```
LENGTH OF   PRG          04000
                                  IDENT      ENDOS3
                                  INCLUDE    ↑SYSMAC
                      SYSMAC      COSY/      03          V4.1        08/17/74  0453

          00000 P                 ENTRY      ENDOS3
          00576 P                 ENTRY      ENDSYMBK

                                  EXT        ACCNUM
                                  EXT        ARRAYTBL
                                  EXT        BATCHQ
                                  EXT        BIT17
                                  EXT        BIT23
                                  EXT        BLKFLAG
                                  EXT        BLOCKS
                                  EXT        BLOCKSL
                                  EXT        BUSY
                                  EXT        CMQSET
                                  EXT        CRWAIT
                                  EXT        DIEBIT
                                  EXT        DIEPSUS
                                  EXT        DISKPNT
                                  EXT        IDLE
                                  EXT        INHIBIT
                                  EXT        IOBOUND
                                  EXT        IOBUSY
                                  EXT        IOCLEAR
                                  EXT        FINK
                                  EXT        GETBLK
                                  EXT        MSUNITS
                                  EXT        MSUNITM1
                                  EXT        MXSLIST
                                  EXT        NBATCHQ
                                  EXT        NIFWAIT
                                  EXT        OPMSG
                                  EXT        OPTERM
                                  EXT        PSABLK
                                  EXT        PURELIST           NUMBER OF PURE CODE REGIONS
                                  EXT        PURETABL           BOUNDS OF PURE CODE REGIONS
                                  EXT        READ
                                  EXT        RPSAPTR
                                  EXT        RUNIBIT
                                  EXT        SCREAM
                                  EXT        SUSBIT
                                  EXT        TERMINAL
                                  EXT        WCTIME
                                  EXT        WRITE
                                  EXT        WRITENS

                      *
                      *           THE NOLISTED SECTION AFTER THIS CONTAINS THE SYMBOL DEF.
                      *           FOR THE CONTROL BLOCKS AND THE DEVICE MACROS.
                      *
          00100       LABEL       EQU        100B               LENGTH OF THE DISK LABELS
          01000       WPFB        EQU        1000B              LENGTH OF A FILE BLOCK

          73777 P     Z           EQU        *-4000B

          00022       CLOCK       EQU        22B                REGISTER FILE LOCATION
          00770       CON         EQU        770B
          00002       CRDATEW     EQU        2                  WORD IN SECURITY FOR CURRENT DATE
          00004       SYSWCT      EQU        4                  CUMMULATIVE SYSTEM TIME
          00035       NU          EQU        35B                RF WORD FOR THE NUMBER OF USERS
          00036       LEVEL       EQU        36B                CURRENT LEVEL OF INTERRUPT
                      *                                         PROCESSING
          00037       DATEFILE    EQU        37B                RF LOC. FOR CURRENT DATE
          00000       IO          EQU        0
          00000       SELECT      EQU        0
          00000       SENSE       EQU        0
          00000       IMPURE      EQU        00000B
          00000       PFR         EQU        000B               PAGE FILE READ
          00000       PFW         EQU        000B
          00001       X1          EQU        1
          00002       X2          EQU        2
          00003       X3          EQU        3
          00000       PSA         EQU        0
```

```
         07773             DINT      EQU       7773B
         07774             EINT      EQU       7774B

         00000 P           ENDOS3    EQU       *
00000  01004332                      UJP       ENDIT              IGNORE THE CHECKING

00001  00004002                      00        *-Z+1              ENTER MONITOR STATE
00002  53430036                      TIM       LEVEL,0            BACK TO LEVEL ZERO
00003  14600020                      ENA       20B                TURN THE INTERRUPTS BACK ON
00004  77634000                      ACR
00005  01004006                      UJP       *-Z+1              ENABLE THE CONDITION REGISTER
         04006             ENDOS3A   EQU       *-Z
00006  77740000                      VFD       A12/EINT
00007  00704554                      RTJ       MKSCREAM           GO MAKE SOME NOISE
00010  77730000                      VFD       A12/DINT           NO LOG IN BEFORE BATCH CHECK
00011  53020035                      TMA       NU                 HOW MANY USERS ARE LEFT
00012  15477776                      INA,S     -1
00013  03004071                      AZJ,EQ    NOUSERS            JUMP IF JUST IDLE
00014  15477776                      INA,S     -1                 IS THERE ONLY TWO USERS
00015  03104022                      AZJ,NE    END02
00016  54777777 X                    LDI,I     RPSAPTR,X3+PSA     IF ONLY TWO USERS ONE MAY BE THE
00017  20377777 X                    LDA       TERMINAL,X3+PSA    PHANTOM
00020  12077760                      SHA       -15
00021  03004071                      AZJ,EQ    NOUSERS            JUMP IF IT WAS THE PHANTOM
         04022             END02     EQU       *-Z
00022  20077777 X                    LDA       INHIBIT            HAS THE OPERATOR SAID TO DIE
00023  17677777 X                    ANA       DIEBIT
00024  03004051                      AZJ,EQ    END09              JUMP IF NORMAL END
00025  53130035                      TMI       NU,X1              GET THE NUMBER OF USERS
00026  15177776                      INI       -1,X1              IGNORE IDLE
00027  54300016 X                    LDI       RPSAPTR,X3+PSA     POINT TO IDLE
00030  01004040                      UJP       END08
         04031             END04     EQU       *-Z
00031  14677777 X                    ENA       CRWAIT             CHECK FOR USERS IN CARD READER
00032  37377777 X                    LPA       IOBOUND,X3+PSA     WAIT
00033  03004036                      AZJ,EQ    END06
00034  14677777 X                    ENA       OPTERM             LIKLY 200 UT WITH NO LOGOFF
00035  00777777 X                    RTJ       CMQSET             LOGOFF THE JOB
         04036             END06     EQU       *-Z
00036  14477777 X                    ENA,S     NIFWAIT            CLEAR A BUNCH OF WAIT BITS
00037  00777777 X                    RTJ       IOCLEAR
         04040             END08     EQU       *-Z
00040  20300000                      LDA       0,X3+PSA           ADVANCE TO THE NEXT USER
00041  53700000                      TAI       X3+PSA
00042  02504031                      IJD       END04,X1

00043  77740000                      VFD       A12/EINT
00044  14111607                      ENI       4999,X1            RUN IDLE FOR 5000 MILLI SECONDS
00045  14201356                      ENI       750,X2             THIS LOOP SHOULD ACTUALLY HANG
00046  02604046                      IJD       *-Z,X2             LOOKING AT THE CLOCK WILL NOT
00047  02504045                      IJD       *-Z-2,X1           WORK
00050  00704554                      RTJ       MKSCREAM           SCREAM IF DESIRED

         04051             END09     EQU       *-Z
00051  77730000                      VFD       A12/DINT
00052  53130035                      TMI       NU,X1              CHECK THAT ALL USERS ARE GONE
00053  15177776                      INI       -1,X1              IGNORE IDLE
00054  54300027 X                    LDI       RPSAPTR,X3+PSA     POINT TO IDLE
00055  01004066                      UJP       END12
         04056             END10     EQU       *-Z
00056  20300017 X                    LDA       TERMINAL,X3+PSA    IS THIS THE PHANTOM
00057  12077760                      SHA       -15
00060  03004066                      AZJ,EQ    END12              JUMP IF IT IS
00061  14600031 X                    ENA       CRWAIT             CHECK FOR BATCH JOBS WITH NO
00062  37300032 X                    LPA       IOBOUND,X3+PSA     [LOGOFF CARDS
00063  03004006                      AZJ,EQ    ENDOS3A            THIS USER SHOULD BE RUNNING
00064  20377777 X                    LDA       ACCNUM,X3+PSA      HAS THE USER BEEN LOGGED OFF
00065  03204006                      AZJ,GE    ENDOS3A            JUMP IF NOT
         04066             END12     EQU       *-Z
00066  20300000                      LDA       0,X3+PSA           ADVANCE TO THE NEXT USER
00067  53700000                      TAI       X3+PSA
00070  02504056                      IJD       END10,X1

         04071             NOUSERS   EQU       *-Z
00071  20000022 X                    LDA       INHIBIT            GET INHIBIT WORD
00072  17677777 X                    ANA       DIEPSUS            CHECK TO SEE IF DIE OR SUSPEND
00073  03104110                      AZJ,NE    END125             FORGET ABOUT BATCH QUEUE
00074  14177777 X                    ENI       NBATCHQ,X1         GET NUMBER OF BATCH QUEUES
00075  20077777 X                    LDA       BIT17              BIT 17 SEZZ QUEUE FULL
```

```
00076  21000075 X      160              LDQ       BIT17
00077  06277777 X      161              MEQ       BATCHQ,2        SEE IF ANYBODY WAITING
00100  01004102        162              UJP       *-Z+2           NOPE
00101  01004006        163              UJP       ENDOS3A         LOOP SINCE BATCH JOBS WAITING
00102  20077777 X      164              LDA       IOBUSY          SEE IF I/O BUSY
00103  03104006        165              AZJ,NE    ENDOS3A         SOMETHING GOING ON -- SPLIT
00104  00704537        166              RTJ       LOGOPH          EVERY THING OK BYE BYE PHANTOM
00105  00704566        167              RTJ       GETSYMB         GO DEFINE SYMBOLS
00106  77740000        168              VFD       A12/EINT        INTERUPT WHILE CHECKING FLAGS
00107  01004324        169              UJP       END14           DO REST OF STUFF



04110                  171    END125    EQU       *-Z
00110  00704537        172              RTJ       LOGOPH          GOOD BYE PHANTOM
00111  00704566        173              RTJ       GETSYMB         GO DEFINE SYMBOLS
00112  77740000        174              VFD       A12/EINT        WAIT FOR A WHILE
00113  20000102 X      175              LDA       IOBUSY          CHECK TO SEE IF FREEING
00114  03204117        176              AZJ,GE    *-Z+3           JUMP IF NOT
00115  00704554        177              RTJ       MKSCREAM        GO SCREAM FOR A WHILE
00116  01004113        178              UJP       *-Z-3           LOOP TILL NOT FREEING
00117  03004206        179              AZJ,EQ    NODEVICE        JUMP IF NO OUTPUT FILES TO SAVE
```

```
                        ****************************************************************
                 182    *    THIS SECTION OF CODE WILL CHECK ALL DEVICES FOR OUTPUT FILES      *
                 183    *    AND IF FOUND WILL OUTPUT THEM IN THE DEVICE SAVE BLOCKS           *
                        ****************************************************************
                 185
00120  77730000     186            VFD     A12/DINT           NO INTERFERENCE
00121  20005303     187            LDA     SAVEDBLK           GET ADDRESS OF BLOCK FOR DEVICES
00122  40005273     188            STA     TEMPBLK            SAVE ADDRESS IN DRIVER
00123  14300002     189            ENI     2,X3               SAY THAT ENTRIES AR 2 WORDS
00124  00704415     190            RTJ     FINDIT
00125  14100000     191            ENI     0,X1               BLOCK MACRO POINTER
          04126     192  BGNFLP    EQU     *-Z
00126  25177777 X   193            LDAQ    BLOCKS,X1          GET DEVICE MACRO POINTER
00127  13000030     194            SHAQ    24                 NAME TO Q ADD. TO A
00130  41005271     195            STQ     TEMP               SAVE MACRO NAME
00131  53600000     196            TAI     X2                 DUMP MACRO ADDRESS INTO X2
00132  20200023     197            LDA     QPNT,X2            GET QUEUE ADDRESS
00133  21200006     198            LDQ     LNIM,X2            GET MAX RECORD LENGTH
00134  41005272     199            STQ     TEMP+1             SAVE FOR A BIT
00135  53600000     200            TAI     X2                 X2 POINTS TO QUEUE NOW
00136  40200001     201            STA     1,X2               MIGHT AS WELL BE NEAT
00137  20200000     202            LDA     0,X2               GET BEGINNING POINTER
00140  17677777     203            ANA     77777B             CHECK ONLY BITS OF INTEREST
00141  47104201     204            STI     MACROP,X1          SAVE CURRENT MACRO POINTER
00142  03004201     205            AZJ,EQ  FLOOPE             END OF LOOP SINCE DEVICE EMPTY
00143  44004167     206            SWA     BGNPTR             SAVE BEGINNING POINTER
00144  47204145     207            STI     *-Z+1,X2           QUEUE POINTER TO STI INSTRUCTION
00145  47000000     208            STI     IMPURE,0           EMPTY THE QUEUE
00146  14100000     209            ENI     0,X1
00147  15100001     210            INI     1,X1               INC COUNT OF FILES TO OUTPUT
00150  53600000     211            TAI     X2                 NEW POINTER
00151  20200000     212            LDA     0,X2               GET NEXT POINTER
00152  04600000     213            ASE     0                  SKIP IF DONE
00153  01004147     214            UJP     *-Z-4              LOOP TILL END FOUND.
00154  53100000     215            TIA     X1                 COUNT OF ELEMENTS TO A
00155  12000011     216            SHA     24-15              15 BIT2 OF ELEMENT COUNT
00156  21005272     217            LDQ     TEMP+1             GET MAX RECORD LENGTH BACK
00157  13000017     218            SHAQ    15                 REC. LENGTH 15-23, ELEM.CNT 0-14
00160  41005272     219            STQ     TEMP+1             SAVE THIS STUFF
00161  14300002     220            ENI     2,X3               2 WORDS OF INFO
00162  14205270     221            ENI     TEMP-1,X2          WHERE TO START -1
00163  00704463     222            RTJ     FILEIT             PUT IN BLOCK
00164  53100000     223            TIA     X1
00165  16477777     224            XOA,S   -0
00166  34000113 X   225            RAD     IOBUSY             REMOVE THAT MANY FILES
          04167     226  BGNPTR    EQU     *-Z
00167  14200000     227            ENI     IMPURE,X2          GET STARTING POINTER
00170  01004174     228            UJP     *-Z+4              MIDDLE OF LOOP
          04171     229  FLOOP     EQU     *-Z
00171  20200000     230            LDA     0,X2               GET NEXT POINTER
00172  03004201     231            AZJ,EQ  FLOOPE             GO TO END OF LOOP
00173  53600000     232            TAI     X2                 DUMP INTO INDEX
00174  15277776     232+001        INI     -1,X2              POINT TO START -1
00175  14300004     232+002        ENI     4,X3               4 WORDS OF INFOMATION
00176  00704463     234            RTJ     FILEIT             GO PUT IN BUFFER
00177  15200001     234+001        INI     1,X2
00200  01004171     235            UJP     FLOOP
          04201     236  FLOOPE    EQU     *-Z
          04201     237  MACROP    EQU     *-Z
00201  14100000     238            ENI     IMPURE,X1          GET CURRENT MACRO ADDRESS
00202  15100002     239            INI     2,X1               LOOK AT NEXT ONE
00203  05177777 X   240            ISG     BLOCKSL,X1         SKIP IF DONE
00204  01004126     241            UJP     BGNFLP             GET NEXT DEVICE
00205  00704530     242            RTJ     BLOCKDN            OK -- OUTPUT LAST PARTIAL BLOCK
          04206     243  NODEVICE  EQU     *-Z
```

```
                                 ****************************************************************************
                                 *     THIS SECTION WILL CHECK ALL BATCH QUES FOR JOBS NOT YET RUN.         *
                                 *     UPON FINDING THEM IT WILL SAVE THEM IN THE BATCH SAVE BLOCKS.        *
                                 *     THE ROUTINE WILL HANG  IF A CONTROL BLOCK IS FOUND THAT              *
                                 *     IS NOT FINISHED, I.E. THE FILE IS STILL BEING APPENDED.  IF THIS     *
                                 *     HAPPENS IN DIE MODE, THE PARTICULAR BATCH FILE IS IGNORED.           *
                                 ****************************************************************************

00206  14477777                                ENA,S     -0
00207  40005267                                STA       BACKPTR              FIX BACKWARD POINTER WORD
00210  20005301                                LDA       SAVEBBLK             ADDRESS OF BATCH SAVE BLOCK
00211  40005273                                STA       TEMPBLK              SAVE IN DRIVER
00212  14300007                                ENI       7,X3                 SAY 7 WORD ELEMENTS
00213  00704415                                RTJ       FINCIT               GO FIND CURRENT END.
00214  14100074 X                              ENI       NBATCHQ,X1           GET NUMBER OF BATCH QUEUES
          04215                      DNB01     EQU       *-Z
00215  21000076 X                              LDQ       BIT17                BIT 17 SAYS SOMETHING IN QUEUE
00216  20000215 X                              LDA       BIT17
00217  77730000                                VFD       A12/DINT             SAFTY
00220  06200077 X                              MEQ       BATCHQ,2             SEARCH FOR FULL QUEUE
00221  01004301                                UJP       DNSVB                DONE WITH BATCH SAVING
00222  20100220 X                              LDA       BATCHQ,X1            GET POINTER TO CONTROL BLOCK
00223  53600000                                TAI       X2
00224  44004250                                SWA       BGNBPTR              SAVE THIS POINTER
00225  14600222 X                              ENA       BATCHQ
00226  53140000                                AIA       X1                   ADD PARTICULAR ONE
00227  40100225 X                              STA       BATCHQ,X1            TERMINATE QUEUE
00230  53100000                                TIA       X1                   QUEUE NUMBER TO A
00231  40005271                                STA       TEMP                 SAVE IT 24 BITS NEEDED
00232  14300000                                ENI       0,X3
          04233                      DNB02     EQU       *-Z
00233  20200000                                LDA       0,X2                 GET ACCOUNTING WORD
00234  37077777 X                              LPA       BIT23                LEAVE ONLY ≠TASK≠ BIT
00235  34200003                                RAD       CBP,X2               AND SET ONTO JOB NUMBER
00236  15300001                                INI       1,X3                 INC ELEMENT COUNT
00237  20200000                                LDA       0,X2
00240  53600000                                TAI       X2                   FIX FOR NEXT TIME
00241  12000006                                SHA       23-17                CHECK FOR INDIRECT BIT
00242  03304233                                AZJ,LT    DNB02                JUMP IF MORE IN QUEUE
00243  47305272                                STI       TEMP+1,X3            COUNT OF ENTRIES TOO
00244  14205270                                ENI       TEMP-1,X2            WHERE TO START -1
00245  14300002                                ENI       2,X3                 2 WORDS OF INFO
00246  47304263                                STI       MESAGN,X3            WRITE MESSAGE IF NEEDED
00247  00704463                                RTJ       FILEIT
          04250                      BGNBPTR   EQU       *-Z
00250  14200000                                ENI       IMPURE,X2            ADDRESS OF FIRST BLOCK TO X2
          04251                      EPPCHKLP  EQU       *-Z
00251  20200006                                LDA       EPP,X2               CHECK TO SEE IF BUSY
00252  05605000                                ASG       4777B+1              SKIP IF NOT A DESTINATION LP
00253  01004272                                UJP       BLP01                NOPE -- WE CAN USE THIS ONE
00254  20000071 X                              LDA       INHIBIT
00255  17600023 X                              ANA       DIEBIT               CHECK TO SEE IF DIE
00256  03104215                                AZJ,NE    DNB01                DONE WITH THIS QUE
00257  47204270                                STI       SAVE01,X2            SAVE X2 FOR A SEC.
00260  11024764            05175 0             ECHA      BADBATCH             ADDRESS OF MESSAGE
00261  14700036                                ENQ       BADBL                LENGTH
00262  14204265                                ENI       *-Z+3,X2             RETURN ADDRESS
          04263                      MESAGN    EQU       *-Z
00263  04000000                                ISE       IMPURE,0             SKIP IF ALREADY DONE
00264  01077777 X                              UJP       OPMSG                GO WRITE MESSAGE - SHOULD BE DINT
00265  47004263                                STI       MESAGN,0             SAY MESSAGE OUTPUTED
00266  77740000                                VFD       A12/EINT             ALLOW THINGS TO HAPPEN
00267  00704554                                RTJ       MKSCREAM             MAKE NOISE
          04270                      SAVE01    EQU       *-Z
00270  14200000                                ENI       IMPURE,X2            RESTORE X2
00271  01004251                                UJP       EPPCHKLP             LOOP TILL SOMETHING CHANGES
          04272                      BLP01     EQU       *-Z
00272  14300007                                ENI       7,X3                 7 WORDS OF DATA
00273  00704463                                RTJ       FILEIT               GO MOVE BATCH INFO
00274  20200000                                LDA       0,X2                 GET NEXT POINTER
00275  53600000                                TAI       X2                   NEW POINTER
00276  12000006                                SHA       23-17                SHIFT TO INDIRECT BIT
00277  03304251                                AZJ,LT    EPPCHKLP             GO GET NEXT ELEMENT
00300  01004215                                UJP       DNB01                TRY NEXT QUEUE
          04301                      DNSVB     EQU       *-Z
00301  00704530                                RTJ       BLOCKDN              WE ARE DONE NOW.
00302  77740000                                VFD       A12/EINT
00303  20000254 X                              LDA       INHIBIT
00304  17600255 X                              ANA       DIEBIT
```

```
00305  03104312          320          AZJ,NE   END135     JUMP IF IO DIE
00306  00704554          321          RTJ      MKSCREAM   GO MAKE SOME NOISE
00307  20000166 X        322          LDA      IOBUSY     SEE IF EMPTY
00310  03104303          323          AZJ,NE   *-Z-5      HANG IF SOMETHING THERE
00311  01004324          324          UJP      END14
```

```
          04312          END135   EQU     *-Z
00312 14123420                    ENI     10*1000,X1        IDLE FOR ABOUT 10 SECONDS
00313 21000307 X                  LDQ     IOBUSY
          04314          END135L  EQU     *-Z
00314 14200372                    ENI     250,X2            MORE OR LESS
00315 41005271                    STQ     TEMP              SAVE Q
00316 00704554                    RTJ     MKSCREAM          GO SCREAM FOR A WHILE
00317 21005271                    LDQ     TEMP              GET Q BACK
00320 20000313 X                  LDA     IOBUSY            IF IOBUSY CHANGES
00321 03504312                    AQJ,NE  END135            CHECK AGAIN
00322 02604315                    IJD     *-Z-5,X2
00323 02504314                    IJD     END135L,X1        LOOP SOME MORE

          04324          END14    EQU     *-Z
00324 00704554                    RTJ     MKSCREAM          NOISE IN CASE
00325 54177777 X                  LDI     BLKFLAG,X1        IS TABLES BUSY
00326 02504324                    IJD     *-Z-2,X1          KEEP WAITING IF SO
00327 54177777 X                  LDI     BUSY,X1           IS THE TYPEWRITER BUSY
00330 02504324                    IJD     END14,X1          LOOP IF BUSY
00331 01004341                    UJP     ENDIT02

          04332          ENDIT    EQU     *-Z
00332 14677777 X                  ENA     RUNIBIT           GET RUN IDLE BIT
00333 35000303 X                  SSA     INHIBIT
00334 40000333 X                  STA     INHIBIT
00335 77630000                    CRA                       ENABLE THE CONDITIONS REG.
00336 14600000                    ENA     0
00337 77634000                    ACR
00340 00704566                    RTJ     GETSYMB           GO GET SYMBOLS BLOCK INFO
          04341          ENDIT02  EQU     *-Z
00341 77730000                    VFD     A12/OINT
00342 14605210                    ENA     PARITY            DON≠T ALLOW SCHEDULR TO PROCESS
00343 44000022                    SWA     00022B            PARITY ERRORS
00344 44000325 X                  SWA     BLKFLAG           PREVENT TABLES FROM WORKING
00345 53430036                    TIM     LEVEL,0           BACK TO LEVEL ZERO IF AUTODUMP
00346 14600110                    ENA     110B              ENTRY
00347 44000005                    SWA     00005B            MAKE SURE THE CLOCK IS WORKING
00350 00700004                    RTJ     00004B            BY SIMULATING A CLOCK INTERRUPT
00351 53010022                    TMQ     CLOCK             LOAD THE CURRENT CLOCK
00352 41005307                    STQ     LTIME             SAVE FOR SECURITY BLOCK
00353 14600000                    ENA     0                 SET AQ = CLOCK
00354 51005275                    DVA     D60000            CONVERT TO MINUTES
00355 13077747                    SHAQ    -24               SET AQ = MINUTES
00356 51005276                    DVA     TEN
00357 42024470  05116 0           SACH    DATEMSG+12        STORE THE MINUTES DIGITS
00360 43024471  05116 1           SQCH    DATEMSG+13
00361 53020037                    TMA     DATEFILE          LOAD THE DATE AND HOUR
00362 17600037                    ANA     37B               LEAVE THE HOUR
00363 13077747                    SHAQ    -24
00364 51005276                    DVA     TEN
00365 42024466  05115 2           SACH    DATEMSG+10        STORE THE HOUR INTO THE MESSAGE
00366 43024467  05115 3           SQCH    DATEMSG+11
00367 53020037                    TMA     DATEFILE
00370 17601740                    ANA     01740B            LEAVE THE DAY OF THE MONTH
00371 13077742                    SHAQ    -29
00372 51005276                    DVA     TEN
00373 42024460  05114 0           SACH    DATEMSG+4         STORE THE DAY INTO THE MESSAGE
00374 43024461  05114 1           SQCH    DATEMSG+5
00375 53020037                    TMA     DATEFILE
00376 17636000                    ANA     36000B
00377 13077735                    SHAQ    -34               SET AQ = MONTH
00400 51005276                    DVA     TEN
00401 42024455  05113 1           SACH    DATEMSG+1         STORE THE MONTH INTO THE MESSAGE
00402 43024456  05113 2           SQCH    DATEMSG+2
00403 53010037                    TMQ     DATEFILE
00404 13077761                    SHAQ    -14
00405 17700177                    ANQ     177B              LEAVE THE YEAR IN AQ
00406 51005276                    DVA     TEN
00407 42024463  05114 3           SACH    DATEMSG+7         STORE THE YEAR INTO THE MESSAGE
00410 43024464  05115 0           SQCH    DATEMSG+8
00411 11024454  05113 0           ECHA    DATEMSG
00412 14700017                    ENQ     DATEMSGL
00413 14204623                    ENI     PCK00,X2          ENTER THE RETURN
00414 01000264 X                  UJP     OPMSG
```

```
                          ******************************************************************
                          *    THIS SUBROUTINE WILL SEARCH FOR THE NEXT AVAILABLE LOCATION IN THE  *
                          *    PARTICULAR DEVICE SAVE BLOCKS.  SOMETIMES THE QUES WILL NOT BE      *
                          *    EMPTIED BY INITIAL SO END WILL HAVE TO APPEND TO THEM
                          ******************************************************************


               04415      FINDIT   EQU      *-Z
00415 01000000                     UJP      IMPURE
00416 47104461                     STI      FX1SVE,X1            SAVE X1
00417 47305270                     STI      ENTL,X3              SAVE LENGTH OF ENTRY
00420 14301000                     ENI      WPFB,X3              WILL FORCE FIRST READ
               04421      FINDLP   EQU      *-Z
00421 05301000                     ISG      WPFB,X3              SKIP IF NOT IN THIS BUFFER
00422 01004447                     UJP      BLKFND               HOVE FOUND THE ELEMENT
00423 20005273                     LDA      TEMPBLK              GET BLOCK TO READ
00424 04400000                     ASE,S    0                    SKIP IF BLOCK ADDRESS -0
00425 01004431                     UJP      FIPRO                OK PROCEED ON
00426 04301000                     ISE      WPFB,X3              SEE IF END OF BLOCK
00427 00004427                     HLT      *-Z                  DEFECTIVE FILE STRUCTURE
00430 01004460                     UJP      FNDIT                FOUND LAST BLOCK.
               04431      FIPRO    EQU      *-Z
00431 14101000                     ENI      WPFB,X1              WANT TO READ WPFB WORDS
00432 14277777 X                   ENI      READ,X2              SPECIFY READ
00433 21005266                     LDQ      COREADD              GET CORE ADDRESS
00434 00705216                     RTJ      MSIO                 GO DO READ
00435 20007001                     LDA      CORE+1               GET THIS BLOCKS BACKWARD POINTER
00436 21005267                     LDQ      BACKPTR              SEE IF WHAT IT SHOULD BE
00437 03404441                     AQJ,EQ   *-Z+2                SKIP IF OK
00440 00004440                     HLT      *-Z                  DEFECTIVE FILE STRUCTURE
00441 20005273                     LDA      TEMPBLK
00442 40005267                     STA      BACKPTR              UPDATE BACK POINTER
00443 20007000                     LDA      CORE
00444 40005273                     STA      TEMPBLK              UPDATE FOR NEXT ADDRESS
00445 15377001                     INI      -WPFB+2,X3           SUBTRACT FROM WHERE WANT TO BE
00446 01004421                     UJP      FINDLP
               04447      BLKFND   EQU      *-Z
00447 25307000                     LDAQ     CORE,X3              GET NEXT ELEMENT SPECIFICATION
00450 03304457                     AZJ,LT   POSFND               POSSIBLE FIND - CHECK FOR 0
               04451      NTFND    EQU      *-Z
00451 13000030                     SHAQ     24                   COUNT OF ELEMENTS TO A
00452 17677777                     ANA      77777B               CHECK ENTRY COUNT ONLY NO LENGTH
00453 50005270                     MUA      ENTL                 MULTIPLY BY ENTRY LENGTH
00454 53740000                     IAI      X3                   THIS IS WHERE WE SHOULD LOOK
00455 15300002                     INI      2,X3                 ADD 2 FOR HEADER SPECIFICATION
00456 01004421                     UJP      FINDLP               GO LOOK SOME MORE
               04457      POSFND   EQU      *-Z
00457 03104451                     AZJ,NE   NTFND                NOT ZERO - THEREFORE NOT END
               04460      FNDIT    EQU      *-Z
00460 47304470                     STI      CURLOC,X3            SAVE POINTER FOR CURRENT LOC.
               04461      FX1SVE   EQU      *-Z
00461 14100000                     ENI      IMPURE,X1            RESTORE X1
00462 01004415                     UJP      FINDIT
```

```
                          ***********************************************************************
                          *    THIS SUBROUTINE WILL MOVE THE INFORMATION FROM DATA AREA STARTED AT *
                          *    X2+1 TO THE OUTPUT BUFFER.  THE ROUTINE WILL TAKE CARE OF ALL I/O   *
                          *    THAT NEED BE DONE WHILE BUILDING BLOCKS.                            *
                          *                                                                        *
                          *    BLOCKDN IS CALLED TO EMPTY THE PARTIALLY FILLED BUFFER.             *
                          ***********************************************************************

               04463      FILEIT   EQU     *-Z
00463  01000000                    UJP     IMPURE
00464  47104525                    STI     FIX1SVE,X1          SAVE X1
00465  47204517                    STI     LOADINS,X2          WHERE DATA COMING FROM
00466  47304522                    STI     MVCNT,X3            SAVE NUMBER TO MOVE
00467  14300001                    ENI     1,X3                START AT X2+1
               04470      CURLOC   EQU     *-Z
00470  14100000                    ENI     IMPURE,X1           CURRENT LOCATION IN X1
               04471      BGNMVLP  EQU     *-Z
00471  05101000                    ISG     WPFB,X1             IS BUFFER FULL
00472  01004517                    UJP     LOADINS             NOPE PUT WORD IN
00473  14100000                    ENI     0,X1                DRIVE ZERO I HOPE
00474  14200001                    ENI     1,X2                GET ONLY ONE BLOCK
00475  77730000                    VFD     A12/DINT
00476  00777777 X                  RTJ     GETBLK              GO GET FILE BLOCK
00477  40007000                    STA     CORE                SAVE THE NEW FORWARD POINTER
00500  40005273                    STA     TEMPBLK
00501  20005267                    LDA     BACKPTR             WHERE FULL BLOCK SHOULD GO.
00502  21005266                    LDQ     COREADD             GET CORE ADDRESS
00503  14277777 X                  ENI     WRITE,X2            FUNCTION
00504  14101000                    ENI     WPFB,X1
00505  00705216                    RTJ     MSIO                WRITE OUT FULL BLOCK
00506  14100777                    ENI     WPFB-1,X1
00507  14477777                    ENA,S   -0
00510  40107000                    STA     CORE,X1             FILL BUFFER WITH -0
00511  02504510                    IJD     *-Z-1,X1            LOOP
00512  20005267                    LDA     BACKPTR
00513  40007001                    STA     CORE+1              FIX BACKWARD POINTER FOR NEXT
00514  20005273                    LDA     TEMPBLK             TIME. ADDRESS FOR THIS BLOCK
00515  40005267                    STA     BACKPTR
00516  14100002                    ENI     2,X1                FIX X1
               04517      LOADINS  EQU     *-Z
00517  20300000                    LDA     IMPURE,X3           GET WORD TO MOVE
00520  40107000                    STA     CORE,X1             PUT IN BUFFER
00521  15100001                    INI     1,X1                INC BUFFER POINTER
               04522      MVCNT    EQU     *-Z
00522  10300000                    ISI     IMPURE,X3           SEE IF DONE
00523  01004471                    UJP     BGNMVLP             GO CONTINUE
00524  47104470                    STI     CURLOC,X1           SAVE CURRENT LOCATION
               04525      FIX1SVE  EQU     *-Z
00525  14100000                    ENI     IMPURE,X1           RESTORE X1
00526  54204517                    LDI     LOADINS,X2          GET X2 BACK
00527  01004463                    UJP     FILEIT
                          *
               04530      BLOCKDN  EQU     *-Z
00530  01000000                    UJP     IMPURE
00531  14101000                    ENI     WPFB,X1             LENGTH
00532  14200503 X                  ENI     WRITE,X2            FUNCTION
00533  21005266                    LDQ     COREADD
00534  20005267                    LDA     BACKPTR             WHERE TO GO
00535  00705216                    RTJ     MSIO                GO WRITE IT OUT
00536  01004530                    UJP     BLOCKDN             EXIT


                          ***********************************************************************
                          *    ROUTINE TO LOGOFF THE PHANTOM IF HE IS LOGGED ON.                   *
                          ***********************************************************************
               04537      LOGOPH   EQU     *-Z
00537  01000000                    UJP     IMPURE              ROUTINE TO LOGOFF THE PHANTOM
00540  54377777 X                  LDI     PSABLK,X3+PSA       SEE IF LOGGED ON
00541  05300001                    ISG     1,X3+PSA            SKIP IF SO
00542  01004537                    UJP     LOGOPH              EXIT IF NOT
00543  77730000                    VFD     A12/DINT            SAFTY
00544  14600034 X                  ENA     OPTERM
00545  00700035 X                  RTJ     CMQSET              SAY OPERATOR TERMINATION
00546  77740000                    VFD     A12/EINT            LET IT HAPPEN
00547  00704554                    RTJ     MKSCREAM            SCREAM IF NEEDED
00550  20000540 X                  LDA     PSABLK              CHECK TO SEE IF DONE
```

```
00551  04600000          530              ASE     0                SKIP IF DONE
00552  01004547          531              UJP     *-Z-3            LOOP TILL DONE
00553  01004537          532              UJP     LOGOPH           DONE - RETURN



                         535     *****************************************************************************
                         536     *    ROUTINE TO SCREAM IF SCREAM FLAG IS SET.  WILL HANG TILL THE FLAG    *
                         537     *    IS UNSET.                                                            *
                         538     *****************************************************************************
     04554               539     MKSCREAM EQU     *-Z
00554  01000000          540              UJP     IMPURE           ROUTINE TO MAKE NOISE FOR OPERAT
                         541     *                                 OR
     04555               542     SCREAMLP EQU     *-Z
00555  20077777 X        543              LDA     SCREAM           GET FLAG
00556  03004554          544              AZJ,EQ  MKSCREAM         NO NOISE NEEDED
00557  14100700          545              ENI     700B,X1
00560  47104561          546              STI     *-Z+1,X1         TRANSFER INDEXES 1 TO 2
00561  14200000          547              ENI     IMPURE,X2
00562  02604562          548              IJD     *-Z,X2
00563  16477777          549              XOA,S   -0
00564  02504560          550              IJD     *-Z-4,X1
00565  01004555          551              UJP     SCREAMLP         LOOP ON
```

```
                         ******************************************************************************
                         *                                                                            *
                         *          THIS SUBROUTINE WILL READ IN THE SYMBOLS BLOCK                    *
                         *                                                                            *
                         ******************************************************************************

          04566          GETSYMB  EQU       *-Z
00566  01000000                   UJP       IMPURE


                         *        CALC THE ACTUAL CORE ADDRESS OF THE ≠CORE≠ BUFFER FOR MSIO

00567  14607000                   ENA       CORE                COMPUTE THE ABSOLUTE ADDRESS OF
00570  13077764                   SHAQ      -11                 CORE
00571  53600000                   TAI       X2                  PAGE NUMBER TO X2
00572  77654000                   PFA       0+PFR,X2
00573  12077775                   SHA       -2
00574  13077762                   SHAQ      -13                 THE ADDRESS IS NOW IN Q
00575  41005266                   STQ       COREADD

          00576 P        ENDSYMBK EQU       *
00576  14600000                   ENA       IMPURE              ENTER SYMBOL BLOCK ADDRESS
00577  14101000                   ENI       WPFB,X1             READ 1 FILE BLOCK
00600  14200432 X                 ENI       READ,X2
00601  21005266                   LDQ       COREADD             ADDRESS TO READ INTO
00602  00705216                   RTJ       MSIO
00603  14300000                   ENI       0,X3                INITIALIZE FOR THE LOOP
          04604          BKR01    EQU       *-Z
00604  14200000                   ENI       0,X2
          04605          BKR02    EQU       *-Z
00605  25207000                   LDAQ      CORE,X2
00606  33305277                   SBAQ      BLKLIST,X3          COMPARE THE TWO SYMBOLS
00607  13400000                   SCAQ
00610  03004615                   AZJ,EQ    BKR03               JUMP IF FOUND
00611  15200003                   INI       3,X2
00612  05200776                   ISG       WPFB-2,X2
00613  01004605                   UJP       BKR02
00614  00004614                   HLT       *-Z                 SYMBOL NOT FOUND
          04615          BKR03    EQU       *-Z
00615  20207002                   LDA       CORE+2,X2           LOAD THE VALUE OF THE SYMBOL
00616  40305277                   STA       BLKLIST,X3          STORE THE VALUE INTO THE SYMBOL
00617  15300002                   INI       2,X3
00620  05300010                   ISG       BLKLNTH,X3          SKIP IF NO MORE SYMBOLS TO FIND
00621  01004604                   UJP       BKR01               OTHERWISE, LOOP BACK
00622  01004566                   UJP       GETSYMB             RETURN
```

```
          04623                PCK00   EQU      *-Z
00623  14377777 X                      ENI      PURELIST,X3         CHECK ALL THE PURE CODE REGIONS
00624  01004643                        UJP      PCK03               TO INSURE THE SYSTEM IS INTACT
          04625                PCK01   EQU      *-Z
00625  15377776                        INI      -1,X3
00626  25377777 X                      LDAQ     PURETABL,X3         LOAD THE REGION POINTERS
00627  44004634                        SWA      PCK02               STORE THE BEGINNING ADDRESS
00630  16677777                        XOA      77777B
00631  53040000                        AQA                          FORM THE LENGTH OF THE REGION
00632  53600000                        TAI      X2
00633  14600000                        ENA      0
          04634                PCK02   EQU      *-Z
00634  36200000                        SCA      IMPURE,X2
00635  02604634                        IJD      PCK02,X2
00636  05600001                        ASG      1
00637  03004643                        AZJ,EQ   PCK03               JUMP IF THE REGION IS UNCHANGED
00640  11024512    05122 2             ECHA     PCERMSG
00641  14700043                        ENQ      PCERMSGL            OUTPUT A MESSAGE
00642  01005073                        UJP      ABEND

          04643                PCK03   EQU      *-Z
00643  02704625                        IJD      PCK01,X3            JUMP AND CHECK THE NEXT REGION
```

```
00644  14377777 X           ENI        MXSLIST,3
          04645     SUB01   EQU        *-Z
00645  20300000             LDA        0,3
00646  03004667             AZJ,EQ     SUB05
00647  53700000             TAI        3
00650  21300002             LDQ        2,3
          04651     SUB02   EQU        *-Z
00651  14100644 X           ENI        MXSLIST,1
          04652     SUB03   EQU        *-Z
00652  20100000             LDA        0,1
00653  03004645             AZJ,EQ     SUB01
00654  53600000             TAI        2
00655  20200001             LDA        1,2
00656  03404662             AQJ,EQ     SUB04
00657  53200000             TIA        2
00660  53500000             TAI        1
00661  01004652             UJP        SUB03
          04662     SUB04   EQU        *-Z
00662  20200000             LDA        0,X2                REMOVE MULTIPLE SUBSTITUTIONS
00663  40100000             STA        0,1
00664  21200002             LDQ        2,2
00665  41300002             STQ        2,3
00666  01004651             UJP        SUB02
          04667     SUB05   EQU        *-Z
00667  14100777             ENI        WPFB-1,X1           FILL A FILE BLOCK WITH ZEROS
00670  14600000             ENA        0
00671  40107000             STA        CORE,X1
00672  02504671             IJD        *-Z-1,1
00673  14100651 X           ENI        MXSLIST,1
00674  14200000             ENI        0,2
          04675     SUB06   EQU        *-Z
00675  20100000             LDA        0,1
00676  03004706             AZJ,EQ     SUB07
00677  53500000             TAI        1
00700  25100001             LDAQ       1,1
00701  45207000             STAQ       CORE,X2
00702  15200002             INI        2,2
00703  05201001             ISG        WPFB+1,X2
00704  01004675             UJP        SUB06
00705  00004705             HLT        *-Z
          04706     SUB07   EQU        *-Z
00706  14105205             ENI        SUBPROB,X1          ENTER THE ERROR ADDRESS
00707  47105250             STI        IR,X1
00710  14100011             ENI        9,X1                ENTER NUMBER OF TIMES TO TRY
00711  47105223             STI        ERRCNT,X1
00712  14101000             ENI        WPFB,X1             WRITE OUT THE SUBSTUTION BLOCK
00713  14277777 X           ENI        WRITENS,X2
00714  21005266             LDQ        COREADD
00715  20005277             LDA        MXSBLOCK
00716  00705216             RTJ        MSIO
```

```
                                        673       *        SECTION TO PUT CURRENT DATE INTO SECURITY BLOCK
                                        674
 00717  14605262                        675                ENA       SMASH                ENTER THE ERROR ADDRESS
 00720  44005250                        676                SWA       IR
 00721  21005266                        677                LDQ       COREADD
 00722  20005305                        678                LDA       SECURITY
 00723  14101000                        679                ENI       WPFB,X1              READ IN THE SECURITY BLOCK
 00724  14200600  X                     680                ENI       READ,X2
 00725  00705216                        681                RTJ       MSIO
 00726  53020037                        682                TMA       DATEFILE             GET CURRENT DATE
 00727  21005307                        683                LDQ       LTIME                GET CURRENT TIME
 00730  45007002                        684                STAQ      CORE+CRDATEW
 00731  14177777  X                     685                ENI       IDLE,X1
 00732  21177777  X                     686                LDQ       WCTIME,X1            GET THE NUMBER OF SECONDS THE
 00733  14600000                        687                ENA       0                    SYSTEM WAS RUNNING
 00734  40007000                        688                STA       CORE                 CLEAR SYSTEM RUNNING BIT
 00735  32007004                        689                ADAQ      CORE+SYSWCT          ADD IN THE TIME TO DATE
 00736  45007004                        690                STAQ      CORE+SYSWCT          STORE THE NEW TOTAL BACK
 00737  14105213                        691                ENI       SECPROB,X1           ENTER THE ERROR ADDRESS
 00740  47105250                        692                STI       IR,X1
 00741  14100011                        693                ENI       9,X1                 ENTER NUMBER OF TIMES TO TRY
 00742  47105223                        694                STI       ERRCNT,X1
 00743  21005266                        695                LDQ       COREADD
 00744  20005305                        696                LDA       SECURITY
 00745  14101000                        697                ENI       WPFB,X1
 00746  14200713  X                     698                ENI       WRITENS,X2
 00747  00705216                        699                RTJ       MSIO
```

```
00750  14677777 X               ENA     DISKPNT          COMPUTE THE ADDRESS OF DISKBPNT
00751  15677777 X               INA     MSUNITS
00752  15600751 X               INA     MSUNITS
00753  44005265                 SWA     DISKBPNT
00754  14605263                 ENA     MZERO            COMPUTE THE ABSOLUTE ADDRESS OF
00755  13077764                 SHAQ    -11              MZERO
00756  53600000                 TAI     X2
00757  77654000                 PFA     0+PFR,X2
00760  12077775                 SHA     -2
00761  13077762                 SHAQ    -13
00762  41005274                 STQ     MZEROADD
00763  14100752 X               ENI     MSUNITS,X1
00764  16177777                 XOI     77777B,X1        -MSUNITS
00765  47105024                 STI     DT06,X1          SAVE -MSUNITS
00766  16177777                 XOI     77777B,X1
00767  15177777 X               INI     MSUNITM1,X1
          04770        DT02     EQU     *-Z
00770  20177777 X               LDA     ARRAYTBL,X1      ARE THERE TABLES IN CORE FOR
00771  03005067                 AZJ,EQ  DTEND            THIS UNIT
00772  53700000                 TAI     X3               TABLE POINTER TO X3
00773  20300000                 LDA     0,X3
00774  47105057                 STI     DT10,X1          SAVE THE UNIT NUMBER
00775  03105010                 AZJ,NE  DT04             JUMP IF NOT THE LAST BLOCK
00776  40100770 X               STA     ARRAYTBL,X1      REMOVE THIS BLOCK
00777  20100750 X               LDA     DISKPNT,X1       LOAD THE DISK POINTER
01000  40005264                 STA     MZERO+1
01001  20300001                 LDA     1,X3             LOAD THE WORD COUNT
01002  15600002                 INA     2                ALLOW FOR THE BLOCK POINTERS
01003  21405265                 LDQ,I   DISKBPNT   *X1*  LOAD THE BACKWARD POINTER
01004  53500000                 TAI     X1
01005  14477777                 ENA,S   77777B           SET FORWARD POINTER TO -0
01006  45300000                 STAQ    0,X3             SET THE POINTERS
01007  01005042                 UJP     DT08

          05010        DT04     EQU     *-Z
01010  53700000                 TAI     X3
01011  20300000                 LDA     0,X3             REMOVE THIS BLOCK
01012  40500776 X               STA,I   ARRAYTBL,X1
01013  21405265                 LDQ,I   DISKBPNT   *X1*  LOAD THE BACKWARD POINTER
01014  41300001                 STQ     1,X3             SET THE BACKWARD POINTER
01015  21100777 X               LDQ     DISKPNT,X1       LOAD THE CURRENT BLOCK
01016  41005264                 STQ     MZERO+1          SAVE IT
01017  41405265                 STQ,I   DISKBPNT   *X1*  SET THE NEW BACK POINTER
          05020        DT05     EQU     *-Z
01020  14200001                 ENI     1,X2             ASSUME BLOCKS
01021  05100763 X               ISG     MSUNITS,X1       SKIP IF PAGES
01022  01005025                 UJP     *-Z+3
01023  14200004                 ENI     4,X2             SAY PAGES
          05024        DT06     EQU     *-Z
01024  15100000                 INI     IMPURE,X1        IMPURE = -MSUNITS
01025  00700476 X               RTJ     GETBLK
01026  54105057                 LDI     DT10,X1          LOAD THE UNIT NUMBER
01027  40101015 X               STA     DISKPNT,X1       SAVE THE NEW POINTER
01030  40300000                 STA     0,X3             SAVE IT ON THE BLOCK ALSO
01031  21005274                 LDQ     MZEROADD         LOAD CORE ADDRESS
01032  14100001                 ENI     1,X1             ALLOW TWO SETS OF ERRORS
01033  47105223                 STI     ERRCNT,X1
01034  14105061                 ENI     DT12,X1          ENTER THE ERROR ADDRESS
01035  47105250                 STI     IR,X1
01036  14100002                 ENI     2,X1             WRITE JUST 2 WORDS
01037  14200746 X               ENI     WRITENS,X2
01040  00705216                 RTJ     MSIO
          05041        DT07     EQU     *-Z
01041  14100100                 ENI     64,X1            WRITE 64 WORDS
          05042        DT08     EQU     *-Z
01042  53300000                 TIA     X3               BLOCK ADDRESS TO A
01043  13077764                 SHAQ    -11              ALL BUT PAGE BITS TO Q
01044  53600000                 TAI     X2
01045  77654000                 PFA     0+PFR,X2
01046  12077775                 SHA     -2
01047  13077762                 SHAQ    -13
01050  20005264                 LDA     MZERO+1          LOAD THE DISK ADDRESS
01051  14205262                 ENI     SMASH,X2         ENTER THE ERROR ADDRESS
01052  47205250                 STI     IR,X2
01053  14200011                 ENI     9,X2             ENTER NUMBER OF TIMES TO TRY
01054  47205223                 STI     ERRCNT,X2
01055  14201037 X               ENI     WRITENS,X2
01056  00705216                 RTJ     MSIO
          05057        DT10     EQU     *-Z
```

```
01057  14100000                780                ENI     IMPURE,X1
01060  01004770                781                UJP     DT02
                               782
            05061              783     DT12       EQU     *-Z
01061  54105057                784                LDI     DT10,X1          LOAD THE UNIT NUMBER
01062  20101012 X              785                LDA     ARRAYTBL,X1      ARE MORE BLOCK AVAILABLE ON THIS
01063  03105020                786                AZJ,NE  DT05             THIS UNIT
01064  14477777                787                ENA,S   77777B           FORGET ABOUT ANY MORE BLOCKS
01065  40300000                788                STA     0,X3
01066  01005041                789                UJP     DT07
                               790
            05067              791     DTEND      EQU     *-Z
01067  02504770                792                IJD     DT02,X1          LOOP THRU ALL THE UNITS
```

```
                                        794       *         SECTION TO TYPE MESSAGE FOR END OF OS3
                                        795
    01070  11024473      05116 3        796                 ECHA      ENDMSG
    01071  14700010                     797                 ENQ       8
    01072  01005074                     798                 UJP       END
           05073                        799       ABEND     EQU       *-Z
    01073  47005102                     800                 STI       CRY,0               TELL THE CONSOLE TO CRY
           05074                        801       END       EQU       *-Z
    01074  77600400                     802                 PAUS      0400B               SENSE FOR TYPEWRITER BUSY
    01075  01005074                     803                 UJP       *-Z-1               WAIT FOR IT
    01076  53420023                     804                 TAM       23B
    01077  53040000                     805                 AQA
    01100  53420033                     806                 TAM       33B
    01101  77760000                     807                 CTO
           05102                        808       CRY       EQU       *-Z
    01102  04000007                     809                 ISE       7+IMPURE,0
    01103  00003700                     810                 HLT       3700B
    01104  14101000                     811                 ENI       1000B,X1            MAKE A SCREAMING NOISE
    01105  47105106                     812                 STI       *-Z+1,X1
    01106  14200000                     813                 ENI       IMPURE,X2
    01107  16477777                     814                 XOA,S     77777B
    01110  02605110                     815                 IJD       *-Z,X2
    01111  02505105                     816                 IJD       *-Z-4,X1
    01112  01005104                     817                 UJP       *-Z-6
           24454                        818       DATEMSG   EQU,C     *-Z
    01113  77444461                     819                 BCD,C     15,^MM/DD/YY HHHH^
           00017                        820       DATEMSGL  EQU,C     *-Z-DATEMSG
           24473                        821       ENDMSG    EQU,C     *-Z
    01116  30307777                     822                 BCD,C     8,^ENDOS3^
           24503                        823       ABMSG     EQU,C     *-Z
    01120  62037777                     824                 BCD,C     7,^ABEND^
           24512                        825       PCERMSG   EQU,C     *-Z
    01122  24777762                     826                 BCD,C     35,^SYSTEM PC ERRORS TAKE DUMP^^^^^^^^
           00043                        827       PCERMSGL  EQU,C     *-Z-PCERMSG
           24555                        828       SUBMESS   EQU,C     *-Z
    01133  77776445                     829                 BCD,C     50,^UNABLE TO WRITE SUBSTITUTION BLOCK TAKE DUMP^^^^^
           00062                        830       SUBMESSL  EQU,C     *-Z-SUBMESS
           24637                        831       PARMESS   EQU,C     *-Z
    01147  77777777                     832                 BCD,C     35,^MEMORY PARITY ERROR TAKE DUMP^^^^^^^
           00043                        833       PARMESSL  EQU,C     *-Z-PARMESS
           24702                        834       SECMESS   EQU,C     *-Z
    01160  77777764                     835                 BCD,C     50,^UNABLE TO WRITE OUT SECURITY BLOCK TAKE DUMP^^^^^
           00062                        836       SECMESSL  EQU,C     *-Z-SECMESS
           24764                        837       BADBATCH  EQU,C     *-Z
    01175  77662131                     838                 BCD,C     30,^WAITING ON UNENDED BATCH JOB^
           00036                        839       BADBL     EQU,C     *-Z-BADBATCH
    01204                               840                 BSS       0                   FIX THE PROGRAM COUNTER
```

```
           05205                 842       SUBPROB  EQU       *-Z
   01205  11024555   05133 1     843                ECHA      SUBMESS
   01206  14700062               844                ENQ       SUBMESSL
   01207  01005073               845                UJP       ABEND
                                 846
           05210                 847       PARITY   EQU       *-Z
   01210  11024637   05147 3     848                ECHA      PARMESS
   01211  14700043               849                ENQ       PARMESSL
   01212  01005073               850                UJP       ABEND
                                 851
           05213                 852       SECPROB  EQU       *-Z
   01213  11024702   05160 2     853                ECHA      SECMESS
   01214  14700062               854                ENQ       SECMESSL
   01215  01005073               855                UJP       ABEND
```

```
                         ***************************************************************************
                         *                                                                         *
                         *          PSEUDO DISK DRIVER                                             *
                         *                                                                         *
                         ***************************************************************************

           05216         MSIO     EQU     *-Z
01216  01000000                   UJP     IMPURE
01217  47305233                   STI     MSIOX3,X3            SAVE X3
01220  45005310                   STAQ    IOAQ                 SAVE THE ADDRESSES
01221  47105312                   STI     IOX1,X1              SAVE THE WORD COUNT
01222  47205313                   STI     IOX2,X2              SAVE THE IO COMMAND
           05223         ERRCNT   EQU     *-Z
01223  14300011                   ENI     9+IMPURE,X3          ENTER THE RETRY COUNT
           05224         MSIOZ    EQU     *-Z
01224  47305251                   STI     WLIM,X3
01225  14305260                   ENI     IOWAIT,X3
01226  47105234                   STI     MSFLAG,X1
01227  47105237                   STI     IRFLAG,X1            SET THE FLAG TO SAY NO ERROR
01230  77730000                   VFD     A12/DINT
01231  00777777 X                 RTJ     FINK
01232  77740000                   VFD     A12/EINT
           05233         MSIOX3   EQU     *-Z
01233  14300000                   ENI     IMPURE,X3
           05234         MSFLAG   EQU     *-Z
01234  04000000                   ISE     IMPURE,0
01235  01005234                   UJP     *-Z-1
01236  77730000                   VFD     A12/DINT
           05237         IRFLAG   EQU     *-Z
01237  04000000                   ISE     IMPURE,0             SKIP IF WE HAD AN ERROR
01240  01005216                   UJP     MSIO                 NORMAL EXIT IF NOT

01241  54205313                   LDI     IOX2,X2              LOAD THE IO COMMAND
01242  04200724 X                 ISE     READ,X2
01243  01005251                   UJP     WLIM

           05244         IRWAIT   EQU     *-Z
01244  77740000                   VFD     A12/EINT
01245  54100327 X                 LDI     BUSY,X1              IS THE TYPEWRITTER BUSY
01246  02505245                   IJD     *-Z-1,X1
01247  77730000                   VFD     A12/DINT
           05250         IR       EQU     *-Z
01250  01005262                   UJP     SMASH+IMPURE         IRRECOVERABLE MASS STORAGE ERROR

           05251         WLIM     EQU     *-Z
01251  14300000                   ENI     IMPURE,X3            ENTER THE COUNTER
01252  54105312                   LDI     IOX1,X1              RESTORE THE WORD COUNT
01253  25005310                   LDAQ    IOAQ                 AND THE ADDRESSES
01254  02705224                   IJD     MSIOZ,X3
01255  54305233                   LDI     MSIOX3,X3            RESTORE THE CALLERS X3
01256  01005244                   UJP     IRWAIT

01257  47005237                   STI     IRFLAG,0             SAY WE HAD AN ERROR
           05260         IOWAIT   EQU     *-Z
01260  47005234                   STI     MSFLAG,0
01261  01300000                   UJP     0,X3

           05262         SMASH    EQU     *-Z
01262  00005262                   HLT     *-Z
```

```
                ********************************************************************************
                *                                                                              *
                *          STAND ALONE DISK DRIVER                                             *
                *                                                                              *
                *          THIS CODE IS NOT CURRENTLY BEING USED BUT IS LEFT HERE IN CASE      *
                *          IT IS NEEDED IN THE FUTURE                                          *
                *                                                                              *
                ********************************************************************************

                ********************************************************************************
                *                                                                              *
*RDLABELX EQU     *-Z                                                                         *
*        ENA     0                                                                           *
*RDLABEL  EQU     *-Z                                                                         *
*        UJP     IMPURE                                                                      *
*        SWA     RDLBLCON                                                                    *
*        SHA     -12                                                                         *
*        ACI                                                                                 *
*        TAI     1                                                                           *
*        ANI     00007B,X1          SAVE JUST THE CHANNEL NUMBER                             *
*        ENA     1                                                                           *
*        SHA     0,1                                                                         *
*        XOA     10000B                                                                      *
*        SWA     RDLBLOVR                                                                    *
*        ENI     WPFB-1,1                                                                    *
*        ENA     0                                                                           *
*        STA     CORE,X1                                                                     *
*        IJD     *-Z-1,1                                                                     *
*        ENA,S   9                  RETRY COUNT                                              *
*RDLBLOVR EQU     *-Z                                                                         *
*        IOCL    IMPURE                                                                      *
*        SWA     RDLBLAGN                                                                    *
*        ENI     500,1                                                                       *
*RDLBLCON EQU     *-Z                                                                         *
*        VFD     A9/CON,A15/IMPURE                                                           *
*        IJD     *-Z-1,1                                                                     *
*        ISG     1,1                                                                         *
*        UJP     RDLABELX                                                                    *
*        ENA     0                                                                           *
*        STA     ADDRESS                                                                     *
*        ENI     77777B,1                                                                    *
*        EXS     00018,SENSE        CHECK FOR DISK DRIVE NOT READY                           *
*        EXS     00028,SENSE        SENSE FOR DISK DRIVE BUSY                                *
*        IJD     *-Z-2,X1                                                                    *
*        ENI     RDLBLAGN,1                                                                  *
*        RTJ     LOAD                                                                        *
*        SEL     40B,SELECT         READ                                                     *
*        UJP     RDLBLAGN                                                                    *
*        ENA,S   0                  SELECT PROGRAM STATE ZERO                                *
*        INPW    IO,CORE,CORE+LABEL                                                          *
*        UJP     RDLBLAGN                                                                    *
*        RTJ     WAIT                                                                        *
*        ENI     LABEL-1,1                                                                   *
*        ENA,S   77777B                                                                      *
*        SCA     CORE,X1            GENERATE ODD PARITY WORD                                 *
*        IJD     *-Z-1,1                                                                     *
*        AZJ,NE  RDLBLAGN                                                                    *
*        AZJ,LT  RDLBLAGN                                                                    *
*        LDA     CORE               LOAD SYSTEM IDENTIFIER                                   *
*        UJP     RDLABEL                                                                     *
*RDLBLAGN EQU     *-Z                                                                         *
*        ENA     IMPURE                                                                      *
*        INA,S   -1                                                                          *
*        AZJ,GE  RDLBLOVR                                                                    *
*        UJP     RDLABELX                                                                    *
*        EJECT                                                                               *
*                                                                                            *
*WRITEX  EQU     *-Z                                                                         *
*        UJP     IMPURE                                                                      *
*        RTJ     PRESET                                                                      *
*ZAP     EQU     *-Z                                                                         *
*        IOCL    3778                                                                        *
*        ENI     ZAP,1              ENTER THE ABNORMAL ADDRESS                               *
*        RTJ     CONNECT                                                                     *
*        RTJ     LOAD                                                                        *
*        SEL     41B,SELECT                                                                  *
*        UJP     0,1                                                                         *
*        ENA,S   0                  SELECT PROGRAM STATE ZERO                                *
*        OUTW    IO,CORE,CORE+WPFB                                                           *
```

```
1005     *          UJP       0,1
1006     *          RTJ       WAIT
1007     *          RTJ       LOAD                LOAD THE ADDRESS REGISTER
1008     *          SEL       42B,SELECT          SELECT WRITE CHECK
1009     *          UJP       0,1
1010     *          ENA,S     0                   SELECT PROGRAM STATE ZERO
1011     *          OUTW      IO,CORE,CORE+WPFB
1012     *          UJP       0,1
1013     *          RTJ       WAIT
1014     *          LDI       T1,X1
1015     *          UJP       WRITEX
1016     *
1017     *
1018     *READX     EQU       *-Z
1019     *          UJP       IMPURE
1020     *          RTJ       PRESET
1021     *RATZ      EQU       *-Z
1022     *          IOCL      0377B
1023     *          ENI       RATZ,1
1024     *          RTJ       CONNECT
1025     *          RTJ       LOAD
1026     *          SEL       40B,SELECT          SELECT READ
1027     *          UJP       0,1
1028     *          ENA,S     0                   SELECT PROGRAM STATE ZERO
1029     *          INPW      IO,CORE,CORE+WPFB
1030     *          UJP       0,1
1031     *          RTJ       WAIT
1032     *T1        EQU       *-Z
1033     *          ENI       IMPURE,X1
1034     *          UJP       READX
1035     *          EJECT
1036     *LOAD      EQU       *-Z
1037     *          UJP       IMPURE
1038     *          SEL       10B,SELECT          SELECT LOAD ADDRESS
1039     *          UJP       0,1
1040     *          ENA,S     0                   SELECT PROGRAM STATE ZERO
1041     *          OUTW      IO,ADDRESS,ADDRESS+1
1042     *          UJP       0,1
1043     *          RTJ       WAIT
1044     *          UJP       LOAD
1045     *
1046     *WAIT      EQU       *-Z
1047     *          UJP       IMPURE
1048     *          TIM       22B,0               SET CLOCK TO ZERO
1049     *WAITL     EQU       *-Z
1050     *          TMA       22B                 CLOCK TO A
1051     *          ASG       1000                ALLOW ONE SECOND HANG
1052     *          EXS       0024B,SENSE         SENSE FOR ABNORMAL OR MISCOMPARE
1053     *          UJP       0,1
1054     *          EXS       0026B,SENSE         SENSE FOR ERRORS OR BUSY
1055     *          UJP       WAITL
1056     *          EXS       0001B,SENSE         SENSE FOR READY
1057     *          INS       0001B,SENSE         SENSE FOR CHANNEL PARITY ERRORS
1058     *          UJP       0,1
1059     *          UJP       WAIT
1060     *
1061     *CONNECT   EQU       *-Z
1062     *          UJP       IMPURE
1063     *CNCODE    EQU       *-Z
1064     *          VFD       A9/CON,A15/IMPURE
1065     *          UJP       *-Z-1
1066     *          UJP       CONNECT
1067     *
1068     *PRESET    EQU       *-Z
1069     *          UJP       IMPURE
1070     *          STI       T1,X1
1071     *          SWA       CNCODE              STORE THE CONNECT CODE
1072     *          SHA       12
1073     *          ACI
1074     *          SHA       9
1075     *          TAI       1
1076     *          ANI       3,1
1077     *          ENA       0
1078     *          DVA       FBPC,1
1079     *          SHQ       15
1080     *          SHAQ      12
1081     *          STA       ADDRESS
1082     *          UJP       PRESET
1083     *
```

```
1084      *FBPC     EQU       *-Z-1                                          *
1085      *         DEC       20          353/854                            *
1086      *         DEC       512         813/814                            *
          ************************************************************************
```

```
               05263          1089     MZERO     EQU      *-Z
      01263 77777777          1090               VFD      A24/-0,A24/IMPURE
               05265          1091     DISKBPNT  EQU      *-Z
      01265 00100000          1092               00       IMPURE,X1
               05266          1093     COREADD   EQU      *-Z
      01266 00000000          1094               VFD      A24/IMPURE
               05267          1095     BACKPTR   EQU      *-Z
      01267 77777777          1096               VFD      A24/-0
               05270          1097     ENTL      EQU      *-Z
      01270 00000000          1098               VFD      A24/IMPURE
               05271          1099     TEMP      EQU      *-Z
      01271 00000000          1100               VFD      A24/IMPURE,A24/IMPURE
               05273          1101     TEMPBLK   EQU      *-Z
      01273 00000000          1102               VFD      A24/IMPURE
               05274          1103     MZEROADD  EQU      *-Z
      01274 00000000          1104               VFD      A24/IMPURE
               05275          1105     D60000    EQU      *-Z
      01275 00165140          1106               DEC      60000
               05276          1107     TEN       EQU      *-Z
      01276 00000012          1108               DEC      10
               05277          1109     BLKLIST   EQU      *-Z
               05277          1110     MXSBLOCK  EQU      *-Z
      01277 44676222          1111               BCD      2,MXSBLOCK
               05301          1112     SAVEBBLK  EQU      *-Z
      01301 62216525          1113               BCD      2,SAVEBBLK
               05303          1114     SAVEDBLK  EQU      *-Z
      01303 62216525          1115               BCD      2,SAVEDBLK
               05305          1116     SECURITY  EQU      *-Z
      01305 62252364          1117               BCD      2,SECURITY
               00010          1118     BLKLNTH   EQU      *-Z-BLKLIST
                              1119
               05307          1120     LTIME     EQU      *-Z
      01307                   1121               BSS      1
               05310          1122     IOAQ      EQU      *-Z
      01310                   1123               BSS      2
               05310          1124     ADDRESS   EQU      IOAQ
               05312          1125     IOX1      EQU      *-Z
      01312                   1126               BSS      1
               05313          1127     IOX2      EQU      *-Z
      01313                   1128               BSS      1
                              1129
                                       ***************************************************************************
                              1131     *                                                                         *
                              1132     *         END IS LIMITED TO 1 PAGE COUNTING THE ≠CORE≠ BUFFER            *
                              1133     *                                                                         *
                                       ***************************************************************************
                              1135
                              1136               IF       *-ENDOS3-1 GE 3000B, SOMEBODE BLEW IT
                              1137
               03000 P        1138               ORGR     3000B
               07000          1139     CORE      EQU      *-Z
      03000                   1140               BSS      WPFB
                              1141
                              1142               END

    NO LINES WITH ERRORS
```

	ABEND		05073	799	616 00642P	845 01207P	850 01212P	855 01215P		
*	ABMSG		24503	823						
	ACCNUM	X		8	147 00064P					
*	ACCWORD		00000	71						
*	ADDRESS		05310	1124						
	ARRAYTBL	X		9	718 00770P	724 00776P	738 01012P	785 01062P		
	BACKPTR		05267	1095	254 00207P	428 00436P	432 00442P	480 00501P	489 00512P	492 00515P
					512 00534P					
	BADBATCH		24764	837	839 01204P	295 00260P				
	BADBL		00036	839	296 00261P					
	BATCHQ	X		10	161 00077P	264 00220P	266 00222P	269 00225P	271 00227P	
	BFBGN		00002	13	15 00000P					
	BFCPP		00003	15	19 00000P					
	BGNBPTR		04250	285	268 00224P					
	BGNFLP		04126	192	241 00204P					
	BGNMVLP		04471	471	500 00523P					
	BGNPTR		04167	226	206 00143P					
	BIT17	X		11	159 00075P	160 00076P	261 00215P	262 00216P		
	BIT23	X		11+1	274+3 00234P					
	BKR01		04604	579	595 00621P					
	BKR02		04605	581	588 00613P					
	BKR03		04615	590	585 00610P					
	BLF		00001	12	13 00000P					
	BLKFLAG	X		12	341 00325P	359 00344P				
	BLKFND		04447	437	415 00422P					
	BLKLIST		05277	1109	1118 01307P	583 00606P	592 00616P			
	BLKLNTH		00010	1118	594 00620P					
*	BLKR		00005	88						
	BLOCKDN		04530	507	242 00205P	316 00301P	514 00536P			
	BLOCKS	X		13	193 00126P					
	BLOCKSL	X		14	240 00203P					
	BLP01		04272	307	288+2 00253P					
	BUSY	X		15	343 00327P	901 01245P				
	CALBAK		00004	19	22 00000P					
	CBP		00003	76	274+4 00235P					
	CLOCK		00022	61	364 00351P					
	CMQSET	X		16	118 00035P	526 00545P				
*	CON		00770	62						
	CORE		07000	1139	427 00435P	433 00443P	438 00447P	478 00477P	487 00510P	490 00513P
					496 00520P	564 00567P	582 00605P	591 00615P	648 00671P	657 00701P
					684 00730P	688 00734P	689 00735P	690 00736P		
	COREADD		05266	1093	425 00433P	481 00502P	511 00533P	570 00575P	576 00601P	669 00714P
					677 00721P	695 00743P				
	COREP		00002	73	76 00000P					
	COUNT		00014	37	38 00000P					
*	CPP		00004	77						
	CRDATEW		00002	63	684 00730P					
	CRWAIT	X		17	114 00031P	144 00061P				
	CRY		05102	808	800 01073P					
	CURLOC		04470	469	450 00460P	501 00524P				
	D60000		05275	1105	367 00354P					
	DATEFILE		00037	68	372 00361P	378 00367P	384 00375P	390 00403P	682 00726P	
	DATEMSG		24454	818	820 01116P	370 00357P	371 00360P	376 00365P	377 00366P	382 00373P
					383 00374P	388 00401P	389 00402P	394 00407P	395 00410P	396 00411P
	DATEMSGL		00017	820	397 00412P					
	DEVBLK		00013	36	37 00000P					
	DIEBIT	X		18	107 00023P	292 00255P	319 00304P			
	DIEPSUS	X		19	156 00072P					
	DINT		07773	81	95 00010P	135 00051P	186 00120P	263 00217P	356 00341P	476 00475P
					524 00543P	876 01230P	887 01236P	903 01247P		
	DISKBPNT		05265	1091	704 00753P	729 01003P	739 01013P	743 01017P		
	DISKPNT	X		20	701 00750P	725 00777P	741 01015P	753 01027P		
	DNB01		04215	260	293 00256P	314 00300P				
	DNB02		04233	274+1	278+1 00242P					
	DNSVB		04301	315	265 00221P					
	DT02		04770	717	781 01060P	792 01067P				
	DT04		05010	735	723 00775P					
	DT05		05020	744	786 01063P					
	DT06		05024	749	714 00765P					
	DT07		05041	763	789 01066P					
	DT08		05042	765	733 01007P					
	DT10		05057	779	722 00774P	752 01026P	784 01061P			
	DT12		05061	783	758 01034P					
	DTEND		05067	791	719 00771P					
	EINT		07774	82	93 00006P	127 00043P	168 00106P	174 00112P	302 00266P	317 00302P
					527 00546P	878 01232P	900 01244P			
	ENAD		00010	26	27 00000P					
	END		05074	801	798 01072P					
	END02		04022	105	100 00015P					

```
   END04            04331     113     125 00042P
   END06            04036     119     116 00033P
   END08            04040     122     112 00030P
   END09            04051     134     108 00024P
   END10            04056     140     152 00070P
   END12            04066     149     139 00055P     143 00060P
   END125           04110     171     157 00073P
   END135           04312     326     320 00305P     335 00321P
   END135L          04314     329     337 00323P
   END14            04324     339     169 00107P     324 00311P     344 00330P
   ENDIT            04332     347      85 00000P
   ENDIT02          04341     355     345 00331P
   ENDMSG           24473     821     796 01070P
   ENDOS3     E     00000P     84    1136 01314P       5 00000P
   ENDOS3A          04006      92     146 00063P     148 00065P     163 00101P     165 00103P
   ENDSYMBK   E     00576P    572       6 00000P
   ENIT             00012      28      36 00000P
   ENTL             05270    1097     411 00417P     443 00453P
   EPP              00006      90     288 00251P
   EPPCHKLP         04251     287     306 00271P     313 00277P
   ERRCNT           05223     869     666 00711P     694 00742P     757 01033P     776 01054P
   FB               00000      11      12 00000P
   FILEIT           04463     463     222 00163P     234 00176P     284 00247P     309 00273P     505 00527P
   FINDIT           04415     408     190 00124P     258 00213P     453 00462P
   FINDLP           04421     413     436 00446P     446 00456P
   FINK       X                26     877 01231P
   FIPRO            04431     422     418 00425P
   FIX1SVE          04525     502     465 00464P
   FLOOP            04171     229     235 00200P
   FLOOPE           04201     236     205 00142P     231 00172P
   FNDIT            04460     449     421 00430P
 * FORMSWRD         00016      40
   FX1SVE           04461     451     410 00416P
   GETBLK     X                27     477 00476P     751 01025P
   GETSYMB          04566     558     167 00105P     173 00111P     354 00340P     596 00622P
   IDENT            00017      49      50 00000P
   IDLE       X                21     685 00731P
   IMAD             00005      22      24 00000P
   IMPURE           00000      72     208 00145P     227 00167P     238 00201P     286 00250P     299 00263P     305 00270P
                                      409 00415P     452 00461P     464 00463P     470 00470P     495 00517P     499 00522P
                                      503 00525P     508 00530P     520 00537P     539 00554P     546 00561P     559 00566P
                                      573 00576P     610 00634P     750 01024P     780 01057P     809 01102P     813 01106P
                                      864 01216P     870 01223P     883 01233P     885 01234P     892 01237P     908 01250P
                                      911 01251P    1090 01264P    1092 01265P    1094 01266P    1098 01270P    1100 01271P
                                     1100 01272P    1102 01273P    1104 01274P
   INHIBIT    X                22     106 00022P     155 00071P     291 00254P     318 00303P     349 00333P     350 00334P
 * IO               00000      69
   IOAQ             05310    1122    1124 01312P     866 01220P     913 01253P
   IOBOUND    X                23     115 00032P     145 00062P
   IOBUSY     X                24     164 00102P     175 00113P     225 00166P     322 00307P     328 00313P     334 00320P
   IOCLEAR    X                25     121 00037P
   IOWAIT           05260     919     873 01225P
   IOX1             05312    1125     867 01221P     912 01252P
   IOX2             05313    1127     868 01222P     895 01241P
   IR               05250     907     664 00707P     676 00720P     692 00740P     759 01035P     774 01052P
   IRFLAG           05237     891     875 01227P     918 01257P
   IRWAIT           05244     899     916 01256P
   KILLFLAG         00007      25      26 00000P
 * LABEL            00100      56
   LEVEL            00036      66      88 00002P     360 00345P
   LNIM             00006      24      25 00000P     198 00133P
   LOADINS          04517     494     466 00465P     473 00472P     504 00526P
   LOGOPH           04537     519     166 00104P     172 00110P     523 00542P     532 00553P
 * LP               00001      72
   LTIME            05307    1120     365 00352P     683 00727P
   MACROP           04201     237     204 00141P
   MESAGN           04263     298     283 00246P     301 00265P
   MKSCREAM         04554     538      94 00007P     132 00050P     177 00115P     303 00267P     321 00306P     332 00316P
                                      340 00324P     528 00547P     543 00556P
   MSFLAG           05234     884     874 01226P     920 01260P
   MSIO             05216     863     426 00434P     484 00505P     513 00535P     577 00602P     671 00716P     681 00725P
                                      699 00747P     762 01040P     778 01056P     893 01240P
   MSIOX3           05233     882     865 01217P     915 01255P
   MSIOZ            05224     871     914 01254P
   MSUNITM1   X                29     716 00767P
   MSUNITS    X                28     702 00751P     703 00752P     712 00763P     746 01021P
   MVCNT            04522     498     467 00466P
   MXSBLOCK         05277    1110     670 00715P
   MXSLIST    X                30     622 00644P     629 00651P     650 00673P
```

	MZERO	05263	1089	705 00754P	726 01000P	742 01016P	772 01050P		
	MZEROADD	05274	1103	711 00762P	755 01031P				
	NBATCHQ	X	31	158 00074P	259 00214P				
	NIFWAIT	X	32	120 00036P					
	NJM	00011	27	28 00000P					
	NODEVICE	04206	243	179 00117P					
	NOUSERS	04071	154	98 00013P	104 00021P				
	NTFND	04451	440	448 00457P					
	NU	00035	65	96 00011P	109 00025P	136 00052P			
	OPMSG	X	33	300 00264P	399 00414P				
	OPTERM	X	34	117 00034P	525 00544P				
	PARITY	05210	847	357 00342P					
	PARMESS	24637	831	833 01160P	848 01210P				
	PARMESSL	00043	833	849 01211P					
	PCERMSG	24512	825	827 01133P	614 00640P				
	PCERMSGL	00043	827	615 00641P					
	PCK00	04623	598	398 00413P					
	PCK01	04625	601	620 00643P					
	PCK02	04634	609	604 00627P	611 00635P				
	PCK03	04643	619	600 00624P	613 00637P				
	PFR	00000	73	567 00572P	708 00757P	769 01045P			
*	PFN	00000	74						
	PFWORD	00016	39	40 00000P	49 00000P				
	POSFND	04457	447	439 00450P					
	POSI	00015	38	39 00000P					
	PSA	00000	78	101 00016P	102 00017P	111 00027P	115 00032P	123 00040P	124 00041P
				138 00054P	141 00056P	145 00062P	147 00064P	150 00066P	151 00067P
				521 00540P	522 00541P				
	PSABLK	X	35	521 00540P	529 00550P				
	PURELIST	X	36	599 00623P					
	PURETABL	X	37	603 00626P					
	QEMPTY	00024	55	57 00000P					
	QINGLOC	00022	52	54 00000P					
	QPNT	00023	54	55 00000P	197 00132P				
	READ	X	38	424 00432P	575 00600P	680 00724P	896 01242P		
	RPSAPTR	X	39	101 00016P	111 00027P	138 00054P			
	RUNIBIT	X	40	348 00332P					
	SAVE01	04270	304	294 00257P					
	SAVEBBLK	05301	1112	255 00210P					
	SAVEDBLK	05303	1114	187 00121P					
	SCREAM	X	41	542 00555P					
	SCREAMLP	04555	541	550 00565P					
	SECMESS	24702	834	836 01175P	853 01213P				
	SECMESSL	00062	836	854 01214P					
	SECPROB	05213	852	691 00737P					
	SECURITY	05305	1116	678 00722P	696 00744P				
*	SELECT	00000	70						
*	SENSE	00000	71						
	SMASH	05262	923	675 00717P	773 01051P	908 01250P			
*	STRTLOC	00025	57						
	SUB01	04645	623	632 00653P					
	SUB02	04651	628	644 00666P					
	SUB03	04652	630	638 00661P					
	SUB04	04662	639	635 00656P					
	SUB05	04667	645	625 00646P					
	SUB06	04675	652	660 00704P					
	SUB07	04706	662	654 00676P					
	SUBMESS	24555	828	830 01147P	843 01205P				
	SUBMESSL	00062	830	844 01206P					
	SUBPROB	05205	842	663 00706P					
*	SUSBIT	X	42						
	SYSWCT	00004	64	689 00735P	690 00736P				
	TEMP	05271	1099	195 00130P	199 00134P	217 00156P	219 00160P	221 00162P	273 00231P
				280 00243P	281 00244P	331 00315P	333 00317P		
	TEMPBLK	05273	1101	188 00122P	256 00211P	416 00423P	431 00441P	434 00444P	479 00500P
				491 00514P					
	TEN	05276	1107	369 00356P	375 00364P	381 00372P	387 00400P	393 00406P	
	TERMINAL	X	43	102 00017P	141 00056P				
*	TFL	00007	97						
	URBEXIT	00021	51	52 00000P					
	URBEXITA	00020	50	51 00000P					
	WCTIME	X	44	686 00732P					
	WLIM	05251	910	872 01224P	897 01243P				
	WPFB	01000	57	1140 03000P	412 00420P	414 00421P	419 00426P	423 00431P	435 00445P
				472 00471P	483 00504P	485 00506P	509 00531P	574 00577P	587 00612P
				646 00667P	659 00703P	667 00712P	679 00723P	697 00745P	
	WRITE	X	45	482 00503P	510 00532P				
	WRITENS	X	46	668 00713P	698 00746P	761 01037P	777 01055P		
	X1	00001	75	109 00025P	110 00026P	125 00042P	128 00044P	131 00047P	136 00052P

			137	00053P	152	00070P	158	00074P	191	00125P	193	00126P	204	00141P					
			209	00146P	210	00147P	215	00154P	223	00164P	238	00201P	239	00202P					
			240	00203P	259	00214P	266	00222P	270	00226P	271	00227P	272	00230P					
			327	00312P	337	00323P	341	00325P	342	00326P	343	00327P	344	00330P					
			410	00416P	423	00431P	452	00461P	465	00464P	470	00470P	472	00471P					
			474	00473P	483	00504P	485	00506P	487	00510P	488	00511P	493	00516P					
			496	00520P	497	00521P	501	00524P	503	00525P	509	00531P	544	00557P					
			545	00560P	549	00564P	574	00577P	646	00667P	648	00671P	663	00706P					
			664	00707P	665	00710P	666	00711P	667	00712P	679	00723P	685	00731P					
			686	00732P	691	00737P	692	00740P	693	00741P	694	00742P	697	00745P					
			712	00763P	713	00764P	714	00765P	715	00766P	716	00767P	718	00770P					
			722	00774P	724	00776P	725	00777P	730	01004P	738	01012P	741	01015P					
			746	01021P	750	01024P	752	01026P	753	01027P	756	01032P	757	01033P					
			758	01034P	759	01035P	760	01036P	764	01041P	780	01057P	784	01061P					
			785	01062P	792	01067P	811	01104P	812	01105P	816	01111P	867	01221P					
			874	01226P	875	01227P	901	01245P	902	01246P	912	01252P	1092	01265P					
X2		00002	76	129	00045P	130	00046P	196	00131P	197	00132P	198	00133P	200	00135P					
				201	00136P	202	00137P	207	00144P	211	00150P	212	00151P	221	00162P					
				227	00167P	230	00171P	232	00173P	232+1	00174P	234+1	00177P	267	00223P					
			274+2	00233P	274+4	00235P	276	00237P	277	00240P	281	00244P	286	00250P					
				288	00251P	294	00257P	297	00262P	305	00270P	310	00274P	311	00275P					
				330	00314P	336	00322P	398	00413P	424	00432P	466	00465P	475	00474P					
				482	00503P	504	00526P	510	00532P	546	00561P	547	00562P	566	00571P					
				567	00572P	575	00600P	580	00604P	582	00605P	586	00611P	587	00612P					
				591	00615P	607	00632P	610	00634P	611	00635P	640	00662P	657	00701P					
				659	00703P	668	00713P	680	00724P	698	00746P	707	00756P	708	00757P					
				745	01020P	748	01023P	761	01037P	768	01044P	769	01045P	773	01051P					
				774	01052P	775	01053P	776	01054P	777	01055P	813	01106P	815	01110P					
				868	01222P	895	01241P	896	01242P											
X3		00003	77	101	00016P	102	00017P	111	00027P	115	00032P	123	00040P	124	00041P					
				138	00054P	141	00056P	145	00062P	147	00064P	150	00066P	151	00067P					
				189	00123P	220	00161P	232+2	00175P	257	00212P	274	00232P	275	00236P					
				280	00243P	282	00245P	283	00246P	308	00272P	411	00417P	412	00420P					
				414	00421P	419	00426P	435	00445P	438	00447P	444	00454P	445	00455P					
				450	00460P	467	00466P	468	00467P	495	00517P	499	00522P	521	00540P					
				522	00541P	578	00603P	583	00606P	592	00616P	593	00617P	594	00620P					
				599	00623P	602	00625P	603	00626P	620	00643P	720	00772P	721	00773P					
				727	01001P	732	01006P	736	01010P	737	01011P	740	01014P	754	01030P					
				766	01042P	788	01065P	865	01217P	870	01223P	872	01224P	873	01225P					
				883	01233P	911	01251P	914	01254P	915	01255P	921	01261P							
Z		73777P	59	92	00006P	105	00022P	113	00031P	119	00036P	122	00040P	134	00051P					
				140	00056P	149	00066P	154	00071P	171	00110P	192	00126P	226	00167P					
				229	00171P	236	00201P	237	00201P	243	00206P	260	00215P	274+1	00233P					
				285	00250P	287	00251P	298	00263P	304	00270P	307	00272P	315	00301P					
				326	00312P	329	00314P	339	00324P	347	00332P	355	00341P	408	00415P					
				413	00421P	422	00431P	437	00447P	440	00451P	447	00457P	449	00460P					
				451	00461P	463	00463P	469	00470P	471	00471P	494	00517P	498	00522P					
				502	00525P	507	00530P	519	00537P	538	00554P	541	00555P	558	00566P					
				579	00604P	581	00605P	590	00615P	598	00623P	601	00625P	609	00634P					
				619	00643P	623	00645P	628	00651P	630	00652P	639	00662P	645	00667P					
				652	00675P	662	00706P	717	00770P	735	01010P	744	01020P	749	01024P					
				763	01041P	765	01042P	779	01057P	783	01061P	791	01067P	799	01073P					
				801	01074P	808	01102P	818	01113P	820	01116P	821	01116P	823	01120P					
				825	01122P	827	01133P	828	01133P	830	01147P	831	01147P	833	01160P					
				834	01160P	836	01175P	837	01175P	839	01204P	842	01205P	847	01210P					
				852	01213P	863	01216P	869	01223P	871	01224P	882	01233P	884	01234P					
				891	01237P	899	01244P	907	01250P	910	01251P	919	01260P	923	01262P					
				1089	01263P	1091	01265P	1093	01266P	1095	01267P	1097	01270P	1099	01271P					
				1101	01273P	1103	01274P	1105	01275P	1107	01276P	1109	01277P	1110	01277P					
				1112	01301P	1114	01303P	1116	01305P	1118	01307P	1120	01307P	1122	01310P					
				1125	01312P	1127	01313P	1139	03000P	87	00001P	91	00005P	130	00046P					
				131	00047P	162	00100P	176	00114P	178	00116P	207	00144P	214	00153P					
				228	00170P	297	00262P	323	00310P	336	00322P	342	00326P	420	00427P					
				429	00437P	430	00440P	488	00511P	531	00552P	545	00560P	547	00562P					
				549	00564P	589	00614P	649	00672P	661	00705P	747	01022P	803	01075P					
				812	01105P	815	01110P	816	01111P	817	01112P	886	01235P	902	01246P					
				924	01262P															