LENGTH OF PRG 03474

```
                                1               IDENT   BOOT
                                2
04000                           3       BLOCKBUF EQU    4000B
00770                           4       CON      EQU    770B
00100                           5       DEVLIST  EQU    64
00020                           6       DKNUM    EQU    27B-10B+1
                                7
00000                           8       FDSYM    EQU    0
00002                           9       FDACC    EQU    2
00003                          10       FDURN    EQU    FDACC+1
00004                          11       FDATE    EQU    4
00005                          12       FDLP     EQU    5
00006                          13       FDEPP    EQU    6
00007                          14       FDTFL    EQU    7
00010                          15       FDCDATE  EQU    8
00011                          16       FDBUSY   EQU    9
00012                          17       FDELNTH  EQU    10              LENGTH OF A FILE DIRECTORY ENTRY
                               18
00000                          19       IMPURE   EQU    0
00000                          20       IO       EQU    0
                               21
00100                          22       LABEL    EQU    100B            LENGTH OF THE DISK LABELS
00000                          23       MSLIDENT EQU    00B
00001                          24       MSLDN    EQU    01B
00002                          25       MSLLFBN  EQU    02B
00003                          26       MSLHFBN  EQU    03B
00004                         26+001    MSLPFBN  EQU    04B             NUMBER OF PROTECTED BLOCKS
00006                          27       MSLBLK   EQU    06B
00007                          28       MSLFBPC  EQU    07B
00010                          29       MSLFDLOC EQU    10B
00012                          30       MSLFDSEL EQU    12B
00014                          31       MSLFDHSH EQU    14B
                               32
00000                          33       PFW      EQU    0
00000                          34       SELECT   EQU    0
00000                          35       SENSE    EQU    0
01000                          36       WPFB     EQU    1000B           NUMBER OF WORDS IN A FILE BLOCK
                               37
00001                          38       X1       EQU    1
00002                          39       X2       EQU    2
00003                          40       X3       EQU    3
00000 P                        41       Z        EQU    *
```

```
00000  01000500                    43          UJP     INIT
00001                              44  NAME    EQU     *-Z
00004                              45  NAMEC   EQU,C   *-Z
00001  62706263                    46          BCD     2,SYSTEM            DEFAULT NAME FOR THE OVERLAY
00003                              47  MXSPTR  EQU     *-Z
00003  00001474                    48          OO      MXSLIST             POINTER FOR OTHER ROUTINES
00004                              49  DISK    EQU     *-Z
00004  24316242                    50          BCD     1,DISK
00005                              51  BIT23   EQU     *-Z
00005  40000000                    52          OCT     40000000
00006                              53  SYSLIB  EQU     *-Z
00006  62706243                    54          BCD     2,SYSLIB
00040                              55  MPARITY EQU,C   *-Z
00010  77442544                    56          BCD     5,^MEMORY PARITY ERROR
00015                              57  WC      EQU     *-Z                 BUFFER LENGTH FOR I/O TRANSFERS
00015  00001000                    58          VFD     A24/WPFB
00016                              59  PERSIST EQU     *-Z                 LIMIT FOR MASS STORAGE ERRORS
00016  00001747                    60          DEC     999
00017                              61  IR      EQU     *-Z                 IRRECOVERABLE MASS STORAGE ERROR
00017  00000017                    62          HLT     *-Z
                                   63          IF      *-Z-20B NE 0, SOMEBODY BLEW IT
00020  00000000                    64          VFD     09/000,A15/IMPURE
00021  14000000                    65          NOP     IMPURE
00022  11000040    00010 0         66          ECHA    MPARITY
00023  14700064                    67          VFD     09/147,C15/MPARITY+20  ENQ
00024  00700361                    68          RTJ     OUT
00025  00000025                    69          HLT     *-Z
                                   70
00026                              71  TEN     EQU     *-Z
00026  00000012                    72          DEC     10
                                   73
                                   74
00027                              75  SECPFB  EQU     *-Z                 SECTORS PER FILE BLOCK
00027  00000010                    76          DEC     8                   853/854
00030  00000010                    77          DEC     8                   853/854
00031  00000004                    78          DEC     4                   841
                                   79
00032                              80  SECPCYL EQU     *-Z                 SECTORS PER CYLINDER
00032  00000240                    81          DEC     10*16               853/854
00033  00010000                    82          DEC     128*32              813/814
00034  00000430                    83          DEC     20*14               841
```

```
                                 86  ********************************************************************************
                                 87  *                                                                              *
                                 88  *          ROUTINE TO READ A FILE BLOCK FROM THE DISKS                         *
                                 89  *          CALL WITH FILE BLOCK NUMBER IN A AND CORE ADDRESS IN INDEX 1        *
                                 90  *                                                                              *
                                 91  ********************************************************************************
                                 92  READ    EQU     *-Z
00035  010000000                 93          UJP     IMPURE
00036  147000074                 94          ENQ     74B                     OPERATION CODE FOR INPW
00037  007001200                 95          RTJ     PRESET                  INITIALIZE THINGS FOR THE I/O
00040  771000400                 96          SEL     400B,SELECT             SELECT READ
00041  010002300                 97          UJP     ERROR
00042  007001760                 98          RTJ     IOX                     READ THE BLOCK
00043  007002500                 99          RTJ     COMPLAIN                COMPLAIN ABOUT THE HARDWARE
00044  010000350                100          UJP     READ                    DONE AT LAST
                                101  ********************************************************************************
                                102  *                                                                              *
                                103  *          ROUTINE TO WRITE A FILE BLOCK ONTO THE DISKS                        *
                                104  *          CALL WITH FILE BLOCK NUMBER IN A AND CORE ADDRESS IN INDEX 1        *
                                105  *                                                                              *
                                106  ********************************************************************************
                                107
                                108  WRITE   EQU     *-Z
00045  010000000                109          UJP     IMPURE
00046  147000760                110          ENQ     76B                     OPERATION CODE FOR OUTW
00047  007001200                111          RTJ     PRESET                  INITIALIZE THINGS FOR THE I/O
00050  771000410                112          SEL     410,SELECT              SELECT WRITE
00051  010002300                113          UJP     ERROR
00052  007001760                114          RTJ     IOX                     WRITE THE BUFFER OUT
00053  007001650                115          RTJ     LOAD                    LOAD THE ADDRESS REGISTER AGAIN
00054  771000420                116          SEL     420B,SELECT             SELECT WRITE CHECK
00055  010002300                117          UJP     ERROR
00056  007001760                118          RTJ     IOX                     PERFORM A WRITE CHECK
00057  007002500                119          RTJ     COMPLAIN                COMPLAIN ABOUT THE HARDWARE
00060  010000450                120          UJP     WRITE                   AND EXIT
```

```
                00061                   123     PRESETX EQU     *-Z
    00061   31201237                    124             SBA     DEVBLK,X2       SUBTRACT THE LOW FILE BLOCK
    00062   03300145                    125             AZJ,LT  PANICZ          JUMP IF ILLEGAL ADDRESS
    00063   46000076                    126             SCHA    ADDSAVE         SAVE THE RELATIVE BLOCK NUMBER
    00064   20201236                    127             LDA     DEVLUN,X2       LOAD THE CONNECT CODE
    00065   03200145                    128             AZJ,GE  PANICZ          JUMP IF NOT ON LINE
    00066   44000225                    129             SWA     CNCODE
    00067   12000014                    130             SHA     12
    00070   77540000                    131             ACI                     LOAD THE CHANNEL INDEX REGISTER
    00071   53500000                    132             TAI     1
    00072   17100007                    133             ANI     7,1
    00073   12077755                    134             SHA     -18             GET THE NUMBER OF CYLINDERS CODE
    00074   53600000                    135             TAI     2
    00075   17200003                    136             ANI     3,2
                00076                   137     ADDSAVE EQU     *-Z
    00076   11000000        00000 0     138             ECHA    IMPURE          ENTER RELATIVE BLOCK NUMBER
    00077   50200027                    139             MUA     SECPFB,X2       CONVERT TO SECTOR NUMBER
    00100   13000030                    140             SHAQ    24
    00101   40001235                    141             STA     ERRORS
    00102   51200032                    142             DVA     SECPCYL,X2      CONVERT TO DISK ADDRESS
    00103   12400014                    143             SHQ     12
    00104   13000014                    144             SHAQ    12
    00105   40001464                    145             STA     ADDRESS
    00106   20000015                    146             LDA     WC              LOAD THE BUFFER LENGTH
    00107   30000201                    147             ADA     FWA             CALCULATE FWA+1
    00110   44000200                    148             SWA     LWA             INITIALIZE THE I/O COMMAND
    00111   14600001                    149             ENA     1               CREATE A ONE BIT CHANNEL MASK
    00112   12100000                    150             SHA     0,1             BY SHIFTING INTO POSITION
    00113   16610000                    151             XOA     10000B          IOCL IS A 7751XXXX
    00114   44000115                    152             SWA     *-Z+1
    00115   77510000                    153             IOCL    IMPURE
    00116   14100115                    154             ENI     *-Z-1,X1        ENTER THE ABNORMAL EXIT ADDRESS
    00117   00700223                    155             RTJ     CONNECT
                00120                   156     PRESET  EQU     *-Z
    00120   01000000                    157             UJP     IMPURE
    00121   40001230                    158             STA     BLKTEMP
    00122   43001000        00200 0     159             SQCH    IOP             INITIALIZE THE I/O COMMAND
    00123   47100201                    160             STI     FWA,X1
    00124   47200247                    161             STI     X2TEMP,X2       SAVE INDEX 2
    00125   03300152                    162             AZJ,LT  PANICX
    00126   14700067                    163             ENQ     67B             INITIALIZE THE ERROR MESSAGE
    00127   43001636        00347 2     164             SQCH    WHEREUNT
    00130   43001637        00347 3     165             SQCH    WHEREUNT+1
    00131   14577777                    166             ENQ,S   77777B
    00132   14101000                    167             ENI     WPFB,1
    00133   06201474                    168             MEQ     MXSLIST,2       SEARCH FOR SUBSTITUTIONS
    00134   01000137                    169             UJP     *-Z+3
    00135   20101475                    170             LDA     MXSLIST+1,1     MAKE THE SUBSTITUTION
    00136   03100132                    171             AZJ,NE  *-Z-4           FORGET ZERO TO ZERO SUBSTITUTIONS
    00137   14200000                    172             ENI     0,2
    00140   21201241                    173             LDQ     DEVBLK+2,2
    00141   03700061                    174             AQJ,LT  PRESETX
    00142   15200002                    175             INI     2,X2
    00143   05200176                    176             ISG     2*(DEVLIST-1),X2    SKIP IF DONE
    00144   01000140                    177             UJP     *-Z-4
                00145                   178     PANICZ  EQU     *-Z
    00145   53200000                    179             TIA     X2              UNIT NUMBER TO A
    00146   13077746                    180             SHAQ    -24-1
    00147   51000026                    181             DVA     TEN             IT SHOULD BE THE UNIT NUMBER
    00150   42001636        00347 2     182             SACH    WHEREUNT        ALTHO IT MAY NOT BE
    00151   43001637        00347 3     183             SQCH    WHEREUNT+1
                00152                   184     PANICX  EQU     *-Z
    00152   20001230                    185             LDA     BLKTEMP         LOAD THE BLOCK NUMBER WE WANTED
    00153   14177770                    186             ENI     -7,X1
    00154   14700000                    187             ENQ     0
    00155   13000003                    188             SHAQ    3
    00156   43401665        00355 1     189             SQCH    WHEREBLK+7,X1
    00157   02100154                    190             IJI     *-Z-3,X1
    00160   11001600        00340 0     191             ECHA    WHEREMES
    00161   14701667                    192             VFD     09/147,C15/WHEREMES+WHERMESL
    00162   00700361                    193             RTJ     OUT
    00163   54200247                    194             LDI     X2TEMP,2
    00164   01000017                    195             UJP     IR
                                        196
                                        197
                00165                   198     LOAD    EQU     *-Z
    00165   01000000                    199             UJP     IMPURE
    00166   77100010                    200             SEL     10B,SELECT      SELECT LOAD ADDRESS
    00167   01000230                    201             UJP     ERROR
```

```
00170  14600000                202                ENA     0                       FOR RELOCATION
00171  76001465                203                OUTW    IO,ADDRESS,ADDRESS+1
00172  00001464
00173  01000230                204                UJP     ERROR
00174  00700205                205                RTJ     WAIT                    WAIT FOR THE DISK DRIVE
00175  01000165                206                UJP     LOAD                    RETURN
                               207
       00176                   208  IOX           EQU     *-Z
00176  01000000                209                UJP     IMPURE
00177  14600000                210                ENA     0                       FOR RELOCATION
       01000                   211  IOP           EQU,C   *-Z
       00200                   212  LWA           EQU     *-Z
       00201                   213  FWA           EQU     LWA+1
00200  74000000                214                INPW    IO,IMPURE,IMPURE        MAY BE CHANGED TO OUTW
00201  00000000
00202  01000230                215                UJP     ERROR                   BLOCK CONTROL REJECT
00203  00700205                216                RTJ     WAIT                    WAIT FOR COMPLETION
00204  01000176                217                UJP     IOX                     RETURN
                               218
       00205                   219  WAIT          EQU     *-Z
00205  01000000                220                UJP     IMPURE
00206  77200001                221                EXS     0001B,SENSE
00207  77200024                222                EXS     0024B,SENSE             SENSE FOR ERRORS
00210  01000230                223                UJP     ERROR
00211  77200026                224                EXS     0026B,SENSE             SENSE FOR BUSY OR ERRORS
00212  01000206                225                UJP     *-Z-4                   WAIT FOR COMPLETION
00213  77200001                226                EXS     0001B,SENSE             SKIP IF NOT READY
00214  77300037                227                INS     0037B,SENSE             SENSE FOR ERRORS
00215  01000230                228                UJP     ERROR
00216  77200200                229                EXS     0200B,SENSE             SENSE FOR POSITIONER READY
00217  77200024                230                EXS     0024B,SENSE             SENSE FOR ERRORS
00220  01000230                231                UJP     ERROR
00221  01000205                232                UJP     WAIT                    RETURN
                               233
       00222                   234  CONNECTX      EQU     *-Z
00222  00700165                235                RTJ     LOAD
       00223                   236  CONNECT       EQU     *-Z
00223  01000000                237                UJP     IMPURE
00224  14200024                238                ENI     20,X2
       00225                   239  CNCODE        EQU     *-Z
00225  77000000                240                VFD     A9/CON,A15/IMPURE       CONNECT
00226  02600225                241                IJD     *-Z-1,X2
00227  02600222                242                IJD     CONNECTX,X2
       00230                   243  ERROR         EQU     *-Z
00230  14600000                244                ENA     0
00231  77200000                245                COPY    SENSE
00232  44000276                246                SWA     ESTATUS
00233  20001235                247                LDA     ERRORS
00234  77200001                248                EXS     0001B,SENSE             SKIP IF NOT READY
00235  77300030                249                INS     0030B,SENSE             SENSE FOR REJECTS
00236  05400001                250                ASG,S   1                       ONLY REMEMBER 1 REJECT
00237  15600001                251                INA     1
00240  40001235                252                STA     ERRORS
00241  21000016                253                LDQ     PERSIST                 LOAD THE ERROR LIMIT
00242  03600245                254                AQJ,GE  *-Z+3
00243  05601747                255                ASG     999
00244  01100000                256                UJP     0,1                     RETURN TO THE ABNORMAL ADDRESS
00245  00700250                257                RTJ     COMPLAIN
00246  01000017                258                UJP     IR
                               259
       00247                   260  X2TEMP        EQU     *-Z
00247  14200000                261                ENI     IMPURE,X2               RESTORE INDEX 2
       00250                   262  COMPLAIN      EQU     *-Z
00250  01000000                263                UJP     IMPURE
00251  20001235                264                LDA     ERRORS
00252  03000247                265                AZJ,EQ  X2TEMP
00253  77600400                265+001            PAUS    0400B+SENSE             SENSE FOR TYPEWRITER BUSY
00254  01000253                267                UJP     *-Z-1                   WAIT FOR IT
00255  14100002                268                ENI     2,1
00256  13077747                269                SHAQ    -24
00257  51000026                270                DVA     TEN
00260  43401503     00320 3    271                SQCH    DKMSGEC,1
00261  02500256                272                IJD     *-Z-3,1
00262  20001464                273                LDA     ADDRESS                 LOAD THE DISK ADDRESS
00263  14177770                274                ENI     -7,1
00264  14700000                275                ENQ     0
00265  13000003                276                SHAQ    3
00266  43401534     00327 0    277                SQCH    DKMSGADR+10,1
00267  02100264                278                IJI     *-Z-3,1
```

```
00270  20001230                    279                 LDA     BLKTEMP             LOAD THE FILE BLOCK NUMBER
00271  14177770                    280                 ENI     -7,X1
00272  14700000                    281                 ENQ     0
00273  13000003                    282                 SHAQ    3
00274  43401571      00336 1       283                 SQCH    DKMBLK+7,X1         STORE THE BLOCK NUMBER IN THE
00275  02100272                    284                 IJI     *-Z-3,X1            MESSAGE
         00276                     285       ESTATUS   EQU     *-Z
00276  14600000                    286                 ENA     IMPURE
00277  12000014                    287                 SHA     12
00300  14177774                    288                 ENI     -3,1
00301  14700000                    289                 ENQ     0
00302  13000003                    290                 SHAQ    3
00303  43401543      00330 3       291                 SQCH    DKMSGEXS+6,1
00304  02100301                    292                 IJI     *-Z-3,1
00305  20000225                    293                 LDA     CNCODE              LOAD THE CONNECT CODE
00306  17600007                    294                 ANA     7
00307  42001552      00332 2       295                 SACH    DKMSGDRV+6
00310  11001502      00320 2       296                 ECHA    DKMSG
00311  14701572                    297                 VFD     09/147,C15/DKMSG+DKLNTH  THIS IS AN  ENQ
00312  00700361                    298                 RTJ     OUT
00313  01000247                    299                 UJP     X2TEMP
         01460                     299+001   PKMS      EQU,C   *-Z
00314  77472123                    299+002             TEXT,C  /^PACK IDENT≤/
         00317                     299+003   IDENT     EQU     *-Z
00317  60606060                    299+004             BCD,C   4,
00320  77770000                    299+005             TEXT,C  /^^/
         01502                     299+006   PKMSL     EQU,C   *-Z
         01502                     300       DKMSG     EQU,C   *-Z
00320  77777700                    301                 BCD,C   1,^
         01503                     302       DKMSGEC   EQU,C   *-Z
00320  77777767                    303                 BCD,C   15,XXX DISK ERRORS
         01522                     304       DKMSGADR  EQU,C   *-Z
00324  51626021                    305                 BCD,C   11, A=XXXXXXXX
         01535                     306       DKMSGEXS  EQU,C   *-Z
00327  67606213                    307                 BCD,C   7, S=XXXX
         01544                     308       DKMSGDRV  EQU,C   *-Z
00331  60644531                    309                 BCD,C   7, UNIT X
00332  63606760                    310                 BCD,C   7, BLOCK
         01562                     311       DKMBLK    EQU,C   *-Z
00334  42606767                    312                 BCD,C   8,XXXXXXXX
         00070                     313       DKLNTH    EQU,C   *-Z-DKMSG
         01572                     314       NAMEREQ   EQU,C   *-Z
00336  67677745                    315                 BCD,C   6,^NAME^
         01600                     316       WHEREMES  EQU,C   *-Z
00340  77663025                    317                 BCD,C   30,^WHERE IS MASS STORAGE DEVICE
         01636                     318       WHEREUNT  EQU,C   *-Z
00347  25606767                    319                 BCD,C   16,XX BLOCK NUMBER
         01656                     320       WHEREBLK  EQU,C   *-Z
00353  51606767                    321                 BCD,C   9,XXXXXXXX^
         00067                     322       WHERMESL  EQU,C   *-Z-WHEREMES
         01667                     323       BADMESS   EQU,C   *-Z
00355  67677777                    324                 BCD,C   12,^BAD LABEL^^^
         00014                     325       BADMESSL  EQU,C   *-Z-BADMESS
00360                              326                 BSS     0                   PERFORM BLACK MAGIC ON THE PC
         00361                     327       OUT       EQU     *-Z
00361  01000000                    328                 UJP     IMPURE
00362  77600400                    328+001             PAUS    0400B+SENSE         SENSE FOR TYPEWRITER BUSY
00363  01000362                    330                 UJP     *-Z-1               WAIT FOR IT
00364  53420023                    331                 TAM     23B                 SET THE FIRST CHARACTER ADDRESS
00365  53410033                    332                 TQM     33B                 SET THE LAST CHARACTER ADDRESS
00366  77760000                    333                 CTO
00367  01000361                    334                 UJP     OUT
```

```
                00370                    336     RDLBLBSY EQU      *-Z
00370   53020022                         337              TMA      22B
00371   53010022                         338              TMQ      22B
00372   03400371                         339              AQJ,EQ   *-Z-1                 WAIT FOR 1 MILLISECOND
00373   02500432                         340              IJD      RDLBLWT,1
                00374                    341     RDLABELX EQU      *-Z
00374   14600000                         342              ENA      0
                00375                    343     RDLABELQ EQU      *-Z
00375   21000317                         344              LDQ      IDENT
                00376                    345     RDLABEL  EQU      *-Z
00376   01000000                         346              UJP      IMPURE
00377   44000413                         347              SWA      RDLBLCON
00400   22002055        00413 1          348              LACH     RDLBLCHN
00401   77540000                         349              ACI
00402   53500000                         350              TAI      1
00403   14600001                         351              ENA      1
00404   12100000                         352              SHA      0,1
00405   16610000                         353              XOA      10000B
00406   44000410                         354              SWA      RDLBLOVR
00407   14600004                         355              ENA      4
                00410                    356     RDLBLOVR EQU      *-Z
00410   77510000                         357              IOCL     IMPURE
00411   44000450                         358              SWA      RDLBLAGN
00412   14100764                         359              ENI      500,1
                00413                    360     RDLBLCON EQU      *-Z
                02055                    361     RDLBLCHN EQU,C    *-Z+1
00413   77000000                         362              VFD      A9/CON,A15/IMPURE
00414   02500413                         363              IJD      *-Z-1,1
00415   05100001                         364              ISG      1,1
00416   01000374                         365              UJP      RDLABELX
00417   14600000                         366              ENA      0
00420   40001464                         367              STA      ADDRESS
00421   40001235                         368              STA      ERRORS
00422   14100450                         369              ENI      RDLBLAGN,1           ENTER THE ABNORMAL ADDRESS
00423   00700165                         370              RTJ      LOAD                 LOAD THE ADDRESS REGISTER
00424   77100040                         371              SEL      40B,SELECT           READ
00425   01000450                         372              UJP      RDLBLAGN
00426   74002574                         373              INPW     IO,BUFFER,BUFFER+LABEL
00427   00002474
00430   01000450                         374              UJP      RDLBLAGN
00431   14101750                         375              ENI      1000,1
                00432                    376     RDLBLWT  EQU      *-Z
00432   72000002                         377              EXS      0002B,SENSE          DISK DRIVE BUSY
00433   01000370                         378              UJP      RDLBLBSY
00434   77300001                         379              INS      0001B,SENSE          CHANNEL PARITY ERROR
00435   01000450                         380              UJP      RDLBLAGN
00436   72000004                         381              EXS      0004B,SENSE          CHECK FOR ERRORS
00437   01000450                         382              UJP      RDLBLAGN
00440   14100077                         383              ENI      LABEL-1,1
00441   14477777                         384              ENA,S    77777B
00442   36102474                         385              SCA      BUFFER,X1
00443   02500442                         386              IJD      *-Z-1,1
00444   03100450                         387              AZJ,NE   RDLBLAGN
00445   03300450                         388              AZJ,LT   RDLBLAGN
00446   20002474                         389              LDA      BUFFER+MSLIDENT      LOAD THE IDENTIFIER
00447   01000375                         390              UJP      RDLABELQ
                00450                    391     RDLBLAGN EQU      *-Z
00450   14600000                         392              ENA      IMPURE
00451   15477776                         393              INA,S    -1
00452   03200410                         394              AZJ,GE   RDLBLOVR
00453   01000374                         395              UJP      RDLABELX
                00454                    396     SYSLIBX  EQU      *-Z
00454   00301125                         397              SJ3      SYSLIB01
                00455                    398     ACCEPT   EQU      *-Z                  IF JUMP KEY SIX IS SET, READ IN
00455   25000476                         399              LDAQ     BLANKS               THE NAME OF THE FILE FROM THE
00456   45000001                         400              STAQ     NAME                 CONSOLE TYPEWRITER
00457   11001572        00336 2          401              ECHA     NAMEREQ
00460   14701600                         402              VFD      09/147,C15/NAMEREQ+6  ENQ
00461   00700361                         403              RTJ      OUT
00462   77600400                         403+001          PAUS     0400B+SENSE          SENSE FOR TYPEWRITER BUSY
00463   01000462                         405              UJP      *-Z-1                WAIT FOR IT TO FINISH
00464   11000004        00001 0          406              ECHA     NAMEC
00465   53420023                         407              TAM      23B
00466   11000014        00003 0          408              ECHA     NAMEC+8
00467   53420033                         409              TAM      33B
00470   77750000                         410              CTI                           ASK FOR A NAME
00471   77600400                         410+001          PAUS     0400B+SENSE          SENSE FOR TYPEWRITER BUSY
00472   01000471                         412              UJP      *-Z-1                WAIT FOR THE OPERATOR
00473   77602000                         412+001          PAUS     2000B+SENSE          SKIP IF REPEAT
```

```
00474  01000675          414                UJP     CONVERT
00475  01000455          415                UJP     ACCEPT          GIVE THE OPERATOR A SECOND CHANCE
         00476           416   BLANKS       EQU     *-Z
00476  60606060          417                BCD     2,
         00500           418   INIT         EQU     *-Z
00500  14102243          419                ENI     SCRATCHL-1,X1   ZERO OUT ALL THE TABLES
00501  14700000          420                ENQ     0
00502  41101230          421                STQ     SCRATCH,X1
00503  02500502          422                IJD     *-Z-1,X1
00504  44000545          423                SWA     DISK000         SAVE THE CONNECT CODE FOR THE
                         424   *                                    DISK THAT THIS PROGRAM CAME FROM
00505  00700376          425                RTJ     RDLABEL         READ IN ITS LABEL
00506  03000644          426                AZJ,EQ  BADLABEL        JUMP IF NOT A LABEL
00507  40000317          427                STA     IDENT           AND STORE THE IDENTIFIER FROM IT
                         428
00510  14200157          429                ENI     177B-20B,X2     INITIALIZE STATES 1-7 TO
00511  14600774          430                ENA     0774B           NON-EXISTANT MEMORY
00512  77644020          431                APF     PFW+20B,X2
00513  02600512          432                IJD     *-Z-1,X2
                         433
00514  14200017          434                ENI     17B,X2          INITIALIZE STATE ZERO TO POINT
00515  14600074          435                ENA     0074B           PHYSICIAL STATE ZERO
00516  77644000          436                APF     PFW,X2
00517  15477773          437                INA,S   -4
00520  02600516          438                IJD     *-Z-2,X2
                         439
00521  20002503          440                LDA     BUFFER+MSLFBPC  LOAD DEVICE CODE
00522  17600700          441                ANA     007008
00523  12077771          442                SHA     -6
00524  53600000          443                TAI     X2              DEVICE CODE TO X2
00525  20200027          444                LDA     SECPFB,X2       COMPUTE ADDRESS OF THIRD BLOCK ON
00526  30200027          445                ADA     SECPFB,X2       THE DEVICE
00527  40001464          446                STA     ADDRESS
00530  14600000          447                ENA     0
00531  40001235          448                STA     ERRORS
00532  14200011          449                ENI     9,X2            TRY A FEW TIMES
00533  14100536          450                ENI     GLERCH,X1       ENTER ABNORMAL RETURN ADDRESS
00534  00700165          451                RTJ     LOAD            SEEK THE DEVICE
00535  77100040          452                SEL     0040B,SELECT    SELECT READ
         00536           453   GLERCH       EQU     *-Z
00536  02600533          454                IJD     *-Z-3,X2        TRY AGAIN
00537  05200001          455                ISG     1,X2            SKIP IF OK
00540  00000540          456                HLT     *-Z
00541  74001230          457                INPW    IO,1000B,SCRATCH READ IN THE SECOND BLOCK
00542  00001000
00543  00000541          458                HLT     *-Z-2
00544  00700205          459                RTJ     WAIT            WAIT FOR COMPLETION
                         460
                         461
         00545           462   DISK000      EQU     *-Z
00545  14600000          463                ENA     IMPURE          ENTER CONNECT OF AUTOLOAD DISK
00546  00700563          464                RTJ     DKSCANX         HOW MANY UNITS ARE OUT THERE
                         465
                         466
         00547           467   BLOCKLOC     EQU     *-Z
00547  14600000          468                ENA     IMPURE          ENTER THE ADDRESS OF BLOCKS
00550  14104000          469                ENI     BLOCKBUF,X1
00551  00700035          470                RTJ     READ            READ THE BLOCK DIRECTORY
00552  14100776          471                ENI     WPFB-2,X1       LOOK FOR OTHER DISK CONTROLLERS
00553  20000004          472                LDA     DISK
00554  14577777          473                ENQ,S   77777B
00555  06304000          474                MEQ     BLOCKBUF,3
00556  01000650          475                UJP     MXKK            JUMP IF ALL DONE
00557  20104002          476                LDA     BLOCKBUF+2,X1   LOAD THE CONNECT CODE
00560  00700563          477                RTJ     DKSCANX
00561  01000553          478                UJP     *-Z-6           KEEP LOOKING
                         479
         00562           480   DKSCANX1     EQU     *-Z
00562  14100000          481                ENI     IMPURE,X1       RESTORE X1
         00563           482   DKSCANX      EQU     *-Z
00563  01000000          483                UJP     IMPURE
00564  47100562          484                STI     DKSCANX1,X1     SAVE X1
00565  17677000          485                ANA     77000B          SAVE THE CHANNEL AND EQUIPMENT
00566  15600007          486                INA     7B
00567  14300017          487                ENI     DKNUM-1,3
         00570           488   DKSCAN       EQU     *-Z
00570  15600001          489                INA     1               TRY THE NEXT CONNECT CODE
00571  44000602          490                SWA     CONSAVE         SAVE THE CONNECT CODE
00572  00700376          491                RTJ     RDLABEL
```

```
00573  03500640                492                AQJ,NE   UKLOOP
00574  20002475                493                LDA      BUFFER+MSLDN        LOAD THE DEVICE NUMBER
00575  05400100                494                ASG,S    DEVLIST             IS THE NUMBER WITHIN RANGE
00576  05400000                495                ASG,S    0
00577  01000640                496                UJP      DKLOOP              IGNORE THE PACK
00600  53600000                497                IAI      X2                  DEVICE NUMBER TO X2
00601  53640000                498                IAI      X2                  TWO TIMES DEVICE NUMBER
         00602                 499       CONSAVE  EQU      *-Z
00602  14600000                500                ENA      IMPURE              ENTER THE CONNECT CODE
00603  35000005                501                SSA      BIT23               SET THE DEFINED BIT
00604  35002503                502                SSA      BUFFER+MSLFBPC      SET IN THE CYLINDER CODE
00605  21201236                503                LDQ      DEVLUN,X2           HAS THE DEVICE BEEN PREVIOUSLY
00606  04500000                504                QSE,S    0                   DEFINED
00607  03500644                505                AQJ,NE   BADLABEL
00610  40201236                506                STA      DEVLUN,X2           SAVE THE CONNECT CODE
00611  21002477                507                LDQ      BUFFER+MSLHFBN      LOAD THE HIGH FILE BLOCK NUMBER
00612  15700001                508                INQ      1
00613  20201241                509                LDA      DEVBLK+2,X2         LOAD THE HIGH FILE BLOCK NUMBER
00614  41201241                510                STQ      DEVBLK+2,X2         IF IT IS DEFINED
00615  04400000                511                ASE,S    0
00616  03500644                512                AQJ,NE   BADLABEL
00617  20002476                513                LDA      BUFFER+MSLLFBN      LOAD THE LOW FILE BLOCK NUMBER
00620  21201237                514                LDQ      DEVBLK,X2           IS THE VALUE KNOWN
00621  40201237                515                STA      DEVBLK,X2           SAVE THE LOW BLOCK NUMBER
00622  04500000                516                QSE,S    0
00623  03500644                517                AQJ,NE   BADLABEL
00624  02600640                518                IJD      DKLOOP,X2           JUMP IF NOT DEVICE ZERO
00625  30002502                519                ADA      BUFFER+MSLBLK       COMPUTE THE ADDRESS OF BLOCKS
00626  44000547                520                SWA      BLOCKLOC            AND SAVE IT
00627  25002504                521                LDAQ     BUFFER+MSLFDLOC     LOAD THE FILE DIRECTORY
00630  45001231                522                STAQ     FILEDIR             INFORMATION AND SAVE IT
00631  25002506                523                LDAQ     BUFFER+MSLFDSEL     LOAD THE FILE DIRECTORY SCATTER
00632  45000765                524                STAQ     FDSELECT            FUNCTION INSTRUCTIONS
00633  20002510                525                LDA      BUFFER+MSLFDHSH     LOAD THE FILE DIRECTORY SCATTER
00634  40001233                526                STA      HASH                CONSTANT AND SAVE IT
00635  20002500                526+001            LDA      BUFFER+MSLPFBN      GET NUMB  OF PROTECTED BLOCKS
00636  30002476                526+002            ADA      BUFFER+MSLLFBN      ADD LOW FB NUMBER
00637  40001234                526+003            STA      HPFB                SAVE.
         00640                 527       DKLOOP   EQU      *-Z
00640  20000602                528                LDA      CONSAVE
00641  02700570                529                IJD      DKSCAN,3            SCAN ALL THE DISKS
00642  77510377                530                IOCL     377B                TURN OFF ANY REJECT LITES
00643  01000562                531                UJP      DKSCANX1
                               532
                               533
         00644                 534       BADLABEL EQU      *-Z
00644  11001667      00355 3   535                ECHA     BADMESS
00645  14701703                536                VFD      09/147,C15/BADMESS+BADMESSL
00646  00700361                537                RTJ      OUT
00647  00000647                538                HLT      *-Z
                               539
                               540
         00650                 541       MXKK     EQU      *-Z
00650  14300000                542                ENI      0,X3
         00651                 543       MXK      EQU      *-Z
00651  14200000                544                ENI      0,X2                START AT THE FRONT OF THE BLOCK
         00652                 545       MXL      EQU      *-Z                 PROCESS THE SYMBOL LIST
00652  25204000                546                LDAQ     BLOCKBUF,X2
00653  33301216                547                SBAQ     BLKLIST,X3          COMPARE SYMBOLS
00654  13400000                548                SCAQ
00655  03000662                549                AZJ,EQ   MXZ                 JUMP IF SYMBOL FOUND
00656  15200003                550                INI      3,X2
00657  05200776                551                ISG      WPFB-2,X2           SKIP IF SYMBOL IS UNDEFINED
00660  01000652                552                UJP      MXL                 OTHERWISE, LOOP BACK
00661  00000661                553                HLT      *-Z                 SYMBOL NOT IN SYMBOL BLOCK
         00662                 554       MXZ      EQU      *-Z
00662  20204002                555                LDA      BLOCKBUF+2,X2       LOAD THE VALUE OF THE SYMBOL
00663  40301216                556                STA      BLKLIST,X3          SAVE THE VALUE FOR REFERENCE
00664  15300002                557                INI      2,X3                PROCESS THE NEXT SYMBOL
00665  05300012                558                ISG      BLKLNTH,X3          SKIP IF DONE
00666  01000651                559                UJP      MXK
                               560
00667  14101474                561                ENI      MXSLIST,X1          VALUE OF MXSBLOCK IS NOW IN A
00670  00700035                562                RTJ      READ                READ IN THE SUBSTITUTION LIST
                               563
00671  11001460      00314 0   563+001            ECHA     PKMS
00672  14701502                563+002            VFD      09/147,C15/PKMSL    ENQ
00673  00700361                563+003            RTJ      OUT
00674  00600455                564                SJ6      ACCEPT              JUMP IF OPERATOR CONTROL
```

```
                00675                565       CONVERT  EQU      *-Z
    00675   25000001                 566                LDAQ     NAME
    00676   33000006                 567                SBAQ     SYSLIB
    00677   13400000                 568                SCAQ
    00700   03000454                 569                AZJ,EQ   SYSLIBX          JUMP IF SYSLIB OPERATION
    00701   14701000                 569+001            ENQ      WPFB
    00702   41000015                 569+002            STQ      WC
    00703   20001222                 569+003            LDA      COMMANDS         GET ADDRESS OF COMMANDS BLOCK
    00704   14102474                 569+004            ENI      BUFFER,X1
    00705   00700035                 569+005            RTJ      READ             READ IN SPECIAL COMMANDS
    00706   14101000                 569+006            ENI      WPFB,X1
    00707   47101043                 569+007            STI      TRAFLAG,X1       SET NOT SPECIAL FLAG
                00710                569+008  SRCHLP    EQU      *-Z
    00710   14577777                 569+009            ENQ,S    77777B
    00711   20000001                 569+010            LDA      NAME
    00712   06502474                 569+011            MEQ      BUFFER,5         LOOK FOR NAME IN LIST
    00713   01000761                 569+012            UJP      SEARCHFD         NOT FOUND, TRY OVERLAY
    00714   21000002                 569+013            LDQ      NAME+1           GET 2ND HALF OF NAME
    00715   20102475                 569+014            LDA      BUFFER+1,X1      TO COMPARE WITH COMMAND
    00716   03500710                 569+015            AQJ,NE   SRCHLP           JUMP IF NOT THE SAME
    00717   20102500                 569+016            LDA      BUFFER+4,X1      GET TRANSFER ADDRESS
    00720   44001103                 569+017            SWA      TRA              AND SAVE IT
    00721   25102476                 569+018            LDAQ     BUFFER+2,X1      GET CONTROL WORDS
    00722   45000001                 569+019            STAQ     NAME             (SAVE THEM)
    00723   47001043                 569+020            STI      TRAFLAG,0        SET SPECIAL COMMAND FLAG
    00724   03300761                 569+021            AZJ,LT   SEARCHFD         JUMP IF OVERLAY NAME
    00725   21001234                 569+022            LDQ      HPFB             GET LAST BLOCK ON LIBRARY+1
    00726   03600761                 569+023            AQJ,GE   SEARCHFD         JUMP IF OVERLAY NAME
    00727   20000002                 569+024            LDA      NAME+1           GET BIT MAP OF PAGES
    00730   03001033                 569+025            AZJ,EQ   ZAP              JUMP IF BAD BIT MAP
                                     569+026  *
                00731                569+027  PAGELP    EQU      *-Z
    00731   14600000                 569+028            ENA      0
    00732   21000002                 569+029            LDQ      NAME+1           GET CURRENT BIT MAP
    00733   13500056                 569+030            SCAQ     46,X1            COUNT CURRENT PAGE NUMBER
    00734   03001074                 569+031            AZJ,EQ   SYSFLAGX         CALL ROUTINE IF DONE
    00735   13000001                 569+032            SHAQ     1                ARRANGE TO
    00736   36000005                 569+033            SCA      BIT23            TURN OFF THE BIT
    00737   13100001                 569+034            SHAQ     1,X1             RESTORE Q (ONE BIT LESS)
    00740   16177777                 569+035            XOI      77777B,X1        NEGATE BIT NUMBER
    00741   05177761                 569+036            ISG      -14,X1           SKIP IF OK
    00742   00000742                 569+037            HLT      *-Z
    00743   41000002                 569+038            STQ      NAME+1           SAVE NEXT BIT MAP
    00744   14600017                 569+039            ENA      15               NUMBER OF PAGES/BANK-1
    00745   53140000                 569+040            AIA      X1               COMPUTE PAGE NO. TO READ
    00746   12000013                 569+041            SHA      11               CONVERT TO CORE ADDRESS
    00747   53500000                 569+042            TAI      X1
    00750   14704000                 569+043            ENQ      4*WPFB           NUMBER OF WORDS/PAGE
    00751   41000015                 569+044            STQ      WC               WORD COUNT FOR READ
    00752   20000001                 569+045            LDA      NAME             GET PAGE ADDRESS
    00753   00700035                 569+046            RTJ      READ             READ PAGE
    00754   14701000                 569+047            ENQ      WPFB
    00755   41000015                 569+048            STQ      WC
    00756   14600004                 569+049            ENA      4                NUMBER OF FILE BLOCKS/PAGE
    00757   34000001                 569+050            RAD      NAME             INCREMENT PAGE ADDRESS
    00760   01000731                 569+051            UJP      PAGELP           LOOP TILL DONE
                                     569+052  *
                00761                569+053  SEARCHFD  EQU      *-Z
                00761                570      SEARCH    EQU      *-Z
    00761   25000001                 571                LDAQ     NAME
                                     572      *
                                     573      *         THIS IS THE SCATTER FUNCTION FOR THE FILE DIRECTORY
                                     574      *
    00762   53040000                 575                AQA
    00763   50001233                 576                MUA      HASH
    00764   53040000                 577                AQA
                00765                578      FDSELECT  EQU      *-Z
    00765   00000765                 579                VFD      A24/*-Z+IMPURE,A24/IMPURE
                                     580
                00767                581      FDREAD    EQU      *-Z
    00767   14701000                 582                ENQ      WPFB             SET THE BUFFER LENGTH TO WPFB
    00770   41000015                 583                STQ      WC
    00771   21001232                 584                LDQ      FDLENGTH         LOAD FILE DIRECTORY LENGTH
    00772   03700774                 585                AQJ,LT   *-Z+2
    00773   14600000                 586                ENA      0
    00774   40001465                 587                STA      FBLK
    00775   30001231                 588                ADA      FILEDIR          ADD BASE ADDRESS OF THE DIRECTORY
    00776   14102474                 589                ENI      BUFFER,1
    00777   00700035                 590                RTJ      READ             READ A BLOCK FROM THE DIRECTORY
```

```
01000  14100000          591          ENI     0,X1                    INITIALIZE FOR THE SEARCH
       01001              592  FDLOOKX EQU     *-Z
01001  25000001          593          LDAQ    NAME
01002  33102474          594          SBAQ    BUFFER+FDSYM,X1
01003  13400000          595          SCAQ
01004  03001016          596          AZJ,EQ  FDLOOKZ
       01005              597  FDLOOK  EQU     *-Z
01005  15100012          598          INI     FDELNTH,X1
01006  05100767          599          ISG     WPFB-FDELNTH+1,X1
01007  01001001          600          UJP     FDLOOKX
01010  20102462          601          LDA     BUFFER-FDELNTH+FDSYM,X1
01011  03101013          602          AZJ,NE  *-Z+2
01012  03200455          603          AZJ,GE  ACCEPT                  JUMP IF FILE NAME NOT FOUND
01013  20001465          604          LDA     FBLK
01014  15600001          605          INA     1
01015  01000767          606          UJP     FDREAD
       01016              607  FDLOOKZ EQU     *-Z
01016  20001216          608          LDA     ACCOUNT                 LOAD THE SYSTEM ACCOUNT NUMBER
01017  21001220          609          LDQ     USER                    LOAD THE SYSTEM USER CODE
01020  33102476          610          SBAQ    BUFFER+FDACC,1
01021  13400000          611          SCAQ
01022  03101005          612          AZJ,NE  FDLOOK                  COMPARE THE ACCOUNT/USER CODE
01023  20102504          613          LDA     BUFFER+FDCDATE,X1
01024  03301033          614          AZJ,LT  ZAP                     JUMP IF DATA IS NOT PRESENT
01025  20102501          615          LDA     BUFFER+FDLP,1
01026  40001466          616          STA     BKPTR                   SAVE THE BLOCK NUMBER
01027  14102474          617          ENI     BUFFER,1
01030  00700035          618          RTJ     READ                    READ THE FIRST FILE BLOCK
01031  20002476          619          LDA     BUFFER+2                LOAD THE LEADING WORD COUNT
01032  04600004          620          ASE     4                       SKIP IF LEGITIMATE
       01033              621  ZAP     EQU     *-Z                     ITS BEEN ZAPPED
01033  00001033          622          HLT     *-Z
01034  21002503          623          LDQ     BUFFER+7                CHECK THE TRAILING WORD COUNT
01035  03501033          624          AQJ,NE  ZAP
01036  20002475          625          LDA     BUFFER+1                THE BACKWARD POINTER FROM THIS
01037  03101033          626          AZJ,NE  ZAP                     BLOCK MUST BE -0
01040  03201033          627          AZJ,GE  ZAP
01041  25002501          628          LDAQ    BUFFER+5                LOAD THE TRANSFER ADDRESSES
01042  45001472          629          STAQ    HEADER+2                AND SAVE THEM
       01043              629+001 TRAFLAG EQU     *-Z
01043  04000001          629+002      ISE     IMPURE+1,0              SKIP IF TRA PRESENT
01044  44001103          630          SWA     TRA                     STORE THE PRIMARY ADDRESS
01045  25002477          631          LDAQ    BUFFER+3                LOAD THE FWA AND THE WORD COUNT
01046  17677777          632          ANA     77777B                  MASK OFF THE OVERLAY AND THE
01047  17777777          633          ANQ     77777B                  SEGMENT NUMBERS
       01050              634  STRHEAD EQU     *-Z
01050  45001470          635          STAQ    HEADER                  AND SAVE THEM TOO
01051  15477776          636          INA,S   -1                      ADJUST SLIGHTLY
01052  44001104          637          SWA     LOWMEM
01053  05403777          638          ASG,S   03777B                  THERE IS A LOWER CORE LIMIT
01054  01001121          639          UJP     OVERCHEC                JUMP IF IN PAGE ZERO
01055  53040000          640          AQA
01056  14777777          641          ENQ     77777B
01057  03601124          642          AQJ,GE  OVERLAP                 NO END-AROUND-MEMORY FOR THIS KID
01060  27002504          643          LDL     BUFFER+8                LOAD THE RECORD WORD COUNT
01061  21001471          644          LDQ     HEADER+1                THE HEADER MUST AGREE COMPLETELY
01062  03501033          645          AQJ,NE  ZAP
01063  44001067          646          SWA     WCZ
01064  14200000          647          ENI     0,2
01065  14300011          648          ENI     9,3                     NINE WORDS INTO THIS FILE BLOCK
       01066              649  MOVE    EQU     *-Z
01066  20302474          650          LDA     BUFFER,3                LOAD A WORD FROM THE FILE
       01067              651  WCZ     EQU     *-Z
01067  10200000          652          ISI     IMPURE,2                SKIP IF THE TRAILING WORD COUNT
01070  01001104          653          UJP     LOWMEM                  ITS DATA SO STORE IT AWAY
01071  17677777          654          ANA     77777B                  MASK OFF THE BINARY BIT
01072  21001471          655          LDQ     HEADER+1                CHECK IT AGAINST THE HEADER
01073  03501033          656          AQJ,NE  ZAP
       01074              657  SYSFLAGX EQU    *-Z
       04363              658  SYSFLAG  EQU,C- *-Z+3
01074  04000000          659          ISE     IMPURE,0                SKIP IF NO SYSTEM LIBRARY MODS
01075  01001157          660          UJP     SYSLIB02                JUMP TO THE MODIFIER ROUTINE
01076  14201236          661          ENI     DEVLUN,2
01077  54100545          662          LDI     DISK000,X1              LOAD CONNECT CODE OF AUTOLOAD DIS
01100  21001473          663          LDQ     HEADER+3                LOAD THE SECONDARY TRA ADDRESS
01101  20001215          664          LDA     RW                      LOAD THE ADDRESSES OF READ/WRITE
01102  77700000          665          SLS                             WAIT FOR THE SYSTEMS PROGRAMMER
       01103              666  TRA     EQU     *-Z
01103  01000000          667          UJP     IMPURE                  JUMP TO THE PRIMARY TRA ADDRESS
```

```
                01104                   668       LOWMEM   EQU      *-Z
    01104   40200000                    669                STA      IMPURE,2        STORE THE WORD AWAY
    01105   05300777                    670                ISG      WPFB-1,3        SKIP IF END OF FILE BLOCK
    01106   02301066                    671                IJI      MOVE,3          LOOP BACK
    01107   20002474                    672                LDA      BUFFER          LOAD THE FORWARD POINTER
    01110   40001467                    673                STA      BKPTR+1         SAVE IT FOR FUTURE REFERENCE
    01111   14102474                    674                ENI      BUFFER,1
    01112   00700035                    675                RTJ      READ            READ IN THE NEXT BLOCK
    01113   14300002                    676                ENI      2,3             SKIP OVER THE POINTERS
    01114   25001466                    677                LDAQ     BKPTR           CHECK TO SEE THAT THE LINKS ARE
    01115   41001466                    678                STQ      BKPTR           THE SAME IN BOTH DIRECTIONS
    01116   21002475                    679                LDQ      BUFFER+1
    01117   03401066                    680                AQJ,EQ   MOVE            JUMP IF EVERTHING IS OK
    01120   01001033                    681                UJP      ZAP             THIS FILE HAS BEEN ZAPPED
                                        682
                01121                   683       OVERCHEC EQU      *-Z
    01121   15604001                    684                INA      4000B+1         DIDDLE THE FWA IN CASE OF SYSLIB
    01122   54201074                    685                LDI      SYSFLAGX,X2     IS THIS SYSLIB
    01123   02601050                    686                IJD      STRHEAD,X2      JUMP IF SYSLIB
                01124                   687       OVERLAP  EQU      *-Z
    01124   00001124                    688                HLT      *-Z
```

```
                01125                   690   SYSLIB01 EQU      *-Z
01125   20001224                        691            LDA      CR                  LOAD THE CARD READER CONNECT CODE
01126   44001132                        692            SWA      RDCON
01127   22004551        01132 1         693            LACH     RDCHN               LOAD THE CARD READER CHANNEL
01130   77540000                        694            ACI                          AND PUT IT INTO THE CHANNEL INDEX
01131   14600000                        695            ENA      0                   SELECT PROGRAM STATE ZERO
                04551                   696   RDCHN    EQU,C    *-Z+1
                01132                   697   RDCON    EQU      *-Z
01132   77000000                        698            VFD      A9/CON,A15/IMPURE   CONNECT TO THE CARD READER
01133   01001132                        699            UJP      *-Z-1
01134   74001464                        700            INPW     IO,RBUFFER,RBUFFER+20
01135   00001440
01136   01001134                        701            UJP      *-Z-2
01137   773000006                       702            INS      00006B,SENSE        SENSE FOR CHANNEL BUSY
01140   01001137                        703            UJP      *-Z-1
01141   77300001                        704            INS      00001B,SENSE
01142   00001132                        705            HLT      RDCON
01143   23006200        01440 0         706            LQCH     RBUFFERC            TEST COLUMN ONE FOR A 7/8 PUNCH
01144   04700017                        707            QSE      17B                 SKIP IF A 7/8 PUNCH
01145   01001147                        708            UJP      *-Z+2               CONTINUE IF NO 7/8 PUNCH PRESENT
01146   00003700                        709            HLT      3700B               OTHERWISE, STOP
                                        710
01147   14173776                        711            ENI      77776B-4000B,X1     ZERO MEMORY BEFORE
01150   40104000                        712            STA      4000B,X1            READING IN THE OVERLAY
01151   02501150                        713            IJD      *-Z-1,X1
                                        714
01152   25001440                        715            LDAQ     RBUFFER             LOAD THE FILE NAME
01153   45000001                        716            STAQ     NAME                SAVE IT FOR THE DIRECTORY SEARCH
01154   14600077                        717            ENA      77B
01155   42004363        01074 3         718            SACH     SYSFLAG             SET THE SYSTEM MODIFICATION FLAG
01156   01000761                        719            UJP      SEARCH              GO FIND AND LOAD THE OVERLAY
                01157                   720   SYSLIB02 EQU      *-Z
01157   20001470                        721            LDA      HEADER              LOAD THE FWA FOR THE OVERLAY
01160   17674000                        722            ANA      74000B              MASK TO A PAGE BOUNDARY
01161   44000200                        723            SWA      LWA                 SAVE FOR FUTURE USE
01162   14604000                        724            ENA      4000B               SET THE BUFFER LENGTH TO A PAGE
01163   40000015                        725            STA      WC
01164   77700000                        726            SLS                          WAIT FOR THE SYSTEMS PROGRAMMER
01165   14277670                        727            ENI      -71,2               START THE SCAN IN COLUMN 10
                01166                   728   SYSLIB03 EQU      *-Z
01166   02201170                        729            IJI      *-Z+2,2
01167   01001125                        730            UJP      SYSLIB01            LOOK FOR MORE MODIFICATIONS
01170   14600060                        731            ENA      60B                 BCD BLANK
01171   23406317        01463 3         732            LQCH     RBUFFERC+79,2       LOAD A CHARACTER
01172   03401166                        733            AQJ,EQ   SYSLIB03            LOOP BACK IF A BLANK
01173   13000030                        734            SHAQ     24                  PUT THE CHARACTER INTO A
01174   05600010                        735            ASG      8                   SKIP IF NOT AN OCTAL DIGIT
01175   01001207                        736            UJP      SYSLIB06            PACK A FILE BLOCK NUMBER
01176   00001176                        737            HLT      *-Z                 CARD FORMAT ERROR
                01177                   738   SYSLIB04 EQU      *-Z
01177   23406317        01463 3         739            LQCH     RBUFFERC+79,2       LOAD A CHARACTER
01200   05700010                        740            QSG      8                   SKIP IF NOT AN OCTAL DIGIT
01201   01001205                        741            UJP      SYSLIB05            ADD-MULTIPLY THIS DIGIT IN
01202   04700060                        742            QSE      60B                 SKIP IF A BLANK
01203   00001203                        743            HLT      *-Z                 CARD FORMAT ERROR
01204   01001210                        744            UJP      SYSLIB07            THE NUMBER IS NOW PACKED
                01205                   745   SYSLIB05 EQU      *-Z
01205   12400025                        746            SHQ      21                  PACK THE OCTAL NUMBER
01206   13000003                        747            SHAQ     3
                01207                   748   SYSLIB06 EQU      *-Z
01207   02201177                        749            IJI      SYSLIB04,2          LOOP BACK IF MORE CHARACTERS
                01210                   750   SYSLIB07 EQU      *-Z
01210   54100200                        751            LDI      LWA,X1              LOAD THE PAGE ADDRESS
01211   05104000                        752            ISG      4000B,X1            SKIP IF LEGAL
01212   00001212                        753            HLT      *-Z                 THIS IS SERIOUS BUSINESS
01213   00700045                        754            RTJ      WRITE               WRITE THE PAGE OUT
01214   01001166                        755            UJP      SYSLIB03            LOOP BACK
```

```
                 01215    758        RW         EQU      *-Z
 01215  00350045          759                   VFD      0170,A11/READ,01/0,A11/WRITE
                          760
                 01216    761        BLKLIST    EQU      *-Z                     SYMBOLS FROM SYMBOL BLOCK
                 01216    762        ACCOUNT    EQU      *-Z                     SYSTEM ACCOUNT NUMBER
 01216  21232346          763                   BCD      2,ACCOUNT
                 01220    764        USER       EQU      *-Z                     SYSTEM USER CODE
 01220  64622551          765                   BCD      2,USER
                 01222    765+001    COMMANDS   EQU      *-Z
 01222  23464444          765+002               BCD      2,COMMANDS
                 01224    766        CR         EQU      *-Z                     CARD READER CONNECT CODE
 01224  23516060          767                   BCD      2,CR
 01226  44676222          768                   BCD      2,MXSBLOCK              MUST BE LAST
                 00012    769        BLKLNTH    EQU      *-Z-BLKLIST             LENGTH OF SYMBOL TABLE
                          770
                          771
                          772
                          773                   IF       *-Z-1777B-1 GE 0, SOMEBODY BLEW IT
                          774
                 01230    775        SCRATCH    EQU      *-Z
                 01230    776        BLKTEMP    EQU      *-Z
 01230                    777                   BSS      1
                          778
                 01231    779        FILEDIR    EQU      *-Z                     FIRST BLOCK OF THE FILE DIRECTORY
 01231                    780                   BSS      2
                 01232    781        FDLENGTH   EQU      FILEDIR+1               LENGTH OF THE FILE DIRECTORY
                 01233    782        HASH       EQU      *-Z
 01233                    783                   BSS      1
                 01234    783+001    HPFB       EQU      *-Z                     LAST BLOCK OF LIBRARY+1
 01234                    783+002               BSS      1
                 01235    784        ERRORS     EQU      *-Z                     DISK ERROR COUNTER
 01235                    785                   BSS      1
                 01236    786        DEVLUN     EQU      *-Z
                 01237    787        DEVBLK     EQU      DEVLUN+1
 01236                    788                   BSS      DEVLIST+DEVLIST+2
                 01440    789        RBUFFER    EQU      *-Z
                 06200    790        RBUFFERC   EQU,C    *-Z
 01440                    791                   BSS      20
                 01464    792        ADDRESS    EQU      *-Z
 01464                    793                   BSS      1
                 01465    794        FBLK       EQU      *-Z
 01465                    795                   BSS      1
                 01466    798        BKPTR      EQU      *-Z
 01466                    799                   BSS      2
                 01470    800        HEADER     EQU      *-Z
 01470                    801                   BSS      4
                 01474    802        MXSLIST    EQU      *-Z
 01474                    803                   BSS      WPFB
                 02474    804        BUFFER     EQU      *-Z
 02474                    805                   BSS      WPFB
                 02244    806        SCRATCHL   EQU      *-Z-SCRATCH
                          807                   IF       *-Z-3700B GE 0, SOMEBODY BLEW IT
                          808                   END

   NO LINES WITH ERRORS
```

```
    ACCEPT      00455       390       415 00475P       564 00674P       603 01012P
    ACCOUNT     01216       762       608 01018P
    ADDRESS     01464       792       145 00105P       203 00171P       203 00171P       273 00262P       367 00420P       446 00527P
    ADDSAVE     00076       137       126 00063P
    BADLABEL    00644       534       426 00506P       505 00607P       512 00616P       517 00623P
    BADMESS     01667       323       325 00360P       535 00644P       536 00645P
    BADMESSL    00014       325       536 00645P
    BIT23       00005        51       501 00603P   569+33 00736P
    BKPTR       01466       798       616 01026P       673 01110P       677 01114P       678 01115P
    BLANKS      00476       416       399 00455P
    BLKLIST     01216       761       769 01230P       547 00653P       556 00663P
    BLKLNTH     00012       769       558 00665P
    BLKTEMP     01230       776       158 00121P       185 00152P       279 00270P
    BLOCKBUF    04000         3       469 00550P       474 00555P       476 00557P       546 00652P       555 00662P
    BLOCKLOC    00547       467       520 00626P
    BUFFER      02474       804       373 00426P       373 00426P       385 00442P       389 00446P       440 00521P       493 00574P
                                      502 00604P       507 00611P       513 00617P       519 00625P       521 00627P       523 00631P
                                      525 00633P     526+1 00635P     526+2 00636P     569+4 00704P    569+11 00712P    569+14 00715P
                                  569+16 00717P    569+18 00721P       589 00776P       594 01002P       601 01010P       610 01020P
                                      613 01023P       615 01025P       617 01027P       619 01031P       623 01034P       625 01036P
                                      628 01041P       631 01045P       643 01060P       650 01066P       672 01107P       674 01111P
                                      679 01116P
    CNCODE      00225       239       129 00066P       293 00305P
    COMMANDS    01222     765+1     569+3 00703P
    COMPLAIN    00250       262        99 00043P       120 00057P       257 00245P
    CON         00770         4       240 00225P       362 00413P       698 01132P
    CONNECT     00223       236       155 00117P
    CONNECTX    00222       234       242 00227P
    CONSAVE     00602       499       490 00571P       528 00640P
    CONVERT     00675       565       414 00474P
    CR          01224       766       691 01125P
    DEVBLK      01237       787       124 00061P       173 00140P       509 00613P       510 00614P       514 00620P       515 00621P
    DEVLIST     00100         5       788 01236P       788 01236P       176 00143P       494 00575P
    DEVLUN      01236       786       787 01236P       127 00064P       503 00605P       506 00610P       661 01076P
    DISK        00004        49       472 00553P
    DISK000     00545       462       423 00504P       662 01077P
    DKLNTH      00070       313       297 00311P
    DKLOOP      00640       527       492 00573P       496 00577P       518 00624P
    DKMBLK      01562       311       283 00274P
    DKMSG       01502       300       313 00336P       296 00310P       297 00311P
    DKMSGADR    01522       304       277 00266P
    DKMSGORV    01544       308       295 00307P
    DKMSGEC     01503       302       271 00260P
    DKMSGEXS    01535       306       291 00303P
    DKNUM       00020         6       487 00567P
    DKSCAN      00570       488       529 00641P
    DKSCANX     00563       482       464 00546P       477 00560P
    DKSCANX1    00562       480       484 00564P       531 00643P
    ERROR       00230       243        97 00041P       114 00051P       118 00055P       201 00167P       204 00173P       215 00202P
                                      223 00210P       228 00215P       231 00220P
    ERRORS      01235       784       141 00101P       247 00233P       252 00240P       264 00251P       368 00421P       448 00531P
    ESTATUS     00276       285       246 00232P
    FBLK        01465       794       587 00774P       604 01013P
    FDACC       00002         9        10 00000P       610 01020P
*   FDATE       00004        11
*   FDBUSY      00011        16
    FDCDATE     00010        15       613 01023P
    FDELNTH     00012        17       598 01005P       599 01006P       601 01010P
*   FDEPP       00006        13
    FDLENGTH    01232       781       584 00771P
    FDLOOK      01005       597       612 01022P
    FDLOOKX     01001       592       600 01007P
    FDLOOKZ     01016       607       596 01004P
    FDLP        00005        12       615 01025P
    FDREAD      00767       581       606 01015P
    FDSELECT    00765       578       524 00632P
    FDSYM       00000         8       594 01002P       601 01010P
*   FDTFL       00007        14
*   FDURN       00003        10
    FILEDIR     01231       779       781 01233P       522 00630P       588 00775P
    FWA         00201       213       147 00107P       160 00123P
    GLERCH      00536       453       450 00533P
    HASH        01233       782       526 00634P       576 00763P
    HEADER      01470       800       629 01042P       635 01050P       644 01061P       655 01072P       663 01100P       721 01157P
    HPFB        01234   783+1     526+3 00637P   569+22 00725P
    IDENT       00317   299+3       344 00375P       427 00507P
    IMPURE      00000        19        64 00020P        65 00021P        93 00035P       110 00045P       138 00076P       153 00115P
                                      157 00120P       199 00165P       209 00176P       214 00200P       214 00200P       220 00205P
                                      237 00223P       240 00225P       261 00247P       263 00250P       286 00276P       328 00361P
```

```
                                        346 00376P    357 00410P    362 00413P    392 00450P    463 00545P    468 00547P
                                        431 00562P    483 00563P    500 00602P    579 00765P    579 00766P  629+2 01043P
                                        652 01067P    659 01074P    667 01103P    669 01104P    698 01132P
   INIT          00500       418       43 00000P
   IO            00000        20      203 00171P    214 00200P    373 00426P    457 00541P    700 01134P
   IOP           01000       211      159 00122P
   IOX           00176       208       98 00042P    115 00052P    119 00056P    217 00204P
   IR            00017        61      195 00164P    258 00246P
   LABEL         00100        22      373 00426P    383 00440P
   LOAD          00165       198      116 00053P    206 00175P    235 00222P    370 00423P    451 00534P
   LOWMEM        01104       668      637 01052P    653 01070P
   LWA           00200       212      213 00200P    148 00110P    723 01161P    751 01210P
   MOVE          01066       649      671 01106P    680 01117P
   MPARITY       00040        55       66 00022P     67 00023P
   MSLBLK        00006        27      519 00625P
   MSLDN         00001        24      493 00574P
   MSLFBPC       00007        28      440 00521P    502 00604P
   MSLFDHSH      00014        31      525 00633P
   MSLFDLOC      00010        29      521 00627P
   MSLFDSEL      00012        30      523 00631P
   MSLHFBN       00003        26      507 00611P
   MSLIDENT      00000        23      389 00446P
   MSLLFBN       00002        25      513 00617P  526+2 00636P
   MSLPFBN       00004      26+1    526+1 00635P
   MXK           00651       543      559 00666P
   MXKK          00650       541      475 00556P
   MXL           00652       545      552 00660P
   MXSLIST       01474       302       48 00003P    168 00133P    170 00135P    561 00667P
*  MXSPTR        00003        47
   MXZ           00662       554      549 00655P
   NAME          00001        44      400 00456P    566 00675P  569+10 00711P  569+13 00714P  569+19 00722P  569+24 00727P
                                    569+29 00732P  569+38 00743P  569+45 00752P  569+50 00757P    571 00761P    593 01001P
                                        716 01153P
   NAMEC         00004        45      406 00464P    408 00466P
   NAMEREQ       01572       314      401 00457P    402 00460P
   OUT           00361       327       68 00024P    193 00162P    298 00312P    334 00367P    403 00461P    537 00646P
                                    563+3 00673P
   OVERCHEC      01121       683      639 01054P
   OVERLAP       01124       687      642 01057P
   PAGELP        00731    569+27   569+51 00760P
   PANICX        00152       184      162 00125P
   PANICZ        00145       178      125 00062P    128 00065P
   PERSIST       00016        59      253 00241P
   PFW           00000        33      431 00512P    436 00516P
   PKMS          01460     299+1    563+1 00671P
   PKMSL         01502     299+6    563+2 00672P
   PRESET        00120       156       95 00037P    112 00047P
   PRESETX       00061       123      174 00141P
   RBUFFER       01440       789      700 01134P    700 01134P    715 01152P
   RBUFFERC      06200       790      706 01143P    732 01171P    739 01177P
   RDCHN         04551       696      693 01127P
   RDCON         01132       697      692 01126P    705 01142P
   RDLABEL       00376       345      425 00505P    491 00572P
   RDLABELQ      00375       343      390 00447P
   RDLABELX      00374       341      365 00416P    395 00453P
   RDLBLAGN      00450       391      358 00411P    369 00422P    372 00425P    374 00430P    380 00435P    382 00437P
                                        387 00444P    388 00445P
   RDLBLBSY      00370       336      378 00433P
   RDLBLCHN      02055       361      348 00400P
   RDLBLCON      00413       360      347 00377P
   RDLBLOVR      00410       356      354 00406P    394 00452P
   RDLBLWT       00432       376      340 00373P
   READ          00035        92      100 00044P    470 00551P    562 00670P  569+5 00705P  569+46 00753P    590 00777P
                                        618 01030P    675 01112P    759 01215P
   RW            01215       758      664 01101P
   SCRATCH       01230       775      806 03474P    421 00502P    457 00541P
   SCRATCHL      02244       806      419 00500P
   SEARCH        00761       570      719 01156P
   SEARCHFD      00761    569+53   569+12 00713P  569+21 00724P  569+23 00726P
   SECPCYL       00032        80      142 00102P
   SECPFB        00027        75      139 00077P    444 00525P    445 00526P
   SELECT        00000        34       96 00040P    113 00050P    117 00054P    200 00166P    371 00424P    452 00535P
   SENSE         00000        35      221 00206P    222 00207P    224 00211P    226 00213P    227 00214P    229 00216P
                                        230 00217P    245 00231P    248 00234P    249 00235P  265+1 00253P  328+1 00362P
                                        377 00432P    379 00434P    381 00436P  403+1 00462P  410+1 00471P  412+1 00473P
                                        702 01137P    704 01141P
   SRCHLP        00710     569+8    569+15 00716P
   STRHEAD       01050       634      686 01123P
   SYSFLAG       04363       658      718 01155P
```

```
    SYSFLAGX      01074         657    569+31  00734P         685  01122P
    SYSLIB        00006          53       567  00676P
    SYSLIB01      01125         690       397  00454P         730  01167P
    SYSLIB02      01157         720       660  01075P
    SYSLIB03      01166         728       733  01172P         755  01214P
    SYSLIB04      01177         738       749  01207P
    SYSLIB05      01205         745       741  01201P
    SYSLIB06      01207         748       736  01175P
    SYSLIB07      01210         750       744  01204P
    SYSLIBX       00454         396       569  00700P
    TEN           00026          71       161  00147P         270  00257P
    TRA           01103         666    569+17  00720P         630  01044P
    TRAFLAG       01043       629+1     569+7  00707P      569+20  00723P
    USER          01220         764       609  01017P
    WAIT          00205         219       205  00174P         216  00203P         232  00221P         459  00544P
    WC            00015          57       146  00106P      569+2  00702P      569+44  00751P      569+48  00755P         583  00770P         725  01163P
    WCZ           01067         651       646  01063P
    WHEREBLK      01656         320       189  00156P
    WHEREMES      01600         316       322  00355P         191  00160P         192  00161P
    WHEREUNT      01636         318       164  00127P         165  00130P         182  00150P         183  00151P
    WHERMESL      00067         322       192  00161P
    WPFB          01000          36       803  01474P         805  02474P          58  00015P         167  00132P         471  00552P         551  00657P
                                         569+1  00701P      569+6  00706P      569+43  00750P      569+47  00754P         582  00767P         599  01006P
                                           670  01105P
    WRITE         00045         109       121  00060P         754  01213P         759  01215P
    X1            00001          38       154  00116P         160  00123P         186  00153P         189  00156P         190  00157P         280  00271P
                                           283  00274P         284  00275P         385  00442P         419  00500P         421  00502P         422  00503P
                                           450  00533P         469  00550P         471  00552P         476  00557P         481  00562P         484  00564P
                                           561  00667P      569+4  00704P      569+6  00706P      569+7  00707P      569+14  00715P      569+16  00717P
                                        569+18  00721P      569+30  00733P      569+34  00737P      569+35  00740P      569+36  00741P      569+40  00745P
                                        569+42  00747P         591  01000P         594  01002P         598  01005P         599  01006P         601  01010P
                                           613  01023P         662  01077P         711  01147P         712  01150P         713  01151P         751  01210P
                                           752  01211P
    X2            00002          39       124  00061P         127  00064P         139  00077P         142  00102P         161  00124P         175  00142P
                                           176  00143P         179  00145P         238  00224P         241  00226P         242  00227P         261  00247P
                                           429  00510P         431  00512P         432  00513P         434  00514P         436  00516P         438  00520P
                                           443  00524P         444  00525P         445  00526P         449  00532P         454  00536P         455  00537P
                                           497  00600P         498  00601P         503  00605P         506  00610P         509  00613P         510  00614P
                                           514  00620P         515  00621P         518  00624P         544  00651P         546  00652P         550  00656P
                                           551  00657P         555  00662P         685  01122P         686  01123P
    X2TEMP      ·00247         260       161  00124P         194  00163P         265  00252P         299  00313P
    X3            00003          40       542  00650P         547  00653P         556  00663P         557  00664P         558  00665P
    Z           00000P           41        44  00001P          45  00001P          47  00003P          49  00004P          51  00005P          53  00006P
                                           55  00010P          57  00015P          59  00016P          61  00017P          63  00020P          71  00026P
                                           75  00027P          80  00032P          92  00035P         109  00045P         123  00061P         137  00076P
                                          156  00120P         178  00145P         184  00152P         198  00165P         208  00176P         211  00200P
                                          212  00200P         219  00205P         234  00222P         236  00223P         239  00225P         243  00230P
                                          260  00247P         262  00250P         285  00276P      299+1  00314P      299+3  00317P      299+6  00320P
                                          300  00320P         302  00320P         304  00324P         306  00327P         308  00331P         311  00334P
                                          313  00336P         314  00336P         316  00340P         318  00347P         320  00353P         322  00355P
                                          323  00355P         325  00360P         327  00361P         336  00370P         341  00374P         343  00375P
                                          345  00376P         356  00410P         360  00413P         361  00413P         376  00432P         391  00450P
                                          396  00454P         398  00455P         416  00476P         418  00500P         453  00536P         462  00545P
                                          467  00547P         480  00562P         482  00563P         488  00570P         499  00602P         527  00640P
                                          534  00644P         541  00650P         543  00651P         545  00652P         554  00662P         565  00675P
                                        569+8  00710P      569+27  00731P      569+53  00761P         570  00761P         578  00765P         581  00767P
                                          592  01001P         597  01005P         607  01016P         621  01033P      629+1  01043P         634  01050P
                                          649  01066P         651  01067P         657  01074P         658  01074P         666  01103P         668  01104P
                                          683  01121P         687  01124P         690  01125P         696  01132P         697  01132P         720  01157P
                                          728  01166P         738  01177P         745  01205P         748  01207P         750  01210P         758  01215P
                                          761  01216P         762  01216P         764  01220P      765+1  01222P         766  01224P         769  01230P
                                          773  01230P         775  01230P         776  01230P         779  01231P         782  01233P      783+1  01234P
                                          784  01235P         786  01236P         789  01440P         790  01440P         792  01464P         794  01465P
                                          798  01466P         800  01470P         802  01474P         804  02474P         806  03474P         807  03474P
                                           62  00017P          69  00025P         152  00114P         154  00116P         169  00134P         171  00136P
                                          177  00144P         190  00157P         225  00212P         241  00226P         254  00242P         267  00254P
                                          272  00261P         278  00267P         284  00275P         292  00304P         330  00363P         339  00372P
                                          363  00414P         386  00443P         405  00463P         412  00472P         422  00503P         432  00513P
                                          438  00520P         454  00536P         456  00540P         458  00543P         478  00561P         538  00647P
                                          553  00661P      569+37  00742P         579  00765P         585  00772P         602  01011P         622  01033P
                                          688  01124P         699  01133P         701  01136P         703  01140P         708  01145P         713  01151P
                                          729  01166P         737  01176P         743  01203P         753  01212P
    ZAP           01033         621    569+25  00730P         614  01024P         624  01035P         626  01037P         627  01040P         645  01062P
                                          656  01073P         681  01120P
```