREATE CLASS CODE                     OPNAMES   1
                       16        C.SAVE    EQU       13+1                SAVE REGISTERS                        OPNAMES   1
                       17        C.RESTOR  EQU       14+1                RESTORE REGISTERS                     OPNAMES   1
                       20        C.DSCAP   EQU       16              ..  DISPLAY A CAPABILITY                  OPNAMES   1
                       20        C.DSPCAP  EQU       C.DSCAP         ..  OLD NAME FOR C.DSCAP                  OPNAMES   1
                       21        C.FSON    EQU       16+1                                                      OPNAMES   1
                       22        C.MOVEC   EQU       18              ..  MOVE A CAPABILITY WITHIN FULL CLIST   OPNAMES   1
                       22        C.MVECAP  EQU       C.MOVEC         ..  OLD NAME FOR C.MOVEC                  OPNAMES   1
                       23        C.CAPIN   EQU       18+1                                                      OPNAMES   1
                       24        C.CAPOU   EQU       20              ..  COPY A CAPABILITY OUT OF FULL CLIST   OPNAMES   1
                       24        C.CAPOUT  EQU       C.CAPOU         ..  OLD NAME FOR C.CAPOU                  OPNAMES   1
                       25        C.ESMGEN  EQU       21                     SET ANY ESM IN PROCESS             OPNAMES   1
                       26        C.ESMLOC  EQU       22                     SET LOCAL ESM                      OPNAMES   1
                       27        C.MKOPR   EQU       23                     CREATE OPERATION(SUBP CALL)        OPNAMES   1
                       30        C.RETURN  EQU       24                     SUBPROCESS RETURN                  OPNAMES   1
                       31        C.FRETUR  EQU       25                     F-RETURN                           OPNAMES   1
                       32        C.FIXC    EQU       26                     FIX CAPABILITY PS                  OPNAMES   1
                       33        C.FIXD    EQU       27                     FIX DATUM PS                       OPNAMES   1
                       34        C.UDAT    EQU       28                     CHANGE ANY PS TO USER DATUM        OPNAMES   1
                       35        C.UCAP    EQU       29                     CHANGE ANY PS TO USER CAPABILITY   OPNAMES   1
                       36        C.ACAP    EQU       30                     CHANGE ANY PS TO ANY CAPABILITY    OPNAMES   1
                       37        C.ADDOPT  EQU       31                     ADD OPTION BITS TO PS              OPNAMES   1
                       40        C.COPYOP  EQU       32                     . MAKE A COPY OF AN OPERATION      OPNAMES   1
                       41        C.CHKBLK  EQU       33                     . CHECK FOR MISSING FILE BLOCKS    OPNAMES   1
                       42        C.DELBLK  EQU       34                     . DELETE A FILE BLOCK              OPNAMES   1
                       43        C.DELFIL  EQU       35                     . DELETE A FILE                    OPNAMES   1
                       44        C.REDSHP  EQU       36                     . GET SHAPE NUMBERS OF A FILE      OPNAMES   1
                       45        C.MAPZRO  EQU       37                     . ZERO A MAP ENTRY                 OPNAMES   1
                       46        C.MPCHRO  EQU       38              . CHANGE A ZERO MAP ENTRY TO READ ONLY    OPNAMES   1
                       47        C.MPCHRW  EQU       39              . CHANGE A ZERO MAP ENTRY TO RW           OPNAMES   1
                       50        C.MOVBLK  EQU       40                     . MOVE A FILE BLOCK                OPNAMES   1
                       51        C.DISMAP  EQU       41                                                        OPNAMES   1
                       52        C.JUMP    EQU       42                                                        OPNAMES   1
```

```
        53     C.NEWUN    EQU     43                   .CHANGE UNIQUE NAME                    OPNAMES     1
        54     C.DISPST   EQU     44                   .DISPLAY ENTIRE STACK                  OPNAMES     1
        55     C.DISSEN   EQU     45                   .DISPLAY STACK ENTRY                   OPNAMES     1
        56     C.DSFMAP   EQU     46                DISPLAY FULL MAP ENTRY                    OPNAMES     1
        57     C.DELCL    EQU     47                DELETE C-LIST                             OPNAMES     1
        60     C.PINT     EQU     48                SEND PROCESS INTERRUPT                    OPNAMES     1
        61     C.ADDORD   EQU     49                  . ADD AN ORDER TO AN OPERATION          OPNAMES     1
        62     C.CCCLOA   EQU     50                  CREATE COMPLETE CAPABILITY              OPNAMES     1
        63     C.DONATE   EQU     51                  TRANSFER BETWEEN ALLOC BKS              OPNAMES     1
        64     C.CRALBK   EQU      52                 .CREATE ALLOC BLOCK                     OPNAMES     1
        65     C.MODPC    EQU     53                  .MOFIDY P-COUNTER                       OPNAMES     1
        66     C.DLPROC   EQU     54                  .DESTROY A PROCESS                      OPNAMES     1
        67     C.DPROD    EQU      55           .. DISPLAY  A PROCESS                         OPNAMES     1
        67     C.CHNGWD   EQU     C.DPROD       ***NOW DEFUNCT OPERATION. SYMBOL DEFINITIOOPNAMES     1
               *                                                                          OPNAMES     1
               *                                KEPT AROUND TO AVOID ASSEMBLY PROBLEMS    OPNAMES     1
               *                                SHOULD EVENTUALLY BE DELETED.             OPNAMES     1
        70     C.CLRDAE   EQU     56                  . CLEAR THE DIRECT ACCESS ECS ENTRY     OPNAMES     1
        71     C.SETDAE   EQU     57                  . SET THE DIRECT ACCESS ECS ENTRY       OPNAMES     1
        72     C.DELSUB   EQU      58                 DELETE SUP PROC                         OPNAMES     1
        73     C.SETIIB   EQU     55+4                .SET INTERRUPT INHIBIT BIT              OPNAMES     1
        74     C.CLRIIB   EQU     56+4                .CLEAR INTERRUPT-INHIBIT BIT            OPNAMES     1
        75     C.GETEVF   EQU     57+4            .GET EVENT OR FRETURN                       OPNAMES     1
        76     C.DELAB    EQU      62                    .DESTROY ALLOCATION BLOCK            OPNAMES     1
        77     C.MGETH    EQU      63                 GET EVENT FROM MULTIPLE CHANNELS OR HOPNAMES     1
               *                                                                          OPNAMES     1
       100     C.MGETF    EQU      64                 GET EVENT FROM MULTIPLE CHANNELS OR FOPNAMES     1
               *                                                                          OPNAMES     1
       101     C.DESECH   EQU      65           DESTROY EVENT CHANNEL                         OPNAMES     1
       102     C.DSPCLX   EQU      66           DISPLAY CLOCKS IN USER CORE                   OPNAMES     1
         3     C.READ     EQU     C.RFILE                                                 OPNAMES     1
         4     C.WRITE    EQU     C.WFILE                                                 OPNAMES     1
         6     C.HANG     EQU     C.GETE                                                  OPNAMES     1
        41     C.PROBE    EQU     C.CHKBLK                                                OPNAMES     1
       103     C.NWTMP    EQU      67           SET TEMPORARY PART OF CLASS CODE              OPNAMES     1
       104     C.DSPAB    EQU      68           DISPLAY ALLOCATION BLOCK                      OPNAMES     1
       105     C.BDAT     EQU      69           . CHANGE ANY TO BLOCK DATA PARAMETER          OPNAMES     1
       106     C.BLKCAP       EQU      70         . CHANGE ANY TO BLOCK CAPABILITY PARAM      OPNAMES     1
       107     C.DISPOP   EQU      71           . DISPLAY OPERATION                           OPNAMES     1
       110     C.USRER    EQU      72           . USER INITIATED ERROR                        OPNAMES     1
       111     C.RETPAR   EQU      73           . RETURN WITH PARAMETERS                      OPNAMES     1
       112     C.TIMDT    EQU      74           .  RETURN DATE AND TIME                       OPNAMES     1
       113     C.CAGEN    EQU      75           . MAKE CAPABILITY CREATING AUTHORIZATION      OPNAMES     1
       114     C.CGEN     EQU      76           . MAKE CAPABILITY OF AUTHORIZED TYPE          OPNAMES     1
       115     C.DSPSP    EQU      77           . DISPLAY SUBPROCESS DESCRIPTOR               OPNAMES     1
       116     C.TRDB     EQU      78           .  TEST AND RESET DIRTY BIT                   OPNAMES     1
       117     C.INCHR    EQU      79           . INCREMENT AB CHARGE RATE                    OPNAMES     1
       120     C.DSPOB    EQU      80           . DISPLAY OBJECT                              OPNAMES     1
       121     C.DSPALC   EQU      81           . DISPLAY ALLOCATOR CONSTANTS                 OPNAMES     1
       122     C.CHMPRW   EQU      82           . CHANGE A READ-WRITE MAP ENTRY               OPNAMES     1
       123     C.CHMPRO   EQU      83           . CHANGE A READ ONLY MAP ENTRY                OPNAMES     1
        47     C.MKMPRW   EQU     C.MPCHRW      . MORE REASONALBE NAME FOR C.MPCHRW           OPNAMES     1
        46     C.MKMPRO   EQU     C.MPCHRO      . MORE REASONALBE NAME FOR C.MPCHRO           OPNAMES     1
```

XTEXT STUFF

```
          124    C.DSCLX   EQU      84       . DISPLAY SYSTEM CLOCKS IN USER CORE      OPNAMES    1
          125    C.SPRET   EQU      85       .. SPECIAL RETURN (DECREMENT P-COUNTER)   OPNAMES    1
          126    C.CPZRO   EQU      86       .. ZERO A CAPABILITY                      OPNAMES    1
          127    C.MOVCP   EQU      87       . TRANSFER CP TIME BETWEEN ABS            OPNAMES    1
          130    C.MOVMT   EQU      88       . TRANSFER MOT SLOTS BETWEEN ABS          OPNAMES    1
          131    C.INMTR   EQU      89       . INCREMENT AB CHARGE METER               OPNAMES    1
          132    C.DLOPR   EQU      90       . DESTROY AN OPERATION                    OPNAMES    1
          133    C.GRAB    EQU      91       . STEAL ECS SPACE                         OPNAMES    1
          134    C.CPUIN   EQU      92       .. MOVE TIME INTO PROCESS TIMER           OPNAMES    1
          135    C.CPOUT   EQU      93       .. MOVE TIME OUT OF PROCESS TIMER         OPNAMES    1
          136    C.STMSG   EQU      94       .. SET MSG MECHANISM IN A PROCESS         OPNAMES    1
          137    C.CLRMG   EQU      95       .. CLEAR MSG MECHANISM IN A PROCESS       OPNAMES    1
          140    C.ARMIT   EQU      96       .. ARM INTERRUPTS FOR A PROCESS           OPNAMES    1
          141    C.DISIT   EQU      97       .. DISARM INTERRUPTS FOR A PROCESS        OPNAMES    1
```

```
                               *
                               *
                               *                      OPTION BIT DEFINITIONS
                               *
      0                        OBBITS    XTEXT
                                         MACRO        OPT,NAME                                          OBBITS     1
                               OB.NAME   EQU          :0:                                               OBBITS     1
                               :0:       SET          2*:0:                                             OBBITS     1
                                         ENDM                                                           OBBITS     1
                                                                                                        OBBITS     1
                               OPTORG    MACRO        N                                                 OBBITS     1
                                         IFC          NE,/N//                                           OBBITS     1
                               :0:       SET          N                                                 OBBITS     1
                                         ELSE                                                           OBBITS     1
                               :0:       SET          3                                                 OBBITS     1
                                         ENDIF                                                          OBBITS     1
                                         ENDM                                                           OBBITS     1
                                                                                                        OBBITS     1
                               *                                                                        OBBITS     1
                               *   ALLOCATION BLOCK                                                     OBBITS     1
                               *                                                                        OBBITS     1
                          1    OB.DSTBY  EQU          1                                                 OBBITS     1
                          2    OB.CHNAM  EQU          2                                                 OBBITS     1
                          4    OB.CREAB  EQU          4                                                 OBBITS     1
                         10    OB.CRECL  EQU          10B                                               OBBITS     1
                         20    OB.CRFIL  EQU          20B                                               OBBITS     1
                         40    OB.CREPR  EQU          40B                                               OBBITS     1
                        100    OB.CRESP  EQU          100B                                              OBBITS     1
                        200    OB.CREEC  EQU          200B                                              OBBITS     1
                        400    OB.ALORD  EQU          400B                                              OBBITS     1
                       1000    OB.GIVE   EQU          1000B                                             OBBITS     1
                       2000    OB.GET    EQU          2000B                                             OBBITS     1
                       4000    OB.GOD    EQU          4000B                                             OBBITS     1
                      10000    OB.INCHR  EQU          10000B     . INCREMENT CHARGE RATE                OBBITS     1
                      20000    OB.GIVCP  EQU          20000B     . GIVE CP TIME                         OBBITS     1
                      40000    OB.GETCP  EQU          40000B     . GET CP TIME                          OBBITS     1
                     100000    OB.GIVMT  EQU          100000B    . GIVE MOT SLOTS                       OBBITS     1
                     200000    OB.GETMT  EQU          200000B    . GET MOT SLOTS                        OBBITS     1
                     400000    OB.INMTR  EQU          400000B    . INCREMENT CHARGE METER               OBBITS     1
                               *                                                                        OBBITS     1
                               *   C-LIST                                                               OBBITS     1
                               *                                                                        OBBITS     1
                          4    OB.CPYIN  EQU          4                                                 OBBITS     1
                         10    OB.CPYOT  EQU          10B                                               OBBITS     1
                         20    OB.LOCCL  EQU          20B                                               OBBITS     1
                               *                                                                        OBBITS     1
                               *   FILES                                                                OBBITS     1
                               *                                                                        OBBITS     1
                          4    OB.CREBL  EQU          4                                                 OBBITS     1
                         10    OB.DELBL  EQU          10B                                               OBBITS     1
                         20    OB.RDFIL  EQU          20B                                               OBBITS     1
                         40    OB.WFILE  EQU          40B                                               OBBITS     1
                        100    OB.PLMAP  EQU          100B                                              OBBITS     1
```

```
        200     OB.FDAE   EQU     200B                                                OBBITS   1
        400     OB.OPEN   EQU     400B       (DISK FILE) OPEN FILE                    OBBITS   1
       1000     OB.CLOSE  EQU     1000B      (DISK FILE) CLOSE DISK FILE              OBBITS   1
       2000     OB.DCRBL  EQU     2000B      (DISK FILE) CREATE BLOCK                 OBBITS   1
       4000     OB.DDLBL  EQU     4000B      (DISK FILE) DELETE BLOCK                 OBBITS   1
      10000     OB.ATCH   EQU     10000B     (DISK FILE) ATTACH BLOCK                 OBBITS   1
      20000     OB.DTCH   EQU     20000B     (DISK FILE) DETACH BLOCK                 OBBITS   1
      40000     OB.DMAP   EQU     40000B     (DISK FILE) PUT IN MAP                   OBBITS   1
     100000     OB.ECLM   EQU     100000B    (DISK FILE) EXCLUSIVE CLAIM              OBBITS   1
     200000     OB.SCLM   EQU     200000B    (DISK FILE) SHARED CLAIM                 OBBITS   1
     400000     OB.REL    EQU     400000B    (DISK FILE) RELEASE CLAIM                OBBITS   1
    1000000     OB.FREZ   EQU     1000000B   (DISK FILE) FREEZE FILE                  OBBITS   1
    2000000     OB.TRDB   EQU     2000000B   TEST AND RESET DIRTY BIT                 OBBITS   1
    4000000     OB.XOPN   EQU     4000000B   (DISK FILE) EXCLUSIVE OPEN               OBBITS   1
                *                                                                     OBBITS   1
                *  PROCESS                                                            OBBITS   1
                *                                                                     OBBITS   1
          4     OB.SDINT  EQU     4                                                   OBBITS   1
                *                                                                     OBBITS   1
                *  SUBPROCESSES                                                       OBBITS   1
                *                                                                     OBBITS   1
          2     OB.TEMP   EQU     2                                                   OBBITS   1
          4     OB.FATHR  EQU     4                                                   OBBITS   1
         10     OB.SPRET  EQU     10B                                                 OBBITS   1
         20     OB.PCNT   EQU     20B                                                 OBBITS   1
         40     OB.INTSP  EQU     40B                                                 OBBITS   1
        100     OB.CALOP  EQU     100B                                                OBBITS   1
        200     OB.SONSP  EQU     200B                                                OBBITS   1
        400     OB.CHMAP  EQU     400B                                                OBBITS   1
       1000     OB.DAE    EQU     1000B                                               OBBITS   1
       2000     OB.STESM  EQU     2000B                                               OBBITS   1
                *                                                                     OBBITS   1
                *  EVENT CHANNEL                                                      OBBITS   1
                *                                                                     OBBITS   1
          4     OB.SNDEV  EQU     4                                                   OBBITS   1
         10     OB.GETEV  EQU     10B                                                 OBBITS   1
         20     OB.GTEVF  EQU     20B                                                 OBBITS   1
                *                                                                     OBBITS   1
                *  OPERATIONS                                                         OBBITS   1
                *                                                                     OBBITS   1
          4     OB.ADDOR  EQU     4                                                   OBBITS   1
         10     OB.CHTYP  EQU     10B                                                 OBBITS   1
         20     OB.CHOPT  EQU     20B                                                 OBBITS   1
         40     OB.CPYOP  EQU     40B        .. COPY AN OPERATION                     OBBITS   1
                *                                                                     OBBITS   1
                * DIRECTORIES                                                         OBBITS   1
                *                                                                     OBBITS   1
                          OPTORG  2          (SINCE OB.CHNAM DOES NOT APPLY)          OBBITS   1
                ACC       OPT                USER DIRECTORY ACCESS                    OBBITS   1
                IMPL      OPT                IMPLICIT ACCESS                          OBBITS   1
                *CRFIL     OPT                CREATE (DISK) FILE OWNERSHIP ENTRY      OBBITS   1
                CRLE      OPT                CREATE (HARD- OR SOFT-) LINK ENTRY       OBBITS   1
                DLE       OPT                DELETE LINK ENTRY                        OBBITS   1
```

XTEXT STUFF

INSL	OPT	***** PUT (DISK OBJECT) IN SOFT-LINK	OBBITS	1
AAP	OPT	ADD ACCESS-PAIR	OBBITS	1
DAP	OPT	DELETE ACCESS-PAIR	OBBITS	1
SSUL	OPT	EQU SUCCESSOR LINK	OBBITS	1
CSUL	OPT	CLEAR SUCCESSOR LINK	OBBITS	1
CRDR	OPT	CREATE DIRECTORY OWNERSHIP ENTRY	OBBITS	1
CHNM	OPT	CHANGE NAME OF EXISTING DIRECTORY ENTRY	OBBITS	1
SETAG	OPT	SET ACCOUNTING TAG OF DAR IN FUNDING DIREC	OBBITS	1
,			OBBITS	1
NPSW	OPT	CHANGE THE PASSWORD IN THE PROFILE	OBBITS	1
RESO	OPT	MOVE A RESOURCE OUT OF A DIRECTORY	OBBITS	1
RESI	OPT	MOVE A RESOURCE INTO A DIRECTORY	OBBITS	1
DSPAC	OPT	DISK SPACE	OBBITS	1
SBUSR	OPT	SUB-USERS	OBBITS	1
MONEY	OPT	MONEY ($)	OBBITS	1

```
*
*
*
XJ      MACRO   LOC
+       VFD     12/01308,18/LOC,30/1
        SB7     *+1
        JP      ERR
        ENDM
*
*
XJR     MACRO   LOC,RTNAUTH
+       VFD     12/01308,18/LOC,12/1,18/2
        VFD     60/RTNAUTH
        SB7     *+1
        JP      ERR
        ENDM
*
*
XJF     MACRO   LOC,FGO
+       VFD     12/01308,18/LOC,30/1
        JP      FGO
        ENDM
*
*
CALL    MACRO   LOC
+       SB7     *+1
        JP      LOC
        ENDM
*
*
CALLR   MACRO   L,A,B,C,D,E
        SETBS   A,B,C,D,E
        SB7     L
+       SX6     *+1
        JP      CALLR
        ENDM
*
*
SETBS   MACRO   A,B,C,D,E
        IFC     NE,$$A$
        SB1     A
        IFC     NE,$$B$
        SB2     B
        IFC     NE,$$C$
        SB3     C
        IFC     NE,$$D$
        SB4     D
        IFC     NE,$$E$
        SB5     E
        ENDIF
        ENDM
*
*
```

```
RTNR    MACRO
        JP      RTNR
        ENDM
*
*
MCAP    MACRO   NAME
        BSS     0
M.NAME  EQU     *
        VFD     1/1,29/C.NAME,30/CX.MAST
        ENDM
*
*
MXCAP   MACRO   NAME
+       VFD     1/1,29/C.NAME,30/CX.MAST
        ENDM
*
*
ITEMS   MACRO   A,B,C,D,E,F,G,H
        VFD     60/A
        IFC     NE,$$B$
        VFD     60/B
        IFC     NE,$$C$
        VFD     60/C
        IFC     NE,$$D$
        VFD     60/D
        IFC     NE,$$E$
        VFD     60/E
        IFC     NE,$$F$
        VFD     60/F
        IFC     NE,$$G$
        VFD     60/G
        IFC     NE,$$H$
        VFD     60/H
        ENDIF
        ENDM
*
*
*
MAP     MACRO   NAME,X,FLAD,CMAD,LASTP1,RO
+       VFD     60/0L=NAME
        VFD     30/X,30/FLAD
        VFD     1/RO,29/CMAD,30/LASTP1
        ENDM
*
*
*               MACRO FOR CLIST INDEX OF OBJECT TO RETURN TO CALLER
*
RTNCAP  MACRO   NAME
        DATA    0
        RMT
        DATA    0L=NAME
        RMT
        ENDM
```

```
*
*
*                       MACRO FOR CLIST INDEX OF OBJECT TO BE OBTAINED
*                       AT TIME OF THIS SUBPROCESS CONSTRUCTION
*
PARCAP  MACRO   NAME
        DATA    0L&NAME
        ENDM
*
*
*
        MACRO   MICROX,L,NAME
L       MICRO   1,,/&NAME&/
        ENDM
*
*
        MACRO   OPER,XTNM,CXLOC,CLASS,TYPE,PCNT
        CALL    MKOP
        ITEMS   CXLOC,CLASS,TYPE,PCNT
        IFC     NE,$XTNM$$
        EXT     XTNM
        ITEMS   PCAP,XTNM
        ENDIF
        ENDM
```

```
*
*
*                       BASIC MACRO
*
XSETXJ    MACRO     A,B,C,D,E
LOCALPXJ  SET       0
          IFC       NE,$$A$
          SX1       A
LOCALPXJ  SET       1
          IFC       NE,$$B$
          SX2       B
LOCALPXJ  SET       2
          IFC       NE,$$C$
          SX3       C
LOCALPXJ  SET       3
          IFC       NE,$$D$
          SX4       D
LOCALPXJ  SET       4
          IFC       NE,$$E$
          SX5       E
LOCALPXJ  SET       5
          ENDM
*
*
*                       FULL IO PARAM VERSION
*
YSETXJ    MACRO     A,B,C,D,E,F,G,H,I,J
          XSETXJ    A,B,C,D,E
          SB2       5
          CALL      SET
          XSETXJ    F,G,H,I,J
          ENDIF
          SB2       LOCALPXJ
          CALL      SET
          ENDM
*
*
*                       STANDARD XJ CALL
*
DOXJ      MACRO     A,B,C,D,E,F,G,H,I,J
          SB1       XJLOC
          YSETXJ    A,B,C,D,E,F,G,H,I,J
          XJ        XJLOC
          ENDM
*
*
*                       MULTI LINE VERSIONS
*
*                       INITIAL SET UP LINE
*
SETXJ     MACRO     A,B,C,D,E,F,G,H,I,J
          SB1       XJLOC
          YSETXJ    A,B,C,D,E,F,G,H,I,J
```

```
                        ENDM
                *
                *                       FINAL CALL  ( USE YSETXJ IN BETWEEN)
                *
                XDOXJ   MACRO   A,B,C,D,E,F,G,H,I,J
                        YSETXJ  A,B,C,D,E,F,G,H,I,J
                        XJ      XJLOC
                        ENDM
                *
                *
                *
                SAVE7   MACRO   L
                        SX6     B7
                        SA6     L
                        ENDM
                *
                *
                GET7    MACRO   L
                        SA1     L
                        SB7     X1
                        ENDM
```

```
                                *
                                *
                                *       MICROS FOR SUBPROCESS DESCRIPTOR
                                *
                                *
0                       CLASS   MICROX  CLASS
0                       FATHER  MICROX  ROOT
0                       ICALL   MICROX  CALL
0                       CLIST   MICROX  CL.CMMD1
0                       SCRFILE MICROX  EF.CMMD1SF
0                       CODEFILE MICROX EF.CMMD1CD
                                *
                                *
                                *
                                *       SUBPROCESS DESCRIPTOR
                                *
                                *
0                               ORG     0
                                *
0  0000000000000000000001               DATA    1
1  0000000000000000000000               DATA    0
2  0314012323000000000000               DATA    0L*CLASS*
3  2217172400000000000000               DATA    0L*FATHER*
4  0301141400000000000000               DATA    0L*ICALL*
5  0314570315150434000000               DATA    0L*CLIST*
6  0506570315150434230600               DATA    0L*SCRFILE*
7  0000000000000000000005               DATA    5
10 0000000000000000000024               DATA    20
11 0000000000000000000000 +             ITEMS   FL
12 0000000000000000000323               ITEMS   ENTRY
13 0000000000000000000050               ITEMS   CLSTSZ
14 0000000000000000000262               ITEMS   SCRSZ
                                *
15 0506570315150434230600               MAP     *SCRFILE*,0,0,0,SCRSZ,0
20 0506570315150434030400               MAP     *CODEFILE*,1,SCRSZ,SCRSZ,FL,1
                                *
23 7777777777777777777700               DATA    -0
                                *
L  0                                    LOC     0
                                *
L  0  1157011414170300000000 CX.ALLOC   PARCAP  T.ALLOC
L  1  0506570315150434030400 CX.CODEF   PARCAP  *CODEFILE*
L  2  1157150123240522000000 CX.MAST    PARCAP  T.MASTER
L  3  0205010400000000000000 CX.BEAD    PARCAP  BEAD
L  4  0314571720052223000000 CX.OPER    PARCAP  CL.OPERS
L  5  0000000000000000000000 CX.TEMP    DATA    0
L  6  0506570423132431202300 CX.CTYP    PARCAP  EF.DSKTYPS
L  7  0113571625141400000000 CX.NULAK   PARCAP  AK.NULL
                                *
L  10                           RTNBASE BSS     0
                                *
L  10 0000000000000000000000 CX.CPFCC   RTNCAP  CC.CLNPROF
L  11 0000000000000000000000 CX.CPFCO   RTNCAP  CO.CLNPROF
```

RELOC0 EQU *0

```
      12  00000000000000000000     CX.CPFCI   RTNCAP    CO.CLNPFI
      13  00000000000000000000     CX.BDSCC   RTNCAP    CC.BEADS
      14  00000000000000000000     CX.BDST    RTNCAP    CO.BEADSI
      15  00000000000000000000     CX.BDSB    RTNCAP    CO.BEADSB
      16  00000000000000000000     CX.BDSC    RTNCAP    CO.BEADSC
      17  00000000000000000000     CX.BDSU    RTNCAP    CO.BEADSU
      20  00000000000000000000     CX.BDSR    RTNCAP    CO.BEADSR
                                   *
      21  00000000000000000000     CX.FKGCC   RTNCAP    CC.FAKEG
      22  00000000000000000000     CX.FKGT    RTNCAP    CO.FAKEGI
      23  00000000000000000000     CX.FKGB    RTNCAP    CO.FAKEGB
                                   *
      24  00000000000000000000     CX.BDGCC   RTNCAP    CC.BEADG
      25  00000000000000000000     CX.BDGT    RTNCAP    CO.BEADGI
      26  00000000000000000000     CX.BDGS    RTNCAP    CO.BEADGS
      27  00000000000000000000     CX.BDGB    RTNCAP    CO.BEADGB
      30  00000000000000000000     CX.BDGP    RTNCAP    CO.BEADGP
                                   *
      31  00000000000000000000     CX.LNCC    RTNCAP    CC.LINE
      32  00000000000000000000     CX.LNINI   RTNCAP    CO.LINEI
      33  00000000000000000000     CX.LNA     RTNCAP    CO.LINEA
                                   *
      34  00000000000000000000     CX.CMDCC   RTNCAP    CC.CMMD
      35  00000000000000000000     CX.CMDT    RTNCAP    CO.CMMDI
      36  00000000000000000000     CX.CMMDD   RTNCAP    CO.CMMDD
      37  00000000000000000000     CX.CMMDR   RTNCAP    CO.CMMDR
      40  00000000000000000000     CX.CMMDC   RTNCAP    CL.CMMDSTF
      41  00000000000000000000     CX.CMMDE   RTNCAP    CL.CMDSPC
                                   *
      42  00000000000000000000     CX.CMD2C   RTNCAP    CC.CMMD2
      43  00000000000000000000     CX.CMD2I   RTNCAP    CO.CMMD2
      44  00000000000000000000     CX.CMDEC   RTNCAP    FC.CMMD2
      45  00000000000000000000     CX.SNDBG   RTNCAP    AB.FIXED
      46  00000000000000000000     CX.SHTEV   RTNCAP    FC.C2SHTEV
      47  00000000000000000000     CX.KICKV   RTNCAP    FC.C2KICKV
                                   *
      50                           CLSTSZ     BSS       0
                                   *
      50  77777777777777777777                DATA      -0
                                   *
      75                                      LOC       40
```

```
                                *
                                *
                                *                       MOST XJ S DONE HERE
                                *
 75                             XJLOC    BSSZ    15
                                *
                                *                       DURING CRASH, REGS SAVED HERE
                                *
114                             REGAREA  BSSZ    20B
                                *
                                *
                                *                       ERROR CALL DATA AREA
                                *
134                             EREGS    BSSZ    20B                    REGISTER SAVE AREA DURING ERROR
                                *
154                             STKBUF   BSSZ    3              TOP OF STACK DURING ERROR CALL
                                *
                                *
                                *                       RETURN DATA ETC
                                *
                                *
157                             RTNDATA  BSS     0
                                         HERE
217  000000000000000000000      *        DATA    0              END MARKER
                                *
                                *
                                *
                                *
                                *                       CALL STACK DATA
                                *
                                *
220                             CALLSTK  BSSZ    20             CALL STACK
                                *
244  000000000000000000024      CSTKPNTR ITEMS   *-CALLSTK      POINTER TO FIRST AVAIL CELL
                                *
                                *
                                *                       DATA FOR MAKE OP
                                *
245                             MKOP7    BSSZ    1
246                             MKOPOPX  BSSZ    1
247                             MKOPX    BSSZ    1
250                             MKOPCN   BSSZ    1
                                *
                                *
                                *                       CAPABILITY TYPES FOR DISK OBJECTS
                                *
251                             CT.VEC   BSS     0              THE VECTOR
251                             CT.DF    BSS     1              DISKFILE
252                             CT.DIR   BSS     1              DIRECTORY
253                             CT.SPD   BSS     1              SUBPROCESS DESCRIPTOR
254                             CT.SNT   BSS     1              STATIC NAME TAG
255                             CT.DNT   BSS     1              DYNAMIC NAME TAG
256                             CT.ACK   BSS     1              ACCESS KEY
```

```
                    6     CT.SIZE   EQU     *-CT.VEC  SIZE OF THE BUFFER TO INITIALIZE
                          *
                          *
                          *                   MISC DATA
                          *
  257                     TEMP1     BSSZ    1
  260                     TEMP2     BSSZ    1
  261                     TEMP3     BSSZ    1
```

END OF SCRATHC AREA

```
                                *
                                *
                                *                       END OF SCRATCH AREA
                                *
  262                           SCRSZ     BSS         0
                                *
                                *                       MISC REFERANCES TO MASTER CLIST
                                *
  262                                     MCAP        BEAD
  263                                     MCAP        CAPOU
  264                                     MCAP        CCC
  265                                     MCAP        MKOPR
  266                                     MCAP        UDAT
  267                                     MCAP        FIXD
  270                                     MCAP        BDAT
  271                                     MCAP        RETPAR
  272                                     MCAP        ACAP
  273                                     MCAP        UCAP
  274                                     MCAP        ADDOPT
  275                                     MCAP        CCLIST
  276                                     MCAP        CEVCH
  277                                     MCAP        SENDE
  300                                     MCAP        CRALBK
  301                                     MCAP        CAPOUT
  302                                     MCAP        CFILE
  303                                     MCAP        CBLK
                                *
                                *
                                *               ECS SYSTEM CAP TYPES
                                *
  304  0000000000000001377      CT.CLIST  DATA        1377B
```

END OF SCRATHC AREA

```
                                    *
                                    *
  305  4000000111000000000002      SRETURN  MXCAP   RETPAR
  306  0000000041000000000157               VFD     30/CLSTSZ-RTNBASE+1,30/RTNDATA
  307  0000000040000000000010               VFD     30/CLSTSZ-RTNBASE,30/RTNBASE
                                    *
                                    *
  310  4000000003000000000002      RDCAPTYP MXCAP   RFILE
  311  0000000000000000000006               ITEMS   CX.CTYP,0,CT.VEC,CT.SIZE
                              24    MXPROC   EQU     20          .. MAX NUM SIMULTANEOUS PROCESSES
                                    *
```

```
                          *
                          *
                          *
                          *           MAIN CODE
                          *
                          *
 315                           BSSZ   5        ALTERNATE ENTRY POINTS
 322  0200001332               JP     ERRC     ERROR ENTRY
 323  01300013500000000001 ENTRY XJ   SETEMSK  SET UP ERROR MASK
 325  01300011770000000001     XJ     READSELF SET UP LOW CORE
 327  01300003100000000001     XJ     RDCAPTYP GET THE CAPTYPES FROM DIR1
                          *
                          *
```

```
                                *
                                *
                                *
                                *                       CLNPROF IN JPROC
                                *
                                * CLASS CODE
  331  6110000075                        DOXJ        M.CCC,CX.CPFCC
                                *
                                * CALL OPERATION
  336  6170000337                        CALL        MKOP
  337  0000000000000000000011            ITEMS       CX,CPFCO,CX,CPFCC,0,1
  343  0000000000000001252               ITEMS       MDAT
                                *
                                * INITIAL CALL OPERATION
                                *
  344  6170000345                        CALL        MKOP
  345  0000000000000000000012            ITEMS       CX,CPFCI,CX,CPFCC,0,1
  351  0000000000000001234               ITEMS       FIXD,0
```

```
                                *
                                *
                                *                       FAKE READ GHOST FOR DISK SYSTEM CODE
                                *
  353  6110000075                          DOXJ         M.CCC,CX.FKGCC
                                *
                                *                       INITIAL CALL
                                *
  360  6170000361                          CALL         MKOP
  361  0000000000000000000022              ITEMS        CX.FKGI,Cx.FKGCC,0,1
  365  0000000000000001234                 ITEMS        FIXD,0
                                *
                                *                       USER ( DISK SYSTEM ) FAKE READ CALL
                                *
  367  6170000370                          CALL         MKOP
  370  0000000000000000000023              ITEMS        CX.FKGB,Cx.FKGCC,0,1
  374  0000000000000001234                 ITEMS        FIXD,2
```

```
                                *
                                *
                                *                       READ GHOST
                                *
376  6110000075                         DOXJ    M.CCC,CX.BDGCC
                                *
                                *                       INITIAL CALL
                                *
403  6170000404                         CALL    MKOP
404  0000000000000000025                ITEMS   CX.BDGI,CX.BDGCC,0,1
410  0000000000000001234                ITEMS   FIXD,0
                                *
                                *                       SIGNAL COMPLETION OF PROCESS INITIALIZATION
                                *
412  6170000413                         CALL    MKOP
413  0000000000000000026                ITEMS   CX.BDGS,CX.BDGCC,0,1
417  0000000000000001234                ITEMS   FIXD,1
                                *
                                *                       USER READ CALL
                                *
421  6170000422                         CALL    MKOP
422  0000000000000000027                ITEMS   CX.BDGB,CX.BDGCC,0,1
426  0000000000000001234                ITEMS   FIXD,2
                                *
                                *                       MAJOR PANIC PROCESSING
                                *
430  6170000431                         CALL    MKOP
431  0000000000000000030                ITEMS   CX.BDGP,CX.BDGCC,1,1
435  0000000000000001234                ITEMS   FIXD,3
```

```
                                        *
                                        *
                                        *                 READ AND COMMAND SERVICES
                                        *
   437  6110000075                              DOXJ      M.CCC,CX.BDSCC
                                        *
                                        *                 INITIAL CALL
                                        *
   444  6170000445                              CALL      MKOP
   445  00000000000000000014                    ITEMS     CX.BDSI,CX.BDSCC,0,3
   451  00000000000000001234                    ITEMS     FIXD,0
   453  00000000000000001252                    ITEMS     UDAT,ACAP
                                        *
                                        *                 READ SERVICE CALL
                                        *
   455  6170000456                              CALL      MKOP
   456  00000000000000000015                    ITEMS     CX.BDSB,CX.BDSCC,0,6
   462  00000000000000001234                    ITEMS     FIXD,1
   464  00000000000000001252                    ITEMS     UDAT,UDAT,UDAT
   467  00000000000000001270                    ITEMS     BDAT,4
   471  00000000000000001261                    ITEMS     ACAP
                                        *
                                        *                 CMMD SERVICE CALL
                                        *
   472  6170000473                              CALL      MKOP
   473  00000000000000000016                    ITEMS     CX.BDSC,CX.BDSCC,0,4
   477  00000000000000001234                    ITEMS     FIXD,2
   501  00000000000000001252                    ITEMS     UDAT
   502  00000000000000001270                    ITEMS     BDAT,4
   504  00000000000000001261                    ITEMS     ACAP
                                        *
                                        *                 USER SERVICES
                                        *
   505  6170000506                      CP:NPSW OPER      CX.TEMP,CX.BDSCC,0,4
   514  00000000000000001234                    ITEMS     FIXD,4
   516  00000000000000001234                    ITEMS     FIXD,0
   520  00000000000000001312                    ITEMS     UCAP,CT.DIR,OB.NPSW
   523  00000000000000001252                    ITEMS     UDAT
                                        *
                                        *
   524  6170000525                      CP:DLPF OPER      CX.TEMP,CX.BDSCC,0,3
   533  00000000000000001234                    ITEMS     FIXD,4
   535  00000000000000001234                    ITEMS     FIXD,1
   537  00000000000000001312                    ITEMS     UCAP,CT.DIR
   541  00000000000001651001               ITEMS   OB.SETAG+OB.RESO+OB.SBUSR+OB.MONEY+OB.DSPAC+OB.GIVE+OB.DSTRY
                                        *
                                        *
   542  6170000543                      CP:NUSR OPER      CX.TEMP,CX.BDSCC,0,4
   551  00000000000000001234                    ITEMS     FIXD,4
   553  00000000000000001234                    ITEMS     FIXD,2
   555  00000000000000001270                    ITEMS     BDAT,20
   557  00000000000000001312                    ITEMS     UCAP,CT.DIR
   561  00000000000001651000                    ITEMS     OB.SETAG+OB.RESO+OB.SBUSR+OB.MONEY+OB.DSPAC+OB.GIVE
```

```
                                *
                                *
562  6170000563                 CP:MONY   OPER    CX.TEMP,CX.BDSCC,0,5
571  0000000000000001234                  ITEMS   FIXD,4
573  0000000000000001234                  ITEMS   FIXD,3
575  0000000000000001312                  ITEMS   UCAP,CT,DIR,OB.RESO+OB.MONEY
600  0000000000000001312                  ITEMS   UCAP,CT,DIR,OB.RESI+OB.MONEY
603  0000000000000001252                  ITEMS   UDAT
                                *
                                *
604  6170000605                 CP:SONS   OPER    CX.TEMP,CX.BDSCC,0,5
613  0000000000000001234                  ITEMS   FIXD,4
615  0000000000000001234                  ITEMS   FIXD,4
617  0000000000000001312                  ITEMS   UCAP,CT,DIR,OB.RESO+OB.SBUSR
622  0000000000000001312                  ITEMS   UCAP,CT,DIR,OB.RESI+OB.SBUSR
625  0000000000000001252                  ITEMS   UDAT
                                *
                                *
626  6170000627                 CP:DSPF   OPER    CX.TEMP,CX.BDSCC,0,3
635  0000000000000001234                  ITEMS   FIXD,4
637  0000000000000001234                  ITEMS   FIXD,5
641  0000000000000001312                  ITEMS   UCAP,CT,DIR,0
                                *
                                *
644  6170000645                 CP:CHRG   OPER    CX.TEMP,CX.BDSCC,0,2
653  0000000000000001234                  ITEMS   FIXD,4
655  0000000000000001234                  ITEMS   FIXD,6
                                *
                                *                 RUN CALL FROM ROOT
                                *
657  6170000660                           CALL    MKOP
660  0000000000000000000020               ITEMS   CX.BDSR,CX.BDSCC,0,1
664  0000000000000001234                  ITEMS   FIXD,3
```

```
                            *
                            *
                            *                LINE COLLECTOR
                            *
  666  6110000075                   DOXJ     M.CCC.CX.LNCC
                            *
                            *                INITIAL CALL
                            *
  673  6170000674                   CALL     MKOP
  674  00000000000000000032         ITEMS    CX.LNINI.CX.LNCC.0.1
  700  00000000000000001234         ITEMS    FIXD.0
                            *
                            *                ASCII INTERFACE
                            *
  702  6170000703           LC:ASCI OPER     CX.LNA.CX.LNCC.0.3
  711  00000000000000001234         ITEMS    FIXD.1
  713  00000000000000001252         ITEMS    UDAT
  714  00000000000000001270         ITEMS    ADAT.16
```

```
                                *
                                *
                                *                       COMMAND PROCESSOR
                                *
  716  6110000075                       DOXJ     M.CCC,CX.CMDCC
                                *
                                *                       INITIAL CALL
                                *
  723  6170000724                       CALL     MKOP
  724  0000000000000000035              ITEMS    CX.CMDI,CX.CMDCC,0,1
  730  0000000000000001234              ITEMS    FIXD,0
                                *
                                *                       DEBUG CALL
                                *
  732  6170000733                       CALL     MKOP
  733  0000000000000000036              ITEMS    CX.CMMDD,CX.CMDCC,0,4
  737  0000000000000001234              ITEMS    FIXD,1
  741  0000000000000001252              ITEMS    UDAT
  742  0000000000000001270              ITEMS    BDAT,8
  744  0000000000000001261              ITEMS    ACAP
                                *
                                *                       RUN CALL
                                *
  745  6170000746                       CALL     MKOP
  746  0000000000000000037              ITEMS    CX.CMMDR,CX.CMDCC,0,2
  752  0000000000000001234              ITEMS    FIXD,2
  754  0000000000000001261              ITEMS    ACAP
                                *
                                *
                                *                       SPACE COMMAND
                                *
  755  6170000756       CP:SPAC  OPER     CX.TEMP,CX.CMDCC,0,2
  764  0000000000000001234              ITEMS    FIXD,3
  766  0000000000000001270              ITEMS    BDAT,4
                                *
                                *
                                *                       GET AN OBJECT FORM USER
                                *
  770  6170000771       CP:ASKU  OPER     CX.TEMP,CX.CMDCC,0,1
  777  0000000000000001234              ITEMS    FIXD,4
                                *
                                *
                                *                       FIND AN OBJECT, GIVEN TEXT AND SCANL
                                *
 1001  6170001002       CP:FIND  OPER     CX.TEMP,CX.CMDCC,0,3
 1010  0000000000000001234              ITEMS    FIXD,5
 1012  0000000000000001312              ITEMS    UCAP,CT,CLIST,OB,CPYOT
 1015  0000000000000001270              ITEMS    BDAT,5
                                *
                                *
                                *
                                *
                                *
```

```
                                *
                                *                       CLIST TO HOLD SPECIAL GOODIES
                                *
 1017  6110000075                         DOXJ    M.CCLIST,CX.ALLOC,CX.CMMDC,20
                                *  THESE SYMBOLS DEFINE THE INDEXES USED IN THIS CLIST
                          0     CS.ROOTD  EQU     0
                          1     CS.NULAK  EQU     1
                          2     CS.TDLST  EQU     2
                          3     CS.PUBAK  EQU     3
                          4     CS.S      EQU     4
                          5     CS.CLASS  EQU     5
                          6     CS.OPER   EQU     6
                         15     CS.PROF   EQU     15B
                         16     CS.DAYF   EQU     16B
                         17     CS.DFEC   EQU     17B
                         20     CS.LCEC   EQU     20B
                                *
                                *                       PUT NULL ACCESS KEY IN CMMDSTF FROM DIRI
                                *
 1025  6110000075                         DOXJ    M.CAPOU,CX.CMMDC,CS.NULAK,CX.NULAK
                                *                       CREATE THE EVENT CHANNEL TO CONTROL THE DAYFILE
                                *                               AND PUT IT IN WITH THE GOODIES
                                *
 1033  6110000075                         DOXJ    M.CEVCH,CX.ALLOC,CX.TEMP,2
                                *
                                *
 1041  6110000075                         DOXJ    M.CAPOU,CX.CMMDC,CS.DFEC,CX.TEMP
                                *
                                *
                                * CREATE EVENT CHANNEL FOR LOGON COUNT AND ADD TO GOODIES
 1047  6110000075                         DOXJ    M.CEVCH,CX.ALLOC,CX.TEMP,2
 1055  6110000075                         DOXJ    M.CAPOU,CX.CMMDC,CS.ICEC,CX.TEMP
                                * INITIALIZE CHANNEL TO CONTAIN 0
 1063  6110000075                         DOXJ    M.SENDE,CX.TEMP,0
                                *
                                *
                                *                       CLIST TO HOLD EVENT CHANNELS ETC
                                *                       FOR SPAE CONTROL
                                *
                          4     SPCTYPS   EQU     4               NO. SPACE TYPES
                          6     TYPCHNS   EQU     6               NO. CHANNELS PER TYPE
                                *
 1071  6110000075                         DOXJ    M.CCLIST,CX.ALLOC,CX.CMMDE,SPCTYPS*TYPCHNS
                                *
                                *
                                *                       THE EVENT CHANS THEMSELVES
                                *
 1077  7160000004                         SX6     SPCTYPS
             5160000257                 SA6     TEMP1
 1100  76600                            SX6     B0
             5160000261                 SA6     TEMP3
                                *
 1101  5110000257              CMMDL1    SA1     TEMP1     SEE IF ANY SPACE TYPES LEFET
```

MAIN CODE

```
                  0301001133            ZR      X1,CMMDLX NO
 1102  7261777776                       SX6     X1-1
                  54610                 SA6     A1
                                *
 1103  7160000006                       SX6     TYPCHNS
                  5160000260            SA6     TEMP2
                                *
 1104  5110000260              CMMDL2    SA1     TEMP2     SEE IF ANY EVENT CHANS LEFET
                  0301001101            ZR      X1,CMMDL1 NO
 1105  7261777776                       SX6     X1-1
                  54610                 SA6     A1
                                *
 1106  6110000075                       DOXJ    M.CEVCH,CX.ALLOC,CX.TEMP,2
 1114  6110000075                       DOXJ    M.SENDE,CX.TEMP,1
 1122  5130000261                       SA3     TEMP3
                  6110000075            DOXJ    M.CAPOU,CX.CMMDE,X3,CX.TEMP
                                *
 1131  5110000261                       SA1     TEMP3
                  7261000001            SX6     X1+1
 1132  54610                           SA6     A1
            0200001104                  JP      CMMDL2
                                *
 1133                           CMMDLX   BSS     0
```

```
                                *
                                *
                                *       TTY PANIC WATCHER ETC
                                *
                                *
1133  6110000075                        DOXJ    M.CCC,CX.CMD2C
                                *
                                *       INTIAL ( AND ONLY ) CALL
                                *
1140  6170001141                        CALL    MKOP
1141  000000000000000000043             ITEMS   CX,CMD2I,CX,CMD2C,0,6
                                *
                                *       EVENT CAHNNEL TO WAIT FOR JPROC COMPLETION
                                *
1145  6110000075                        DOXJ    M.CEVCH,CX.ALLOC,CX.CMDEC,2
                                *
1153  6110000075                        DOXJ    M.CEVCH,CX.ALLOC,CX.SHTEV,MXPROC+1
1161  6110000075                        DOXJ    M.CEVCH,CX.ALLOC,CX.KICKV,MXPROC+1
                                *
                                *
                                *       SAND BAG ALLOC BLOCK FOR FIXED ECS SPACE
                                *
                                *       SPACE AND MOT SLOTS MOVED TO IT BY CMMD2
                                *
1167  6110000075                        DOXJ    M.CRALBK,CX.ALLOC,CX.SNDBG
```

```
                                    *
                                    *
                                    *
                                    *
                                    *
1175  013000030500000000001                XJ      RETURN  ALL DONE
                                    *
                                    *
                                    *
1177  400000000300000000002    READSELF    MXCAP   READ
1200  000000000000000000001                ITEMS   CX.CODEF
1201  000000000000000000000                ITEMS   0.0,SCRSZ
```

```
                                  *
                                  *
                                  *                    THIS ROUTINE PREPARES OPERATIONS
                                  *
                                  *                    CALL  MKOP
                                  *                    ITEMS CX.OPR.CX.CLASS.TYPE.NPARAMS
                                  *
                                  *                    FOLLOWED BY PARAMETER SPECS FOR ALL PARAMS
                                  *
                                  *                    ITEMS  FIXD.K
                                  *                                FIXED DATUM. VALUE = K
                                  *
                                  *                    ITEMS  UDAT
                                  *                                USER SUPPLIED DATUM
                                  *
                                  *                    ITEMS  ACAP
                                  *                                USER SUPPLIED ANY CAP
                                  *
                                  *                    ITEMS  BDAT.K
                                  *                                BLOCK DATUM. K WORDS MAX
                                  *
                                  *                    ITEMS  PCAP.LOC
                                  *                                PLACE IN OPERCL AT LOC  (USED BY OPER MACRO)
                                  *
                                  *
                                  *
 1204  76670                      MKOP      SX6        B7
            5160000245                      SA6        MKOP7       SAVE B7
                      56370                 SA3        B7
 1205  10633                                BX6        X3
            5160000246                      SA6        MKOPOPX     SAVE OPER X
 1206  5147000002                           SA4        B7+2
                 6110000075                 SETXJ      M.MKOPR.CX.ALLOC.X3.X4
 1212  5110000245                           SA1        MKOP7
                 63710                      SB7        X1
 1213  5117000001                           SA1        B7+1
                 5127000003                 SA2        B7+3
 1214  10622                                BX6        X2
            5160000250                      SA6        MKOPCN      SAVE PARAMETER COUNT
                      73110                 YSETXJ     X1.X2
 1217  01300000750000000001                 XJ         XJLOC
 1221  5110000245                           SA1        MKOP7
                 7261000004                 SX6        X1+4
 1222  54610                                SA6        A1          SET B7 TO IST PARAM
            76600                           SX6        B0
                 5160000247                 SA6        MKOPX       INITIALIZE PARAM INDEX
                                  *
 1223  5110000245                 MKOP1     SA1        MKOP7
                 63710                      SB7        X1
 1224  5110000250                           SA1        MKOPCN
                 7261777776                 SX6        X1-1
 1225  54610                                SA6        A1
 1226  0311001227                 +         NZ         X1,*+1
                 0270000000                 JP         B7
```

```
 1227  56170                   +         SA1      B7
            63610                        SB6      X1
                 0260000000              JP       B6
                               *
                               *
 1230  5110000247              MKOP2     SA1      MKOPX      STEP PARAM INDEX ( NOT USED ON FIXED )
                 7261000001              SX6      X1+1
 1231  54610                             SA6      A1
                               *
 1232  5110000245              MKOP3     SA1      MKOP7      BUMP B7 BY X7
                 36771                   IX7      X7+X1
                       54710             SA7      A1
 1233  0200001223                        JP       MKOP1
```

```
                                *
                                *
1234  6110000075                FIXD    DOXJ    M.UDAT,-MKOPOPX,-MKOPX
1242  5110000245                        SA1     MKOP7
                  5241000001            SA4     X1+1
1243  6110000075                        DOXJ    M.FIXD,-MKOPOPX,-MKOPX,X4
1251  7170000002                        SX7     2
                  0200001232            JP      MKOP3
                                *
                                *
1252  6110000075                UDAT    DOXJ    M.UDAT,-MKOPOPX,-MKOPX
1260  7170000001                        SX7     1
                  0200001230            JP      MKOP2
                                *
                                *
1261  6110000075                ACAP    DOXJ    M.ACAP,-MKOPOPX,-MKOPX,B0
1267  7170000001                        SX7     1
                  0200001230            JP      MKOP2
                                *
                                *
1270  5147000001                BDAT    SA4     B7+1
                  6110000075            DOXJ    M.BDAT,-MKOPOPX,-MKOPX,X4
1277  7170000002                        SX7     2
                  0200001230            JP      MKOP2
                                *
1300  5137000001                PCAP    SA3     B7+1
                  6110000075            DOXJ    M.CAPOUT,CX,OPER,X3,-MKOPOPX
1307  5110000250                        SA1     MKOPCN    NO PARAMETERS USED UP HERE,
                  7261000001            SX6     X1+1      SO FAKE OUT DECREMENT OF MKOPCN
1310  54610                             SA6     A1
            7170000002                  SX7     2
1311  0200001232                        JP      MKOP3
                                *
                                *
1312  5117000001                UCAP    SA1     B7+1
                  14411                 BX4     -X1
1313  6110000075                        DOXJ    M.UCAP,-MKOPOPX,-MKOPX,X4
                                * ADD OPTION BITS
1321  5110000245                        SA1     MKOP7
                  7211000002            SX1     X1+2
1322  14411                             BX4     -X1
            6110000075                  DOXJ    M.ADDOPT,-MKOPOPX,-MKOPX,X4
1331  7170000003                        SX7     3
                  0200001230            JP      MKOP2
```

```
                                *
                                *                       ERROR CALL AREA
                                *
 1332  0130001344000000000001  ERRC      XJ      ESAVE     SAVE REGISTERS
 1334  0130001350000000000001            XJ      SETEMSK   RE SET ERROR SELECTION MASK
 1336  0130001353000000000001            XJ      RDSTK     READ TOP OF STACK ( IN CASE UNWANTED ERROR)
 1340  0130001346000000000001            XJ      ERESTOR   RESTORE REGISTERS
 1342  0130001356000000000001            XJ      ERTN      NOW CONVERT ERROR TO F RETURN
                                *
                                *
 1344  4000000016000000000002  ESAVE     MXCAP   SAVE
 1345  0000000000000000000134            ITEMS   EREGS
                                *
                                *
 1346  4000000017000000000002  ERESTOR   MXCAP   RESTOR
 1347  0000000000000000000134            ITEMS   EREGS
                                *
                                *
 1350  4000000026000000000002  SETEMSK   MXCAP   ESMLOC
 1351  0000000000000000001352            ITEMS   *+1
 1352  7777777777777777777777            DATA    -0
                                *
                                *
 1353  4000000055000000000002  RDSTK     MXCAP   DISSEN
 1354  0000000000000000000154            ITEMS   STKBUF
 1355  0000000000000000000001            DATA    1
                                *
                                *
 1356  4000000031000000000002  FRTN      MXCAP   FRETUR
```

```
                                *
                                *
                                *
                                *                       THIS SUBROUTINE XFERS B2 ITEMS
                                *                                ( OR 5, WHICH EVER IS LESS )
                                *                       FROM X1, X2, . . . X5 TO B1, B1+1, . . B1+4
                                *
                                *                       IF XN IS POSITIVE, CONTENTS OF XN IS XFERED
                                *                       IF XN IS NEGATIVE, CONTENTS OF CELL ADDRESS -XN
                                *
                                *                       X1 WILL BE DESTROYED
                                *
                                *                       B1 IS ADVANCED AND B2 DECREMENTED BY 1 FOR EACH XFER
                                *
1357  43074                     SET       MX0         60
            66570                         SB5         B7
                  10611                   BX6         X1
1360  6170001361                          CALL        SETA
1361  10622                               BX6         X2
1362  6170001363                          CALL        SETA
1363  10266                               BX2         X6
            10633                         BX6         X3
1364  6170001365                          CALL        SETA
1365  10366                               BX3         X6
            10644                         BX6         X4
1366  6170001367                          CALL        SETA
1367  10466                               BX4         X6
            10655                         BX6         X5
1370  6170001371                          CALL        SETA
1371  10566                               BX5         X6
                                *
1372  66750                     SETB      SB7         B5
            0270000000                    JP          B7
                                *
                                *
1373  0602001372                SETA      GE          B0,B2,SETB
                  0326001375              PL          X6,SETA1
1374  13660                               BX6         X6-X0
            53160                         SA1         X6
                  10611                   BX6         X1
1375  56610                     SETA1     SA6         B1
            6111000001                    SB1         B1+1
1376  6122777776                          SB2         B2-1
                  0270000000              JP          B7
                                *
                                *
                                *                       HANDLE A CALL WITH STACK
                                *
1377  5150000244                CALLR     SA5         CSTKPNTR
                  0305001403              ZR          X5,CALLRERR
1400  63650                               SB6         X5
            6166777776                    SB6         B6-1
1401  5166000220                          SA6         CALLSTK+B6
```

```
                    76660                   SX6     B6
                         54650              SA6     A5
 1402  0270000000                           JP      B7
                                  *
                                  *
 1403  6170001404               CALLRERR    CALL    ERR
                                  *
                                  *
                                  *                  HANDLE A RETURN WITH CALL STACK
                                  *
 1404  5110000244               RTNR        SA1     CSTKPNTR
                         63610              SB6     X1
 1405  7166000001                           SX6     B6+1
                         54610              SA6     A1
 1406  5116000220                           SA1     CALLSTK+B6
                         63710              SB7     X1
 1407  0270000000                           JP      B7
```

```
                                      *
                                      *               CRAASH
                                      *
 1410  01300014310000000001    ERR      XJ      SAVE
 1412  6160000004                       SB6     4
 1413  01300014300000000001             XJF     BEAD,STOP
 1415  0200001433                       JP      DIE
                                      *
                                      *
                                      *
 1416  01300014310000000001    DEBUG    XJ      SAVE
 1420  6160000004                       SB6     4
 1421  01300014300000000001             XJF     BEAD,STOP
 1423  01300014260000000001             XJ      RESTORE
 1425  0270000000                       JP      B7
                                      *
                                      *
 1426  40000000170000000002    RESTORE  MXCAP   RESTOR
 1427  00000000000000000114             ITEMS   REGAREA
                                      *
                                      *
 1430  00000000000000000003    BEAD     ITEMS   CX.BEAD
                                      *
 1431  40000000160000000002    SAVE     MXCAP   SAVE
 1432  00000000000000000114             ITEMS   REGAREA
                                      *
                                      *
 1433  01300003050000000001    DIE      XJ      SRETURN
                                      *
                                      *
 1435  0000000000              STOP     PS
```

FINAL STUFF

*
*

FINAL STUFF

```
                                    *
                                    *
  1436  0000000000000000000001              DATA    1
  1437  0000000000000000000001              DATA    1
                                    *
     0                              FL      END

                          35737     STORAGE USED              4051 STATEMENTS      333 SYMBOLS
                                    6600 ASSEMBLY           13.984 SECONDS        1134 REFERENCES
```

SYMBOLIC REFERENCE TABLE.

ACAP	1261		24/13	24/21	24/30	27/20	27/27	34/16 L		
BDAT	1270		24/20	24/29	24/51	26/18	27/19	27/34	27/48	34/21 L
BEAD	1430		38/06	38/13	38/22 L					
CALLR	1377		36/49 L							
CALLRERR	1403		36/50	37/06 L						
CALLSTK	220		16/32 L	16/34	36/53 S	37/15				
CLSTSZ	50		14/31	15/37 L	19/04	19/05				
CMMDLX	1133		29/01	29/23 L						
CMMDL1	1101		28/53 L	29/09						
CMMDL2	1104		29/08 L	29/21						
CP:ASKU	0	EXTERNAL*	27/40							
CP:CHRG	0	EXTERNAL*	25/26							
CP:DLPF	0	EXTERNAL*	24/42							
CP:DSPF	0	EXTERNAL*	25/20							
CP:FIND	0	EXTERNAL*	27/46							
CP:MONY	0	EXTERNAL*	25/04							
CP:NPSW	0	EXTERNAL*	24/35							
CP:NUSR	0	EXTERNAL*	24/49							
CP:SONS	0	EXTERNAL*	25/12							
CP:SPAC	0	EXTERNAL*	27/33							
CSTKPNTR	244		16/34 L	36/49	37/11					
CS.CLASS	5		28/11 D							
CS.DAYF	16		28/14 D							
CS.DFEC	17		28/15 D	28/28						
CS.LCEC	20		28/16 D	28/33						
CS.NULAK	1		28/07 D	28/21						
CS.OPER	6		28/12 D							
CS.PROF	15		28/13 D							
CS.PUBAK	3		28/09 D							
CS.ROOTD	0		28/06 D							
CS.S	4		28/10 D							
CS.TDLST	2		28/08 D							
CT.ACK	256		16/53 L							
CT.CLIST	304		18/31 L	27/48						
CT.DF	251		16/48 L							
CT.DIR	252		16/49 L	24/45	25/07	25/15	25/23			
			24/38	24/53	25/08	25/16				
CT.DNT	255		16/52 L							
CT.SIZE	6		17/01 D	19/10						
CT.SNT	254		16/51 L							
CT.SPD	253		16/50 L							
CT.VEC	251		16/47 L	17/01	19/10					
CX.ALLOC	0		14/41 L	28/25	28/44	30/16	30/19	32/33		
			28/05	28/32	29/14	30/18	30/26			
CX.BDGB	27		15/16 L	23/22						
CX.BDGCC	24		15/13 L	23/06	23/11	23/17	23/23	23/29		
CX.BDGI	25		15/14 L	23/10						
CX.BDGP	30		15/17 L	23/28						
CX.BDGS	26		15/15 L	23/16						
CX.BDSB	15		15/04 L	24/17						
CX.BDSC	16		15/05 L	24/26						
CX.BDSCC	13		15/02 L	24/11	24/27	24/42	25/04	25/20	25/33	
			24/06	24/18	24/35	24/49	25/12	25/26		

SYMBOLIC REFERENCE TABLE.

CX.BDSI	14	15/03	L	24/10					
CX.BDSR	20	15/07	L	25/32					
CX.BDSU	17	15/06	L						
CX.BEAD	3	14/44	L	38/22					
CX.CMDCC	34	15/23	L	27/06	27/11	27/17	27/26	27/33	27/40	27/44
CX.CMDEC	44	15/32	L	30/16					
CX.CMDI	35	15/24	L	27/10					
CX.CMD2C	42	15/30	L	30/07	30/12				
CX.CMD2I	43	15/31	L	30/11					
CX.CMMDC	40	15/27	L	28/05	28/21	28/28	28/33		
CX.CMMDD	36	15/25	L	27/16					
CX.CMMDE	41	15/28	L	28/44	29/17				
CX.CMMDR	37	15/26	L	27/25					
CX.CODEF	1	14/42	L	31/11					
CX.CPFCC	10	14/52	L	21/08	21/12	21/18			
CX.CPFCI	12	15/01	L	21/17					
CX.CPFCO	11	14/53	L	21/11					
CX.CTYP	6	14/47	L	19/09					
CX.FKGB	23	15/11	L	22/16					
CX.FKGCC	21	15/09	L	22/06	22/11	22/17			
CX.FKGI	22	15/10	L	22/10					
CX.KICKV	47	15/35	L	30/19					
CX.LNA	33	15/21	L	26/16					
CX.LNCC	31	15/19	L	26/06	26/11	26/16			
CX.LNINI	32	15/20	L	26/10					
CX.MAST	2	14/43	L	18/13	18/17	18/21	18/25	19/08	35/19	38/24
		18/10		18/14	18/18	18/22	18/26	31/10	35/24	
		18/11		18/15	18/19	18/23	18/27	35/11	35/29	
		18/12		18/16	18/20	18/24	19/03	35/15	38/18	
CX.NULAK	7	14/48	L	28/21					
CX.OPER	4	14/45	L	34/29					
CX.SHTEV	46	15/34	L	30/18					
CX.SNDBG	45	15/33	L	30/26					
CX.TEMP	5	14/46	L	24/49	25/20	27/40	28/28	28/35	29/17	
		24/35		25/04	25/26	27/46	28/32	29/14		
		24/42		25/12	27/33	28/25	28/33	29/15		
C.ACAP	36	3/41	D	18/18					
C.ADDOPT	37	3/42	D	18/20					
C.ADDORD	61	4/07	D						
C.ALLOC	1	3/09	D						
C.ARMIT	140	5/13	D						
C.BDAT	105	4/37	D	18/16					
C.BLKCAP	106	4/38	D						
C.CAGEN	113	4/43	D						
C.CAPIN	23	3/29	D						
C.CAPOU	24	3/30	D	3/31	18/11				
C.CAPOUT	24	3/31	D	18/25					
C.CBLK	11	3/17	D	18/27					
C.CCC	15	3/21	D	18/12					
C.CCCLOA	62	4/08	D						
C.CCLIST	7	3/15	D	18/21					
C.CEVCH	13	3/19	D	18/22					
C.CFILE	10	3/16	D	18/26					

SYMBOLIC REFERENCE TABLE.

C.CGEN	114	4/44	D	
C.CHKBLK	41	3/44	D	4/34
C.CHMPRO	123	4/51	D	
C.CHMPRW	122	4/50	D	
C.CHNGWD	67	4/14	D	
C.CLRDAE	70	4/18	D	
C.CLRIIB	74	4/22	D	
C.CLRMG	137	5/12	D	
C.COPYOP	40	3/43	D	
C.CPOUT	135	5/10	D	
C.CPROC	12	3/18	D	
C.CPUIN	134	5/09	D	
C.CPZRO	126	5/03	D	
C.CRALBK	64	4/10	D	18/24
C.CSPROC	14	3/20	D	
C.DELAB	76	4/24	D	
C.DELBLK	42	3/45	D	
C.DELCL	57	4/05	D	
C.DELFIL	43	3/46	D	
C.DELSUB	72	4/20	D	
C.DESECH	101	4/29	D	
C.DISIT	141	5/14	D	
C.DISMAP	51	3/52	D	
C.DISPOP	107	4/39	D	
C.DISPST	54	4/02	D	
C.DISSEN	55	4/03	D	35/24
C.DLOPR	132	5/07	D	
C.DLPROC	66	4/12	D	
C.DONATE	63	4/09	D	
C.DPROD	67	4/13	D	4/14
C.DSCAP	20	3/24	D	3/25
C.DSCLX	124	5/01	D	
C.DSFMAP	56	4/04	D	
C.DSPAB	104	4/36	D	
C.DSPALC	121	4/49	D	
C.DSPCAP	20	3/25	D	
C.DSPCLX	102	4/30	D	
C.DSPOB	120	4/48	D	
C.DSPSP	115	4/45	D	
C.ESMGEN	25	3/32	D	
C.ESMLOC	26	3/33	D	35/19
C.FIXC	32	3/37	D	
C.FIXD	33	3/38	D	18/15
C.FRETUR	31	3/36	D	35/29
C.FSON	21	3/26	D	
C.GETE	6	3/54	D	4/33
C.GETEVF	75	4/23	D	
C.GRAB	133	5/08	D	
C.HANG	6	4/33	D	
C.INCHR	117	4/47	D	
C.INMTR	131	5/06	D	
C.INTFIL	2	3/10	D	
C.JUMP	52	3/53	D	

SYMBOLIC REFERENCE TABLE.

C.MAPZRO	45	3/48	D						
C.MGETF	100	4/27	D						
C.MGETH	77	4/25	D						
C.MKMPRO	46	4/53	D						
C.MKMPRW	47	4/52	D						
C.MKOPR	27	3/34	D	18/13					
C.MODPC	65	4/11	D						
C.MOVBLK	50	3/51	D						
C.MOVCP	127	5/04	D						
C.MOVEC	22	3/27	D	3/28					
C.MOVMT	130	5/05	D						
C.MPCHRO	46	3/49	D	4/53					
C.MPCHRW	47	3/50	D	4/52					
C.MVECAP	22	3/28	D						
C.NEWUN	53	4/01	D						
C.NWTMP	103	4/35	D						
C.PINT	60	4/06	D						
C.PROBE	41	4/34	D						
C.READ	3	4/31	D	18/10	31/10				
C.REDSHP	44	3/47	D						
C.RESTOR	17	3/23	D	35/15	38/18				
C.RETPAR	111	4/41	D	18/17	19/03				
C.RETURN	30	3/35	D						
C.RFILE	3	3/11	D	4/31	19/08				
C.SAVE	16	3/22	D	35/11	38/24				
C.SELF	0	3/08	D						
C.SENDE	5	3/13	D	18/23					
C.SETDAE	71	4/19	D						
C.SETIIB	73	4/21	D						
C.SPRET	125	5/02	D						
C.STMSG	136	5/11	D						
C.TIMDT	112	4/42	D						
C.TRDB	116	4/46	D						
C.UCAP	35	3/40	D	18/19					
C.UDAT	34	3/39	D	18/14					
C.USRER	110	4/40	D						
C.WFILE	4	3/12	D	4/32					
C.WRITE	4	4/32	D						
DEBUG	1416	38/11	L						
DIE	1433	38/07		38/28	L				
ENTRY	323	14/30		20/09	L				
EREGS	134	16/14	L	35/12		35/16			
ERESTOR	1346	35/07		35/15	L				
ERR	1410	20/10		24/06		28/28	29/15	30/26	34/17	35/06	38/05
		20/11		26/06		28/32	29/17	31/07	34/23	35/07	38/12
		20/12		27/06		28/33	30/07	32/41	34/29	35/08	38/15
		21/08		28/05		28/35	30/16	34/04	34/39	35/09	38/29
		22/06		28/21		28/44	30/18	34/07	34/44	37/07	
		23/06		28/25		29/14	30/19	34/12	35/05	38/04	L
ERRC	1332	20/08		35/04	L						
ESAVE	1344	35/04		35/11	L						

SYMBOLIC REFERENCE TABLE.

FIXD	1234		21/18	23/23	24/35	24/50	25/20	26/11	27/33		
			22/11	23/29	24/36	25/04	25/21	26/16	27/40		
			22/17	24/11	24/42	25/05	25/26	27/11	27/46		
			23/11	24/18	24/43	25/12	25/27	27/17	34/03 L		
			23/17	24/27	24/49	25/13	25/33	27/26			
FL	0	PROGRAM*	14/29	14/36	40/06 L						
FRTN	1356		35/08	35/29 L							
LC:ASCI	0	EXTERNAL*	26/16								
LOCALPXJ	4		21/08 D	27/06 D	28/28 D	28/35	29/17	30/19	34/07 D	34/28 D	
			21/08 D	27/06 D	28/28 D	28/44 D	30/07 D	30/26 D	34/07 D	34/29 D	
			21/08	27/06	28/28 D	28/44 D	30/07 D	30/26 D	34/07 D	34/29	
			22/06 D	28/05 D	28/28	28/44 D	30/07	30/26 D	34/07	34/39 D	
			22/06 D	28/05 D	28/32 D	28/44	30/16 D	30/26	34/12 D	34/39 D	
			22/06	28/05 D	28/32 D	29/14 D	30/16 D	32/33 D	34/12 D	34/39 D	
			23/06 D	28/05	28/32 D	29/14 D	30/16 D	32/33 D	34/12 D	34/39	
			23/06 D	28/21 D	28/32	29/14 D	30/16	32/33	34/12	34/44 D	
			23/06	28/21 D	28/33 D	29/14	30/18 D	32/39 D	34/17 D	34/44 D	
			24/06 D	28/21 D	28/33 D	29/15 D	30/18 D	32/40 D	34/17 D	34/44 D	
			24/06 D	28/21	28/33 D	29/15 D	30/18 D	32/40	34/17 D	34/44	
			24/06	28/25 D	28/33	29/15 D	30/18	34/04 D	34/17		
			26/06 D	28/25 D	28/35 D	29/15	30/19 D	34/04 D	34/23 D		
			26/06 D	28/25 D	28/35 D	29/17 D	30/19 D	34/04 D	34/23 D		
			26/06	28/25	28/35 D	29/17 D	30/19 D	34/04	34/23		
MKOP	1204		21/11	23/10	24/10	24/42	25/20	26/16	27/33	32/24 L	
			21/17	23/16	24/17	24/49	25/26	27/10	27/40		
			22/10	23/22	24/26	25/04	25/32	27/16	27/46		
			22/16	23/28	24/35	25/12	26/10	27/25	30/11		
MKOPCN	250		16/42 L	32/38 S	32/49	34/29					
MKOPOPX	246		16/40 L	34/04	34/12	34/23	34/39				
			32/30 S	34/07	34/17	34/29	34/44				
MKOPX	247		16/41 L	33/06	34/07	34/17	34/39				
			32/45 S	34/04	34/12	34/23	34/44				
MKOP1	1223		32/47 L	33/13							
MKOP2	1230		33/06 L	34/13	34/18	34/24	34/45				
MKOP3	1232		33/10 L	34/08	34/33						
MKOP7	245		16/39 L	32/27 S	32/33	32/41	32/47	33/10	34/04	34/46	
MXPROC	24		19/10 D	30/18	30/19						
M.ACAP	7777505		18/18 D	34/17							
M.ADDOPT	7777503		18/20 D	34/44							
M.BDAT	7777507		18/16 D	34/23							
M.CAPOU	7777514		18/11 D	28/21	28/28	28/33	29/17				
M.CAPOUT	7777476		18/25 D	34/29							
M.CBLK	7777474		18/27 D								
M.CCC	7777513		18/12 D	21/08	22/06	23/06	24/06	26/06	27/06	30/07	
M.CCLIST	7777502		18/21 D	28/05	28/44						
M.CEVCH	7777501		18/22 D	28/25	28/32	29/14	30/16	30/18	30/19		
M.CFILE	7777475		18/26 D								
M.CRALBK	7777477		18/24 D	30/26							
M.FIXD	7777510		18/15 D	34/07							
M.MKOPR	7777512		18/13 D	32/33							
M.READ	7777515		18/10 D								
M.RETPAR	7777506		18/17 D								
M.SENDE	7777500		18/23 D	28/35	29/15						

SYMBOLIC REFERENCE TABLE.

M.UCAP	7777504	18/19	D	34/39	
M.UDAT	7777511	18/14	D	34/04	34/12
OB.AAP	100	8/02	D		
OB.ACC	2	7/49	D		
OB.ADDOR	4	7/41	D		
OB.ALORD	400	6/30	D		
OB.ATCH	10000	7/06	D		
OB.CALOP	100	7/27	D		
OB.CHMAP	400	7/29	D		
OB.CHNAM	2	6/23	D		
OB.CHNM	4000	8/07	D		
OB.CHOPT	20	7/43	D		
OB.CHTYP	10	7/42	D		
OB.CLOSE	1000	7/03	D		
OB.CPYIN	4	6/43	D		
OB.CPYOP	40	7/44	D		
OB.CPYOT	10	6/44	D	27/48	
OB.CRDR	2000	8/06	D		
OB.CREAB	4	6/24	D		
OB.CREBL	4	6/49	D		
OB.CRECL	10	6/35	D		
OB.CREEC	200	6/29	D		
OB.CREPR	40	6/27	D		
OB.CRESP	100	6/28	D		
OB.CRFIL	20	6/26	D		
OB.CRLE	10	7/52	D		
OB.CSUL	1000	8/05	D		
OB.DAE	1000	7/30	D		
OB.DAP	200	8/03	D		
OB.DCRBL	2000	7/04	D		
OB.DDLBL	4000	7/05	D		
OB.DELBL	10	6/50	D		
OB.DLE	20	7/53	D		
OB.DMAP	40000	7/08	D		
OB.DSPAC	200000	8/13	D	24/45	24/53
OB.DSTRY	1	6/22	D	24/45	
OB.DTCH	20000	7/07	D		
OB.ECLM	100000	7/09	D		
OB.FATHR	4	7/23	D		
OB.FDAE	200	7/01	D		
OB.FREZ	1000000	7/12	D		
OB.GET	2000	6/32	D		
OB.GETCP	40000	6/36	D		
OB.GETEV	10	7/36	D		
OB.GETMT	200000	6/38	D		
OB.GIVCP	20000	6/35	D		
OB.GIVE	1000	6/31	D	24/45	24/53
OB.GIVMT	100000	6/37	D		
OB.GOD	4000	6/33	D		
OB.GTEVF	20	7/37	D		
OB.IMPL	4	7/50	D		
OB.INCHR	10000	6/34	D		
OB.INMTR	400000	6/39	D		

SYMBOLIC REFERENCE TABLE.

OB.INSL	40	8/01	D								
OB.INTSP	40	7/26	D								
OB.LOCCL	20	6/45	D								
OB.MONEY	1000000	8/15	D	24/45	24/53	25/07	25/08				
OB.NPSW	20000	8/10	D	24/38							
OB.OPEN	400	7/02	D								
OB.PCNT	20	7/25	D								
OB.PLMAP	100	6/53	D								
OB.RDFIL	20	6/51	D								
OB.REL	400000	7/11	D								
OB.RESI	100000	8/12	D	25/08	25/16						
OB.RESO	40000	8/11	D	24/45	24/53	25/07	25/15				
OB.SBUSR	400000	8/14	D	24/45	24/53	25/15	25/16				
OB.SCLM	200000	7/10	D								
OB.SDINT	4	7/18	D								
OB.SETAG	10000	8/08	D	24/45	24/53						
OB.SNDEV	4	7/35	D								
OB.SONSP	200	7/28	D								
OB.SPRET	10	7/24	D								
OB.SSUL	400	8/04	D								
OB.STESM	2000	7/31	D								
OB.TEMP	2	7/22	D								
OB.TRDB	2000000	7/13	D								
OB.WFILE	40	6/52	D								
OB.XOPN	4000000	7/14	D								
PCAP	1300	24/35		24/49	25/12	25/26	27/33	27/46			
		24/42		25/04	25/20	26/16	27/40	34/27	L		
RDCAPTYP	310	19/08	L	20/11							
RDSTK	1353	35/06		35/24	L						
READSELF	1177	20/10		31/10	L						
REGAREA	114	16/09	L	38/19		38/25					
RESTORE	1426	38/14		38/18	L						
RTNBASE	10	14/50	L	19/04		19/05					
RTNDATA	157	16/22	L	19/04							
RTNR	1404	37/11	L								
SAVE	1431	38/04		38/11		38/24	L				
SCRSZ	262	14/32		14/35		14/36	14/36	18/05	L	31/13	
SET	1357	21/08		27/06		28/32	29/15	30/19		34/07	34/39
		22/06		28/05		28/33	29/17	30/26		34/12	34/44
		23/06		28/21		28/35	30/07	32/33		34/17	36/15 L
		24/06		28/25		28/44	30/16	32/40		34/23	
		26/06		28/28		29/14	30/18	34/04		34/29	
SETA	1373	36/19		36/21		36/24	36/27	36/30		36/36	L
SETA1	1375	36/37		36/41	L						
SETB	1372	36/32	L	36/36							
SETEMSK	1350	20/09		35/05		35/19	L				
SPCTYPS	4	28/40	D	28/44		28/48					
SRETURN	305	19/03	L	31/06		38/28					
STKBUF	154	16/16	L	35/25							
STOP	1435	38/07		38/14		38/31	L				
TEMP1	257	17/06	L	28/49	S	28/53					
TEMP2	260	17/07	L	29/06	S	29/08					
TEMP3	261	17/08	L	28/51	S	29/15		29/18			

SYMBOLIC REFERENCE TABLE.

TYPCHNS	6	28/41 D	28/44	29/05							
UCAP	1312	24/37	24/52	25/07	25/15	27/47					
		24/44	25/06	25/14	25/22	34/36 L					
UDAT	1252	21/12	24/19	24/20	24/38	25/16	27/18				
		24/12	24/26	24/28	25/08	26/17	34/11 L				
XJLOC	75	16/05 L	24/06	28/21	28/33	29/15	30/18	34/04	34/23		
		21/07	26/05	28/24	28/34	29/16	30/18	34/06	34/28		
		21/08	26/06	28/25	28/35	29/17	30/19	34/07	34/29		
		22/05	27/05	28/27	28/43	30/06	30/25	34/11	34/38		
		22/06	27/06	28/28	28/44	30/07	30/26	34/12	34/39		
		23/05	28/04	28/31	29/13	30/15	32/32	34/16	34/43		
		23/06	28/05	28/32	29/14	30/16	32/40	34/17	34/44		
		24/05	28/20	28/32	29/14	30/17	34/03	34/22			
:O:	2000000	7/48 D	7/52	8/01 D	8/03	8/06	8/08 D	8/11	8/14		
		7/49	7/52 D	8/01	8/04	8/06 D	8/08	8/12	8/14 D		
		7/49 D	7/52	8/02	8/04 D	8/06	8/10	8/12 D	8/14		
		7/49	7/53	8/02 D	8/04	8/07	8/10 D	8/12	8/15		
		7/50	7/53 D	8/02	8/05	8/07 D	8/10	8/13	8/15 D		
		7/50 D	7/53	8/03	8/05 D	8/07	8/11	8/13 D	8/15		
		7/50	8/01	8/03 D	8/05	8/08	8/11 D	8/13			

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CMMD1 WITH CP:CHRG. BILL
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