LENGTH OF PRG 00721

```
                                    1                IDENT     TABLES
                                    2                MACRO     ,,STF
                                    3                NAME      GENWORD
                                    4                IF        $STF(2) LE 0, EXIT
                                    5                IF        $STF(2) LE 7, GOTO .L1
                                    6         OCT $STF(1),$STF(1),$STF(1),$STF(1),$STF(1),$STF(1),$STF(1),$STF(1)
                                    7    ZZZZ       REEQU     $STF(2)-8
                                    8                GOTO      .L2
                                    9    .L1
                                   10                OCT       $STF(1)
                                   11    ZZZZ       REEQU     $STF(2)-1
                                   12    .L2
                                   13                GENWORD   $STF(1),ZZZZ
                                   14                END
                                   15
                                   16
00037  P                           17                ENTRY     ARRAYTBL
00665  P                           18                ENTRY     B210RB22
00702  P                           19                ENTRY     BLANKS
00447  P                           20                ENTRY     BLKCHECK
00470  P                           21                ENTRY     BLKFLAG
00061  P                           22                ENTRY     BLOCKTBL
00701  P                           23                ENTRY     BT201918
00700  P                           24                ENTRY     BIT2321
00072  P                           25                ENTRY     COUNTS
00663  P                           26                ENTRY     D10
00664  P                           27                ENTRY     D1000
00115  P                           28                ENTRY     DISKADD
00126  P                           29                ENTRY     DISKPNT
00016  P                           30                ENTRY     DKACTIVE
00000  P                           31                ENTRY     DKCONTAB
00014  P                           32                ENTRY     DKPOINT
00002  P                           33                ENTRY     DKSTATAB
00011                              34                ENTRY     DKSTATBL
00001  P                           35                ENTRY     DKSTATM1
00420  P                           36                ENTRY     FREEBLK
00421  P                           37                ENTRY     FREECHEC
00235  P                           38                ENTRY     GETBLK
00232  P                           39                ENTRY     GETCHEC
00662  P                           40                ENTRY     KZERO
00705  P                           41                ENTRY     LIBMASK
00204  P                           42                ENTRY     MSFBLK
00173  P                           43                ENTRY     MSFNUMB
00172  P                           44                ENTRY     MSQTOTAL
00011                              45                ENTRY     MSUNITS
00010                              46                ENTRY     MSUNITM1
00026  P                           47                ENTRY     MXWAITQ
00002                              48                ENTRY     NUMDKCON
00001                              49                ENTRY     NUMDKM1
00704  P                           49+001            ENTRY     07777777
00012                              50                ENTRY     PURELIST
00215  P                           51                ENTRY     PURETABL
00676  P                           52                ENTRY     BIT15,BIT16,BIT17,BIT18,BIT19,BIT20,BIT21,BIT22,BIT23
00714  P                           53                ENTRY     NBIT15,NBIT16,NBIT17,NBIT18,NBIT19,NBIT20,NBIT21
00677  P                           54                ENTRY     NBIT22,NBIT23,BIT2322
00717  P                           55                ENTRY     NBIT1920
00316  P                           56                ENTRY     SELBLK
00327  P                           57                ENTRY     SELLOOK
                                   58
                                   59
                                   60
                                   61                EXT       DISKIBT
                                   62                EXT       FINK
                                   63                EXT       FINKP1
                                   64                EXT       FLAGS
                                   65                EXT       FREEMEM
                                   66                EXT       GETMEM
                                   67                EXT       IMPURE01
                                   68                EXT       IMPURE02
                                   69                EXT       IMPURE03
                                   70                EXT       IMPURE04
                                   71                EXT       IMPURE05
                                   72                EXT       INHIBIT
                                   73                EXT       MACHERR
                                   74                EXT       MXSLIST
                                   75                EXT       NDISKIBT
                                   76                EXT       PURE01
                                   77                EXT       PURE02
```

```
                                78                  EXT         PURE03
                                79                  EXT         PURE04
                                80                  EXT         PURE05
                                81                  EXT         READ
                                82                  EXT         RETURN
                                83                  EXT         SYSERR
                                84                  EXT         SYSVAL
                                85                  EXT         TABBIT
                                86                  EXT         USRNUM
                                87                  EXT         WRITE
                                88
                                89
                                90
                                91
00011                           92  MSUNITS     EQU         9                   NUMBER OF MASS STORAGE UNITS
00010                           93  MSUNITM1    EQU         MSUNITS-1
00001                           94  X1          EQU         1
00002                           95  X2          EQU         2
00003                           96  X3          EQU         3
                                97
00000                           98  PSA         EQU         0
                                99
00000                          100  PFR         EQU         0
                               101
00000                          102  IMPURE      EQU         0
                               103
00041                          104  LOWLIMIT    EQU         33                  READ TABLES IN IF THIS LOW
00156                          105  HIGLIMIT    EQU         62+48               WRITE TABLES OUT IF THIS HIGH
```

```
                                 ********************************************************************************
                                 *                                                                              *
                                 *                          DKCONTAB                                            *
                                 *                                                                              *
                                 *          BIT 0-14 IF IOP  CONNECT CODE OF THE DEVICE                         *
                                 *          BIT 15-17 CHANNEL NUMBER                                            *
                                 *          BIT 20-18 EQUIPMENT NUMBER                                          *
                                 *          BIT 21 CONTROLLER IS NOT ON LINE                                    *
                                 *          BIT 23 I/O IN PROGRESS WITH THIS CONTROLLER                         *
                                 *                                                                              *
                                 *                                                                              *
                                 *                          DKSTATAB                                            *
                                 *                                                                              *
                                 *          BIT 0-14 CONNECT CODE                                               *
                                 *          BIT 15-20 LOGICIAL DEVICE NUMBER                                    *
                                 *          BIT 23 DEVICE NOT PRESENT                                           *
                                 *                                                                              *
                                 ********************************************************************************

00000  10000000                  DKCONTAB OCT      10000000
00001  10000000                           OCT      10000000
           00002  NUMDKCON EQU      *-DKCONTAB          MAX NUMBER OF DISK CONTROLLERS
           00001  NUMDKM1  EQU      NUMDKCON-1

           00002 P DKSTATAB EQU      *
           00001 P DKSTATM1 EQU      DKSTATAB-1
00002  40000000                    GENWORD  40000000,MSUNITS+1
           00011  DKSTATBL EQU      *-DKSTATAB-1

00014                              DKPOINT  BSS      NUMDKCON

00016                              DKACTIVE BSS      8                   8 CHANNELS
                                                                       POINTER TO THE MXQ BLOCK FOR
                                                                       THE LAST I/O TRANSFER ON EACH
                                                                       CHANNEL

00026                              MXWAITQ  BSS      MSUNITS             POINT TO THE QUEUE OF TRANSFERS
                                                                       FOR EACH MASS STORAGE UNIT

00037  77777777                    ARRAYTBL GENWORD  -0,2*MSUNITS        ARRAY POINTER TABLE
00061                              BLOCKTBL BSS      MSUNITS             LOWEST FILE BLOCK NUMBER TABLE
00072                              COUNTS   BSS      2*MSUNITS           NUMBER OF BLOCK POINTERS IN CORE
00114                              TCOUNTS  BSS      1
00115                              DISKADD  BSS      MSUNITS             ADDRESS OF THE LAST DISK TRANSFER
                                                                       ON EACH UNIT

00126  77777777                    DISKPNT  GENWORD  -0,4*MSUNITS        POINTER TO THE DUMMY BLOCK IN THE
                                                                       FILE BLOCK LISTS ON EACH UNIT
           00150 P DISKBPNT EQU      DISKPNT+2*MSUNITS   POINTER TO THE LAST BLOCK
                                                       WITH INFORMATION ON EACH UNIT

                                                       THE FORWARD POINTER IN A DISKBPNT
                                                       BLOCK SHOULD POINT TO THE PROPER
                                                       DISKPNT BLOCK  DITTO FOR DISKPNT
                                                       BACKWARD POINTERS

00172  00000000                    MSQTOTAL VFD      A24/IMPURE          TOTAL OF ALL FREE SPACE

00173                              MSFNUMB  BSS      MSUNITS             PACK NUMBER OF ALL USER DISK
                                                                       PACKS WAITING TO BE MOUNTED

00204                              MSFBLK   BSS      MSUNITS             POINTER TO THE CONTROL BLOCKS FOR
                                                                       ALL EQUIPPED USER DISK PACKS
                                                                       BIT23 SEZ TO UNEQUIP THE PACK

                                 ********************************************************************************
                                 *                                                                              *
                                 *          TABLE OF POINTERS TO MONITOR PURE CODE REGIONS                      *
                                 *                                                                              *
                                 ********************************************************************************

           00215 P PURETABL EQU      *
00215  00077777                    VFD      09/000,A15/PURE01,09/777,A15/IMPURE01
00217  00077777                    VFD      09/000,A15/PURE02,09/777,A15/IMPURE02
00221  00077777                    VFD      09/000,A15/PURE03,09/777,A15/IMPURE03
```

```
00223  00077777                186                    VFD       09/000,A15/PURE04,09/777,A15/IMPURE04
00225  00077777                187                    VFD       09/000,A15/PURE05,09/777,A15/IMPURE05
           00012                188        PURELIST    EQU       *-PURETABL
                                189
```

```
                                 192     *****************************************************************************
                                 193     *                                                                           *
                                 194     *       THIS ROUTINE IS TO GET THE NUMBER OF A FREE FILE BLOCK              *
                                 195     *       AND RETURN IT TO THE CALLER IN THE A REGISTER                       *
                                 196     *                                                                           *
                                 197     *       INDEX 1 IS ASSUMED TO CONTAIN A PREFERRED MASS STORAGE UNIT         *
                                 198     *       NUMBER AND INDEX 2 INDICATES THE NUMBER OF FILE BLOCKS              *
                                 199     *                                                                           *
                                 200     *       INDEX 1, INDEX 2, AND Q ARE CLOBBERED                               *
                                 201     *                                                                           *
                                 202     *       DINT                                                                *
                                 203     *       RTJ     GETBLK                                                      *
                                 204     *                                                                           *
                                 205     *****************************************************************************
                                 206
00227  40300001                  207  GETSTCNT STA     1,X3            STORE THE CURRENT COUNT BACK
00230  53740000                  208           IAI     X3              FORM ABSOLUTE ADDRESS IN X3
00231  20300002                  209  GETBLKLD LDA     2,X3            LOAD THE BLOCK NUMBER
00232  05400000                  210  GETCHEC  ASG,S   IMPURE          SKIP IF NOT IN THE LIBRARY
00233  00777777 X                211           RTJ     SYSERR
00234  14300000                  212  GETBLKX3 ENI     IMPURE,X3       RESTORE X3
00235  01000000                  213  GETBLK   UJP     IMPURE
00236  47300234 P                214           STI     GETBLKX3,X3     SAVE X3
00237  04200001                  215  GET02    ISE     1,X2            SKIP IF WE WANT A SINGLE BLOCK
00240  15100011                  216  GET03    INI     MSUNITS,X1      WE WANT A PAGE
00241  20100037 P                217           LDA     ARRAYTBL,X1     DOES STORAGE EXIST ON THIS UNIT
00242  03000265 P                218           AZJ,EQ  GET04
00243  53700000                  219           TAI     X3              BLOCK ADDRESS TO X3
00244  14477776                  220           ENA,S   -1              FIX THE COUNTERS
00245  34000114 P                221           RAD     TCOUNTS
00246  30100072 P                222           ADA     COUNTS,X1       FIX THE COUNT FOR THIS UNIT
00247  40100072 P                223           STA     COUNTS,X1
00250  05600041                  224           ASG     LOWLIMIT        SKIP IF NO PANIC
00251  00700467 P                225           RTJ     BLKWATCH
00252  20300001                  226           LDA     1,X3            LOAD THE COUNT FOR THE BLOCK
00253  15477776                  227           INA,S   -1              REMOVE ONE ELEMENT
00254  03100227 P                228           AZJ,NE  GETSTCNT        EXIT IF MORE IN THE BLOCK
00255  20300000                  229           LDA     0,X3            REMOVE THIS BLOCK
00256  40100037 P                230           STA     ARRAYTBL,X1
00257  53300000                  231           TIA     X3              BLOCK ADDRESS TO A
00260  14300006                  232           ENI     6,X3            64 WORD BLOCK
00261  44000263 P                233           SWA     *+2             SAVE THE CORE ADDRESS
00262  00777777 X                234           RTJ     FREEMEM
00263  14300000                  235           ENI     IMPURE,X3       ENTER THE CORE ADDRESS
00264  01000231 P                236           UJP     GETBLKLD
                                 237
   00265 P                       238  GET04    EQU     *
00265  05100011                  239           ISG     MSUNITS,X1      SKIP IF WE WANT A PAGE
00266  01000273 P                240           UJP     GET08           GET A PAGE INSTEAD
00267  15177766                  241           INI     -MSUNITS,X1
00270  10100010                  242  GET06    ISI     MSUNITS-1,X1
00271  01000237 P                243           UJP     GET02
00272  01000237 P                244           UJP     GET02
                                 245
   00273 P                       246  GET08    EQU     *
00273  20100050 P                247           LDA     ARRAYTBL+MSUNITS,X1  DO PAGES EXIST
00274  03000270 P                248           AZJ,EQ  GET06
00275  20000235 P                249           LDA     GETBLK          ASK FOR A PAGE IF THEY DO
00276  44000310 P                250           SWA     GETRET          SAVE THE RETURN ADDRESS
00277  14600302 P                251           ENA     *+3             FAKE A NEW RETURN ADDRESS
00300  44000235 P                252           SWA     GETBLK
00301  01000240 P                253           UJP     GET03
                                 254
00302  14100002                  255           ENI     2,X1            FREE 3 BLOCKS
00303  14200001                  256           ENI     1,X2            FREE ONE BLOCK
   00304 P                       257  GET10    EQU     *
00304  00700420 P                258           RTJ     FREEBLK
00305  20000720 P                259           LDA     BLKVALUE        LOAD THE BLOCK NUMBER
00306  15600001                  260           INA     1               FORM NEXT ADDRESS
00307  02500304 P                261           IJO     GET10,X1
00310  01000000                  262  GETRET   UJP     IMPURE          AND EXIT
```

```
                                 *****************************************************************************
                                 *                                                                           *
                                 *                          SELBLK                                           *
                                 *                                                                           *
                                 *          THE FOLLOWING WAIT LOOP WILL CHOOSE A MASS STORAGE DEVICE        *
                                 *          TO CREATE OR EXPAND A USER FILE ON  IT THEN WILL CALL GETBLK      *
                                 *          TO OBTAIN A FILE BLOCK AND RETURN THE FILE BLOCK NUMBER TO       *
                                 *          THE CALLER IN THE A REGISTER                                     *
                                 *                                                                           *
                                 *          IF A FILE BLOCK CAN NOT OBTAINED WITHOUT GETTING ONE FROM A      *
                                 *          SYSTEM PACK, A BIT IN INHIBIT IS SET TO PREVENT DESTROYING       *
                                 *          ALL THE SWAPPING SPACE ON THE SYSTEM UNITS                       *
                                 *                                                                           *
                                 *                                                                           *
                                 *          ENI       CURRENT PSA,PSA                                        *
                                 *          DINT                                                             *
                                 *          RTJ       SELBLK                                                 *
                                 *                                                                           *
                                 *          INDEX 1, AND THE PSA POINTER ARE RESTORED BUT INDEX 2 IS         *
                                 *          CLOBBERED                                                        *
                                 *                                                                           *
                                 *          ************************************************************     *
                                 *          ************************************************************     *
                                 *                                                                           *
                                 *          TAKE NOTE THAT A SYSTEM WITH A LOW NUMBER OF MASS STORAGE        *
                                 *          DEVICES SHOULD PROBABLY CHANGE THIS TO SOMETHING ELSE AS         *
                                 *          THE CONTENTS OF X1 AT THE POINT WHERE THIS LOOP CALLS GETBLK     *
                                 *          HAS A GREAT EFFECT ON SYSTEM BEHAVIOR                            *
                                 *                                                                           *
                                 *****************************************************************************

                                 SELBLK00 EQU       *
00311  47100336 P                        STI       SELBLK08,X1          SAVE THE PAGE POSITION
                                 SELBLK02 EQU       *
00312  47100325 P                        STI       SELUNIT,X1           SAVE THE UNIT NUMBER
                                 SELBLK03 EQU       *
00313  14200001                         ENI       1,X2                 SAY ONE BLOCK
00314  00700235 P                       RTJ       GETBLK
00315  14100000                 SELBLKX1 ENI       IMPURE,X1            RESTORE X1
00316  01000000                 SELBLK   UJP       IMPURE
00317  47100315 P                       STI       SELBLKX1,X1          SAVE X1
00320  14100000                         ENI       0,X1
00321  20377777 X                       LDA       USRNUM,X3+PSA        IS THIS THE SYSTEM JOB NUMBER
00322  21077777 X                       LDQ       SYSVAL
00323  03400313 P                       AQJ,EQ    SELBLK03
00324  14200001                         ENI       1,X2                 DO THE LOOP TWICE
00325  14100010                 SELUNIT  ENI       MSUNITS-1+IMPURE,X1  ENTER THE STARTING UNIT NUMBER
00326  01000332 P                       UJP       SELBLK05

00327  14100000                 SELLOOK  ENI       IMPURE,X1            ENTER THE LOW USER UNIT
00330  20100072 P               SELBLK04 LDA       COUNTS,X1            IS THE SPACE ON THE UNIT
00331  03100312 P                       AZJ,NE    SELBLK02             JUMP IF ROOM
00332  10100010                 SELBLK05 ISI       MSUNITS-1,X1
00333  01000330 P                       UJP       SELBLK04
00334  02600327 P                       IJD       SELLOOK,X2           DO THE LOOP TWICE

00335  14200001                         ENI       1,X2
00336  14100010                 SELBLK08 ENI       MSUNITS-1+IMPURE,X1  ENTER THE STARTING UNIT NUMBER
00337  01000342 P                       UJP       SELBLK12

                                 SELBLK10 EQU       *
00340  20100103 P                       LDA       COUNTS+MSUNITS,X1    ARE PAGES AVAILABLE
00341  03100311 P                       AZJ,NE    SELBLK00
00342  10100010                 SELBLK12 ISI       MSUNITS-1,X1
00343  01000340 P                       UJP       SELBLK10
00344  54100327 P                       LDI       SELLOOK,X1           LOAD THE STARTING UNIT
00345  02600340 P                       IJD       SELBLK10,X2          LOOP ONCE
00346  14477777 X                       ENA,S     DISKIBT              SET INHIBIT
00347  35077777 X                       SSA       INHIBIT              AND PANIC THE OPERATOR
00350  40000347 X                       STA       INHIBIT              ONE PHONE CALL COMING UP
00351  01000313 P                       UJP       SELBLK03
```

```
                                 340     *****************************************************************************
                                 341     *                                                                           *
                                 342     *       ROUTINE TO GIVE BACK A GROUP OF FILE BLOCKS TO THE FREE FILE        *
                                 343     *       BLOCK ARRAY LISTS                                                   *
                                 344     *                                                                           *
                                 345     *       LDA     DISK BLOCK NUMBER                                           *
                                 346     *       ENI     NUMBER OF BLOCKS,X2                                         *
                                 347     *       DINT                                                                *
                                 348     *       RTJ     FREEBLK                                                     *
                                 349     *                                                                           *
                                 350     *       THIS ROUTINE RESTORES ALL OF THE INDEX REGISTERS                    *
                                 351     *                                                                           *
                                 352     *       GETBLK DEPENDS UPON THE BLOCK NUMBER BEING STORED IN BLKVALUE       *
                                 353     *                                                                           *
                                 354     *****************************************************************************
                                 355
                                 356     FREE02  EQU     *
00352 13000030                   357             SHAQ    24                      BLOCK NUMBER TO A
00353 14200011                   358             ENI     MSUNITS,X2              WHICH UNIT IS THE BLOCK ON
00354 14577777                   359             ENQ,S   77777B
00355 07100061 P                 360             MTH     BLOCKTBL,1
00356 00700233 X                 361             RTJ     SYSERR
00357 40000720 P                 362             STA     BLKVALUE                SAVE THE BLOCK NUMBER
00360 20200037 P                 363             LDA     ARRAYTBL,X2             IS THE DEVICE ON LINE
00361 03300415 P                 364             AZJ,LT  FREBLKX1                EXIT IF NOT
00362 14600000                   365     FREE04  ENA     IMPURE                  ENTER THE NUMBER OF BLOCKS
00363 04600001                   366             ASE     1                       SKIP IF A SINGLE BLOCK
00364 15200011                   367             INI     MSUNITS,X2
00365 14600001                   368             ENA     1
00366 34000114 P                 369             RAD     TCOUNTS                 FIX THE TOTAL
00367 30200072 P                 370             ADA     COUNTS,X2               TOTAL FOR THIS UNIT
00370 40200072 P                 371             STA     COUNTS,X2
00371 04600156                   372             ASE     HIGLIMIT                SKIP IF WE WANT TO WRITE OUT
00372 01000374 P                 373             UJP     *+2
00373 00700467 P                 374             RTJ     BLKWATCH                START CHECKING
00374 20200037 P                 375             LDA     ARRAYTBL,X2             DO TABLES EXIST FOR THE UNIT
00375 03000402 P                 376             AZJ,EQ  FREE06                  GO CREATE SOME IF NOT
00376 53700000                   377             TAI     X3                      BLOCK ADDRESS TO X3
00377 20300001                   378             LDA     1,X3                    LOAD THE COUNT
00400 04600076                   379             ASE     62                      SKIP IF THE BLOCK IS FULL
00401 01000410 P                 380             UJP     FREE08
00402 P                          381     FREE06  EQU     *
00402 14300006                   382             ENI     6,X3                    ASK FOR 64 WORDS
00403 00777777 X                 383             RTJ     GETMEM
00404 21200037 P                 384             LDQ     ARRAYTBL,X2             LINK THIS ELEMENT INTO
00405 40200037 P                 385             STA     ARRAYTBL,X2             THE LIST
00406 41300000                   386             STQ     0,X3
00407 14600000                   387             ENA     0
00410 P                          388     FREE08  EQU     *
00410 15600001                   389             INA     1                       POINT TO THE NEXT ELEMENT
00411 40300001                   390             STA     1,X3                    SAVE THE CURRENT COUNT
00412 53740000                   391             IAI     X3                      FORM POINTER WORD
00413 21000720 P                 392             LDQ     BLKVALUE                LOAD THE BLOCK NUMBER
00414 41300001                   393             STQ     1,X3                    SAVE THE BLOCK NUMBER
00415 14100000                   394     FREBLKX1 ENI    IMPURE,X1
00416 54200362 P                 395             LDI     FREE04,X2
00417 14300000                   396     FREBLKX3 ENI    IMPURE,X3
00420 01000000                   397     FREEBLK  UJP    IMPURE
00421 05400000                   398     FREECHEC ASG,S  IMPURE                  SKIP IF NOT IN THE LIBRARY
00422 00700356 X                 399             RTJ     SYSERR
00423 47300417 P                 400             STI     FREBLKX3,X3             SAVE INDEX 3
00424 47200362 P                 401             STI     FREE04,X2               SAVE THE NUMBER OF BLOCKS
00425 47100415 P                 402             STI     FREBLKX1,X1
00426 13077747                   403             SHAQ    -24
00427 14377777 X                 404     FREESCK1 ENI    MXSLIST,3               CHECK FOR SUBSTITUTIONS
00430 20300000                   405     FREESCK2 LDA    0,3                     LOAD THE POINTER WORD
00431 03000352 P                 406             AZJ,EQ  FREE02                  JUMP IF THE END OF THE LIST
00432 53600000                   407             TAI     2                       PUT THE ADDRESS OF THE BLOCK INTO
00433 20200001                   408             LDA     1,2                     INDEX 2 AND LOAD THE BLOCK NUMBER
00434 03400440 P                 409             AQJ,EQ  FREESCK3                JUMP IF A SUBSTITUTION
00435 53200000                   410             TIA     2                       COPY INDEX 2 INTO INDEX 3
00436 53700000                   411             TAI     3
00437 01000430 P                 412             UJP     FREESCK2                AND LOCK SOME MORE
00440 20200000                   413     FREESCK3 LDA    0,2                     LOAD THE POINTER FROM THIS BLOCK
00441 44300000                   414             SWA     0,3                     STORE IT INTO THE PREVIOUS BLOCK
00442 53200000                   415             TIA     2                       ADDRESS OF THE BLOCK TO A
00443 14300002                   416             ENI     2,3                     THE BLOCK IS 4 WORDS LONG
00444 00700262 X                 417             RTJ     FREEMEM                 FREE THE BLOCK
```

```
00445  21200002          418          LDQ     2,2          LOAD THE SUBSTITUTION
00446  01000427 P        419          UJP     FREESCK1     CHECK FOR MULTIPLE SUBSTITUTIONS
```

```
                                 422     *****************************************************************************
                                 423     *                                                                           *
                                 424     *                          BLKWATCH                                         *
                                 425     *                                                                           *
                                 426     *          THIS ROUTINE IS CALLED BY FREEBLK OR GETBLK WHENEVER             *
                                 427     *          THEY DECIDE THAT WE HAVE AN ABUNDANCE OR FAMINE OF BLOCK         *
                                 428     *          POINTERS IN CORE                                                 *
                                 429     *                                                                           *
                                 430     *          THIS ROUTINE WILL CLEAR OR SET A BIT IN INHIBIT DEPENDING        *
                                 431     *          UPON THE AMOUNT OF BLOCK POINTERS IN CORE AT THE POINT IN        *
                                 432     *          TIME AT WHICH IT IS CALLED  THIS HOPEFULLY WILL ALLOW            *
                                 433     *          ALL OUTPUT DEVICES TO FINISH AND RETURN THEIR FILE SPACE TO      *
                                 434     *          THE SYSTEM INSTEAD OF CRASHING BECAUSE FILE BLOCKS ARE NOT       *
                                 435     *          AVAILABLE                                                        *
                                 436     *                                                                           *
                                 437     *****************************************************************************
                                 438
                                 439
          00447 P                440     BLKCHECK  EQU       *
00447     14377777 X             441               ENI       RETURN,X3           RETURN TO INTSORT
00450     47300467 P             442     WATCHLUP  STI       BLKWATCH,X3         SAVE THE RETURN
          00451 P                443     WATCHLPA  EQU       *
00451     14100021               444               ENI       MSUNITS+MSUNITS-1,X1
00452     14700041               445               ENQ       LOWLIMIT
00453     14600155               446               ENA       HIGLIMIT-1
00454     52100072 P             447               CPR       COUNTS,X1
00455     01000477 P             448               UJP       WRITEOUT
00456     01000560 P             449               UJP       READIN
00457     02500453 P             450     WATCLUPX  IJD       *-4,X1
00460     47000470 P             451               STI       BLKFLAG,0           CLEAR THE FLAG
00461     21000114 P             452     BLKWATEX  LDQ       TCOUNTS
00462     20000350 X             453               LDA       INHIBIT             CLEAR THE BIT
00463     17477777 X             454               ANA,S     NDISKIBT
00464     05700040               455               QSG       LOWLIMIT-1          SKIP IF ENOUGH SPACE IS LEFT
00465     16400004               456               XOA,S     4B                  STOP THE USERS
00466     40000462 X             457               STA       INHIBIT
00467     01000000               458     BLKWATCH  UJP       IMPURE
00470     04000000               459     BLKFLAG   ISE       IMPURE,0            ARE WE ALL READY HERE
00471     01000461 P             460               UJP       BLKWATEX            EXIT IF SO
00472     14677777 X             461               ENA       TABBIT              TELL INTSORT WE ARE LONESOME
00473     44000470 P             462               SWA       BLKFLAG             PREVENT EXTRA CALLS
00474     35077777 X             463               SSA       FLAGS
00475     40000474 X             464               STA       FLAGS
00476     01000461 P             465               UJP       BLKWATEX
```

```
                00477 P          467 .     WRITEOUT EQU      *
00477  20500037 P                468                 LDA,I     ARRAYTBL,X1          UNLINK THE SECCND BLOCK
00500  53700000                  469                 TAI       X3
00501  20300000                  470                 LDA       0,X3
00502  40500037 P                471                 STA,I     ARRAYTBL,X1
00503  14477701                  472                 ENA,S     -62
00504  34100072 P                473                 RAD       COUNTS,X1
00505  34000114 P                474                 RAD       TCOUNTS
00506  14600374                  475                 ENA       63+63+63+63          PRETEND PAGES
00507  05100011                  476                 ISG       MSUNITS,X1           SKIP IF IT REALLY IS
00510  14600077                  477                 ENA       63
00511  34000172 P                478                 RAD       MSQTOTAL             KEEP THE COUNT CORRECT
00512  47300553 P                479                 STI       BLKXY,X3             SAVE THE CORE ADDRESS ALSO
00513  21100150 P                480                 LDQ       DISKBPNT,X1          SET THE BACKWARD POINTER OF THE
00514  41300001                  481                 STQ       1,X3                 BLOCK
00515  21100126 P                482                 LDQ       DISKPNT,X1           MAKE THE FAKE END DISK BLOCK
00516  41000661 P                483                 STQ       MZERO+1
00517  41100150 P                484                 STQ       DISKBPNT,X1
00520  47100523 P                485                 STI       WRITEX1,X1           SAVE THE UNIT NUMBER
00521  14200001                  486                 ENI       1,X2                 IF X1 ≥ MSUNITS THIS MEANS 4
00522  00700235 P                487                 RTJ       GETBLK               GET A BLOCK TO WRITE ON
00523  14100000                  488     WRITEX1     ENI       IMPURE,X1            RESTORE THE UNIT NUMBER
00524  40100126 P                489                 STA       DISKPNT,X1           SET THE TABLE
00525  40300000                  490                 STA       0,X3                 AND THE FORWARD POINTER
00526  14700660 P                491                 ENQ       MZERO                ENTER CORE ADDRESS
00527  14100002                  492                 ENI       2,X1                 WRITE OUT 2 WORDS
00530  14277777 X                493                 ENI       WRITE,X2
00531  14300535 P                494                 ENI       *+4,X3               ENTER INTERRUPT RETURN
00532  00777777 X                495                 RTJ       FINK
00533  01000467 P                496                 UJP       BLKWATCH             EXIT
                                 497
00534  00777777 X                498                 RTJ       MACHERR              MEMORY PARITY ERROR
00535  47300532 X                499                 STI       FINK,X3              SAVE THE RETURN ADDRESS
00536  20000553 P                500                 LDA       BLKXY                LOAD THE CORE ADDRESS
00537  13077764                  501                 SHAQ      -11                  ALL BUT PAGE BITS TO Q
00540  53600000                  502                 TAI       X2
00541  17200017                  503                 ANI       17B,X2               SAVE JUST THE PAGE BITS
00542  77654000                  504                 PFA       PFR,X2
00543  12077775                  505                 SHA       -2
00544  13077762                  506                 SHAQ      -13                  FORM ABSOLUTE CORE ADDRESS IN Q
00545  20000661 P                507                 LDA       MZERO+1              LOAD THE BLOCK NUMBER
00546  14100100                  508                 ENI       64,X1                WRITE OUT 64 WORDS
00547  14200530 X                509                 ENI       WRITE,X2
00550  14300553 P                510                 ENI       *+3,X3               ENTER INTERRUPT RETURN
00551  01077777 X                511                 UJP       FINKP1
                                 512
00552  00700534 X                513                 RTJ       MACHERR              MEMORY PARITY ERROR
00553  14600000                  514     BLKXY       ENA       IMPURE               ENTER THE BLOCK ADDRESS
00554  47300467 P                515                 STI       BLKWATCH,X3          SAVE THE RETURN ADDRESS
00555  14300006                  516                 ENI       6,X3                 64 WORD BLOCK
00556  00700444 X                517                 RTJ       FREEMEM
00557  01000451 P                518                 UJP       WATCHLPA
```

```
                00560  P       520     READIN  EQU     *
        00560   20100150  P     521             LDA     DISKBPNT,X1     IS THERE INFORMATION ON THE DISK
        00561   03000457  P     522             AZJ,EQ  WATCLUPX        JUMP IF NOTHING TO READ IN
        00562   14300006        523             ENI     6,X3            OBTAIN 64 WORDS
        00563   00700403  X     524             RTJ     GETMEM
        00564   44000641  P     525             SWA     BLKZZ           SAVE THE CORE ADDRESS
        00565   13077764        526             SHAQ    -11             ALL BUT PAGE BITS TO Q
        00566   53600000        527             TAI     X2
        00567   77654000        528             PFA     PFR,X2          PAGE BITS TO A
        00570   12077775        529             SHA     -2
        00571   13077762        530             SHAQ    -13             FORM ABSOLUTE CORE ADDRESS IN Q
        00572   20100150  P     531             LDA     DISKBPNT,X1     LOAD THE DISK ADDRESS
        00573   14200004        532             ENI     4,X2            PRETEND WE ARE WORKING WITH PAGES
        00574   05100011        533             ISG     MSUNITS,X1      SKIP IF WE REALLY ARE
        00575   14200001        534             ENI     1,X2            WE ARE WORKING WITH BLOCKS
        00576   47200630  P     535             STI     BLKRNUM,X2      SAVE THE COUNT
        00577   47100612  P     536             STI     BLKZX,X1        SAVE THE UNIT NUMBER
        00600   14100100        537             ENI     64,X1           READ IN 64 WORDS
        00601   14277777  X     538             ENI     READ,X2
        00602   14300606  P     539             ENI     *+4,X3          ENTER INTERRUPT RETURN
        00603   00700535  X     540             RTJ     FINK
        00604   01000467  P     541             UJP     BLKWATCH        EXIT
                                542
        00605   00700552  X     543             RTJ     MACHERR
        00606   47300603  X     544             STI     FINK,X3         SAVE THE RETURN ADDRESS
        00607   54100641  P     545             LDI     BLKZZ,X1        LOAD THE 64 WORD BLOCK ADDRESS
        00610   25100000        546             LDAQ    0,X1            LOAD THE POINTER WORDS
        00611   41000661  P     547             STQ     MZERO+1         SAVE THE BACKWARD POINTER
        00612   14100000        548     BLKZX   ENI     IMPURE,X1       ENTER THE UNIT NUMBER
        00613   36100126  P     549             SCA     DISKPNT,X1      MAKE A FEEBLE ATTEMPT AT
        00614   04677777        550             ASE     77777B          VALIDITY CHECKING
        00615   04400000        551             ASE,S   0
        00616   00700422  X     552             RTJ     SYSERR
        00617   20100150  P     553             LDA     DISKBPNT,X1     LOAD THE DISK ADDRESS
        00620   40100126  P     554             STA     DISKPNT,X1
        00621   41100150  P     555             STQ     DISKBPNT,X1
        00622   14700660  P     556             ENQ     MZERO           ENTER THE CORE ADDRESS
        00623   14100002        557             ENI     2,X1            WRITE JUST 2 WORDS
        00624   14200547  X     558             ENI     WRITE,X2
        00625   14300630  P     559             ENI     *+3,X3          ENTER INTERRUPT RETURN
        00626   01000551  X     560             UJP     FINKP1
                                561
        00627   00700605  X     562             RTJ     MACHERR
        00630   14200000        563     BLKRNUM ENI     IMPURE,X2       ENTER 1 OR 4
        00631   14477403        564             ENA,S   -63-63-63-63    PRETEND PAGES
        00632   04200004        565             ISE     4,X2            SKIP IF REALLY PAGES
        00633   14477700        566             ENA,S   -63             REALLY BLOCKS
        00634   34000172  P     567             RAD     MSQTOTAL
        00635   54100612  P     568             LDI     BLKZX,X1        LOAD THE UNIT NUMBER
        00636   14600076        569             ENA     62
        00637   34000114  P     570             RAD     ICOUNTS         KEEP THE COUNTERS CORRECT
        00640   34100072  P     571             RAD     COUNTS,X1
        00641   14200000        572     BLKZZ   ENI     IMPURE,X2       ENTER THE CORE ADDRESS
        00642   20200000        573             LDA     0,X2            LOAD THE FORWARD POINTER
        00643   54200630  P     574             LDI     BLKRNUM,X2      LOAD THE NUMBER OF BLOCKS
        00644   00700420  P     575             RTJ     FREEBLK         AND FREE IT
        00645   15100037  P     576             INI     ARRAYTBL,X1     LINK THIS BLOCK IN THE TABLES
        00646   20100000        577             LDA     0,X1
        00647   03000652  P     578             AZJ,EQ  *+3             JUMP IF NO CURRENT INFORMATION
        00650   53500000        579             TAI     X1              LINK IN PAST THE FIRST BLOCK
        00651   20100000        580             LDA     0,X1
        00652   14700076        581             ENQ     62
        00653   54200641  P     582             LDI     BLKZZ,X2        LOAD THE POINTER TO THE BLOCK
        00654   45200000        583             STAQ    0,X2
        00655   53200000        584             TIA     X2              CORE POINTER TO A
        00656   40100000        585             STA     0,X1
        00657   01000450  P     586             UJP     WATCHLUP
                                587
                                588
        00660   77777777        589     MZERO   VFD     A24/-0,A24/IMPURE
```

```
00662  00000000                591        KZERO     OCT       0
00663  00000012                592        D10       DEC       10
00664  00001750                593        D1000     DEC       1000
00665  30000000                594        B21ORB22  OCT       30000000
00666  00100000                595        BIT15     OCT       00100000
00667  00200000                596        BIT16     OCT       00200000
00670  00400000                597        BIT17     OCT       00400000
00671  01000000                598        BIT18     OCT       01000000
00672  02000000                599        BIT19     OCT       02000000
00673  04000000                600        BIT20     OCT       04000000
00674  10000000                601        BIT21     OCT       10000000
00675  20000000                602        BIT22     OCT       20000000
00676  40000000                603        BIT23     OCT       40000000,60000000
         00677 P               604        BIT2322   EQU       BIT23+1
00700  50000000                605        BIT2321   OCT       50000000          BITS 23 AND 21
00701  07000000                606        BT201918  OCT       07000000
00702  60606060                607        BLANKS    BCD       2,
00704  07777777                607+001    O7777777  OCT       07777777
00705  70077777                608        LIBMASK   OCT       70077777
00706  77677777                609        NBIT15    OCT       77677777
00707  77577777                610        NBIT16    OCT       77577777
00710  77377777                611        NBIT17    OCT       77377777
00711  76777777                612        NBIT18    OCT       76777777
00712  75777777                613        NBIT19    OCT       75777777
00713  73777777                614        NBIT20    OCT       73777777
00714  67777777                615        NBIT21    OCT       67777777
00715  57777777                616        NBIT22    OCT       57777777
00716  37777777                617        NBIT23    OCT       37777777
00717  71777777                618        NBIT1920  OCT       71777777
00720                          619        BLKVALUE  BSS       1
                               620
                               621                  END
```

NO LINES WITH ERRORS

ARRAYTBL	E	00037P	149	17	00000P	217	00241P	230	00256P	247	00273P	363	00360P	375	00374P
				384	00404P	385	00405P	468	00477P	471	00502P	576	00645P		
B210RB22	E	00665P	594	18	00000P										
BIT15	E	00666P	595	52	00000P										
BIT16	E	00667P	596	52	00000P										
BIT17	E	00670P	597	52	00000P										
BIT18	E	00671P	598	52	00000P										
BIT19	E	00672P	599	52	00000P										
BIT20	E	00673P	600	52	00000P										
BIT21	E	00674P	601	52	00000P										
BIT22	E	00675P	602	52	00000P										
BIT23	E	00676P	603	604	00700P	52	00000P								
BIT2321	E	00700P	605	24	00000P										
BIT2322	E	00677P	604	54	00000P										
BLANKS	E	00702P	607	19	00000P										
BLKCHECK	E	00447P	440	20	00000P										
BLKFLAG	E	00470P	459	21	00000P	451	00460P	462	00473P						
BLKRNUM		00630P	563	535	00576P	574	00643P								
BLKVALUE		00720P	619	259	00305P	362	00357P	392	00413P						
BLKWATCH		00467P	458	225	00251P	374	00373P	442	00450P	496	00533P	515	00554P	541	00604P
BLKWATEX		00461P	452	460	00471P	465	00476P								
BLKXY		00553P	514	479	00512P	500	00536P								
BLKZX		00612P	548	536	00577P	568	00635P								
BLKZZ		00641P	572	525	00564P	545	00607P	582	00653P						
BLOCKTBL	E	00061P	150	22	00000P	360	00355P								
BT201918	E	00701P	606	23	00000P										
COUNTS	E	00072P	151	25	00000P	222	00246P	223	00247P	316	00330P	328	00340P	370	00367P
				371	00370P	447	00454P	473	00504P	571	00640P				
D10	E	00663P	592	26	00000P										
D1000	E	00664P	593	27	00000P										
DISKADD	E	00115P	153	28	00000P										
DISKBPNT		00150P	158	480	00513P	484	00517P	521	00560P	531	00572P	553	00617P	555	00621P
DISKIBT	X		61	334	00346P										
DISKPNT	E	00126P	156	158	00172P	29	00000P	482	00515P	489	00524P	549	00613P	554	00620P
DKACTIVE	E	00016P	140	30	00000P										
DKCONTAB	E	00000P	127	129	00002P	31	00000P								
DKPOINT	E	00014P	138	32	00000P										
DKSTATAB	E	00002P	132	133	00002P	135	00014P	33	00000P						
DKSTATBL	E	00011	135	34	00000P										
DKSTATM1	E	00001P	133	35	00000P										
FINK	X		62	495	00532P	499	00535P	540	00603P	544	00606P				
FINKP1	X		63	511	00551P	560	00626P								
FLAGS	X		64	463	00474P	464	00475P								
FREBLKX1		00415P	394	364	00361P	402	00425P								
FREBLKX3		00417P	396	400	00423P										
FREE02		00352P	356	406	00431P										
FREE04		00362P	365	395	00416P	401	00424P								
FREE06		00402P	381	376	00375P										
FREE08		00410P	388	380	00401P										
FREEBLK	E	00420P	397	36	00000P	258	00304P	575	00644P						
FREECHEC	E	00421P	398	37	00000P										
FREEMEM	X		65	234	00262P	417	00444P	517	00556P						
FREESCK1		00427P	404	419	00446P										
FREESCK2		00430P	405	412	00437P										
FREESCK3		00440P	413	409	00434P										
GET02		00237P	215	243	00271P	244	00272P								
GET03		00240P	216	253	00301P										
GET04		00265P	238	218	00242P										
GET06		00270P	242	248	00274P										
GET08		00273P	246	240	00266P										
GET10		00304P	257	261	00307P										
GETBLK	E	00235P	213	38	00000P	249	00275P	252	00300P	303	00314P	487	00522P		
GETBLKLD		00231P	209	236	00264P										
GETBLKX3		00234P	212	214	00236P										
GETCHEC	E	00232P	210	39	00000P										
GETMEM	X		66	383	00403P	524	00563P								
GETRET		00310P	262	250	00276P										
GETSTCNT		00227P	207	228	00254P										
HIGLIMIT		00156	105	372	00371P	446	00453P								
IMPURE		00000	102	166	00172P	210	00232P	212	00234P	213	00235P	235	00263P	262	00310P
				304	00315P	305	00316P	312	00325P	315	00327P	324	00336P	365	00362P
				394	00415P	396	00417P	397	00420P	398	00421P	458	00467P	459	00470P
				488	00523P	514	00553P	548	00612P	563	00630P	572	00641P	589	00661P
IMPURE01	X		67	183	00216P										
IMPURE02	X		68	184	00220P										
IMPURE03	X		69	185	00222P										
IMPURE04	X		70	186	00224P										
IMPURE05	X		71	187	00226P										
INHIBIT	X		72	335	00347P	336	00350P	453	00462P	457	00466P				

```
KZERO      E    00662P      591      40 00000P
LIBMASK    E    00705P      608      41 00000P
LOWLIMIT        00041        104     224 00250P     445 00452P     455 00464P
MACHERR    X                 73     498 00534P     513 00552P     543 00605P     562 00627P
MSFBLK     E    00204P      171      42 00000P
MSFNUMB    E    00173P      168      43 00000P
MSQTOTAL   E    00172P      166      44 00000P     478 00511P     567 00634P
MSUNITM1   E    00010        93      46 00000P
MSUNITS    E    00011        92      93 00000P       4 00002P       5 00002P       7 00012P     145 00026P       4 00037P
                                       5 00037P       7 00047P     150 00061P     151 00072P     153 00115P       4 00126P
                                       5 00126P       7 00136P     158 00172P     168 00173P     171 00204P      45 00000P
                                     216 00240P     239 00265P     241 00267P     242 00270P     247 00273P     312 00325P
                                     318 00332P     324 00336P     328 00340P     330 00342P     358 00353P     367 00364P
                                     444 00451P     444 00451P     476 00507P     533 00574P
MXSLIST    X                 74     404 00427P
MXWAITQ    E    00026P      145      47 00000P
MZERO           00660P      589     483 00516P     491 00526P     507 00545P     547 00611P     556 00622P
NBIT15     E    00706P      609      53 00000P
NBIT16     E    00707P      610      53 00000P
NBIT17     E    00710P      611      53 00000P
NBIT18     E    00711P      612      53 00000P
NBIT19     E    00712P      613      53 00000P
NBIT1920   E    00717P      618      55 00000P
NBIT20     E    00713P      614      53 00000P
NBIT21     E    00714P      615      53 00000P
NBIT22     E    00715P      616      54 00000P
NBIT23     E    00716P      617      54 00000P
NDISKIBT   X                 75     454 00463P
NUMDKCON   E    00002        129     130 00002P     138 00014P      48 00000P
NUMDKM1    E    00001        130      49 00000P
07777777   E    00704P     607+1    49+1 00000P
PFR             00000        100     504 00542P     528 00567P
PSA             00000         98     308 00321P
PURE01     X                 76     183 00215P
PURE02     X                 77     184 00217P
PURE03     X                 78     185 00221P
PURE04     X                 79     186 00223P
PURE05     X                 80     187 00225P
PURELIST   E    00012        188      50 00000P
PURETABL   E    00215P       182     188 00227P      51 00000P
READ       X                 81     538 00601P
READIN          00560P      520     449 00456P
RETURN     X                 82     441 00447P
SELBLK     E    00316P      305      56 00000P
SELBLK00        00311P      297     329 00341P
SELBLK02        00312P      299     317 00331P
SELBLK03        00313P      301     310 00323P     337 00351P
SELBLK04        00330P      316     319 00333P
SELBLK05        00332P      318     313 00326P
SELBLK08        00336P      324     298 00311P
SELBLK10        00340P      327     331 00343P     333 00345P
SELBLK12        00342P      330     325 00337P
SELBLKX1        00315P      304     306 00317P
SELLOOK    E    00327P      315      57 00000P     320 00334P     332 00344P
SELUNIT         00325P      312     300 00312P
SYSERR     X                 83     211 00233P     361 00356P     399 00422P     552 00616P
SYSVAL     X                 84     309 00322P
TABBIT     X                 85     461 00472P
TCOUNTS         00114P      152     221 00245P     369 00366P     452 00461P     474 00505P     570 00637P
USRNUM     X                 86     308 00321P
WATCHLPA        00451P      443     518 00557P
WATCHLUP        00450P      442     586 00657P
WATCLUPX        00457P      450     522 00561P
WRITE      X                 87     493 00530P     509 00547P     558 00624P
WRITEOUT        00477P      467     448 00455P
WRITEX1         00523P      488     485 00520P
X1              00001        94     216 00240P     217 00241P     222 00246P     223 00247P     230 00256P     239 00265P
                                     241 00267P     242 00270P     247 00273P     255 00302P     261 00307P     298 00311P
                                     300 00312P     304 00315P     306 00317P     307 00320P     312 00325P     315 00327P
                                     316 00330P     318 00332P     324 00336P     328 00340P     330 00342P     332 00344P
                                     394 00415P     402 00425P     444 00451P     447 00454P     450 00457P     468 00477P
                                     471 00502P     473 00504P     476 00507P     480 00513P     482 00515P     484 00517P
                                     485 00520P     488 00523P     489 00524P     492 00527P     508 00546P     521 00560P
                                     531 00572P     533 00574P     536 00577P     537 00600P     545 00607P     546 00610P
                                     548 00612P     549 00613P     553 00617P     554 00620P     555 00621P     557 00623P
                                     568 00635P     571 00640P     576 00645P     577 00646P     579 00650P     580 00651P
                                     585 00656P
X2              00002        95     215 00237P     256 00303P     302 00313P     311 00324P     320 00334P     323 00335P
                                     333 00345P     358 00353P     363 00360P     367 00364P     370 00367P     371 00370P
```

			375 00374P	384 00404P	385 00405P	395 00416P	401 00424P	486 00521P
			493 00530P	502 00540P	503 00541P	504 00542P	509 00547P	527 00566P
			528 00567P	532 00573P	534 00575P	535 00576P	538 00601P	558 00624P
			563 00630P	565 00632P	572 00641P	573 00642P	574 00643P	582 00653P
			583 00654P	584 00655P				
X3	00003	96	207 00227P	208 00230P	209 00231P	212 00234P	214 00236P	219 00243P
			226 00252P	229 00255P	231 00257P	232 00260P	235 00263P	308 00321P
			377 00376P	378 00377P	382 00402P	386 00406P	390 00411P	391 00412P
			393 00414P	396 00417P	400 00423P	441 00447P	442 00450P	469 00500P
			470 00501P	479 00512P	481 00514P	490 00525P	494 00531P	499 00535P
			510 00550P	515 00554P	516 00555P	523 00562P	539 00602P	544 00606P
			559 00625P					
ZZZZ	00000	7	4 00012P	5 00012P	11 00013P	4 00013P	5 00013P	11 00014P
			4 00014P	4 00047P	5 00047P	7 00057P	4 00057P	5 00057P
			11 00060P	4 00060P	5 00060P	11 00061P	4 00061P	4 00136P
			5 00136P	7 00146P	4 00146P	5 00146P	7 00156P	4 00156P
			5 00156P	7 00166P	4 00166P	5 00166P	11 00167P	4 00167P
			5 00167P	11 00170P	4 00170P	5 00170P	11 00171P	4 00171P
			5 00171P	11 00172P	4 00172P			