SDS 940 OLDS DIAGNOSTIC SYSTEM

CONTROL MONITOR LISTING

SDS 870029-51A February 1969

SDS

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                   BLDS3  IDENT                  OFF-LINE DIAGNOSTIC SYSTEM
            00010         OCTAL
                   *
       0 01 00000  ONE    OPD     100000,1
       0 02 00000  TWO    OPD     200000,1
       0 03 00000  THREE  OPD     300000,1
       0 04 00000  FOUR   OPD     400000,1
       0 05 00000  FIVE   OPD     500000,1
       0 06 00000  SIX    OPD     600000,1
       0 07 00000  SEVEN  OPD     700000,1
       0 10 00000  EIGHT  OPD     1000000,1
                   *
                   *      DIAGNOSTIC LOADER
                   *
                   *  2   WIM    3
                   *  3   WIM    4
                   *  4   BRU    2
                   *       *
                   *       *
                   *      WIM    4000+I          WIM IN ITH WORD
                   *      (DATA WORD)            ITH WORD
                   *       *
                   *       *
                   *      BRU    4000            LAST WORD IN RECORD
                   *
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                   *
                   *      LINKAGES FOR INTERRUPTS, TRAPS AND POPS.
                   *
00000         00030        BSS    030
00030  0 43 00240          BRM    INT30           TMCC B AND Y BUFFER ZERO COUNT
00031  0 43 00242          BRM    INT31           TMCC A AND W BUFFER ZERO COUNT
00032  0 43 00244          BRM    INT32           TMCC B AND Y BUFFER END OF RECORD
00033  0 43 00246          BRM    INT33           TMCC A AND W BUFFER END OF RECORD
00034  0 43 00250          BRM    INT34           ILLEGAL INTERRUPT
00035  0 43 00252          BRM    INT35           CONSOLE INTERRUPT
00036  0 43 00254          BRM    INT36           POWER ON
00037  0 43 00256          BRM    INT37           POWER OFF
00040  0 43 02143          BRM    TRP40           PRIVILIDGED INSTRUCTION TRAP
00041  0 43 00262          BRM    TRP41           OUT OF BOUNDS TRAP
00042  0 43 00264          BRM    TRP42           WATCH DOG TIMER TRAP
00043  0 43 00266          BRM    TRP43           READ ONLY TRAP
00044  0 43 00270          BRM    TRP44           MODE TRANSITION TRAP
00045  0 43 00272          BRM    INT45           ILLEGAL INTERRUPT
00046  0 43 00450          BRM    DIVERT          ILLEGAL INTERRUPT
00047  0 43 00450          BRM    DIVERT          ILLEGAL INTERRUPT
00050  0 43 00450          BRM    DIVERT          ILLEGAL INTERRUPT
00051  0 43 00450          BRM    DIVERT          ILLEGAL INTERRUPT
00052  0 43 00450          BRM    DIVERT          ILLEGAL INTERRUPT
00053  0 43 00450          BRM    DIVERT          ILLEGAL INTERRUPT
00054  0 43 00450          BRM    DIVERT          ILLEGAL INTERRUPT
00055  0 43 00450          BRM    DIVERT          ILLEGAL INTERRUPT
00056  0 43 02170          BRM    INT56           CPU PARITY
00057  0 43 02033          BRM    INT57           I/O PARITY
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00060  0 43 00300        BRM     INT60           TMCC C ZERO COUNT
00061  0 43 00302        BRM     INT61           TMCC C END OF RECORD
00062  0 43 00304        BRM     INT62           TMCC D ZERO COUNT
00063  0 43 00306        BRM     INT63           TMCC D END OF RECORD
00064  0 43 00310        BRM     INT64           DACC E ZERO COUNT
00065  0 43 00312        BRM     INT65           DACC E END OF RECORD
00066  0 43 00314        BRM     INT66           DACC F ZERO COUNT
00067  0 43 00316        BRM     INT67           DACC F END OF RECORD
00070  0 43 00320        BRM     INT70           DACC G ZERO COUNT
00071  0 43 00322        BRM     INT71           DACC G END OF RECORD
00072  0 43 00324        BRM     INT72           DACC H ZERO COUNT
00073  0 43 00326        BRM     INT73           DACC H END OF RECORD
00074  0 43 00330        BRM     INT74           CLOCK SYNC
00075  0 61 00407        MIN     TIME            CLOCK PULSE
00076  0 43 00334        BRM     INT76           ILLEGAL INTERRUPT
00077  0 43 00336        BRM     INT77           ILLEGAL INTERRUPT
```



```
                          *
                          *     PROGRAM OPERATOR LINKAGES
                          *
00100  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 100
00101  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 101
00102  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 102
00103  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 103
00104  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 104
00105  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 105
00106  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 106
00107  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 107
00110  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 110
00111  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 111
00112  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 112
00113  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 113
00114  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 114
00115  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 115
00116  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 116
00117  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 117
00120  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 120
00121  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 121
00122  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 122
00123  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 123
00124  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 124
00125  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 125
00126  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 126
00127  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 127
00130  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 130
00131  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 131
00132  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 132
00133  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 133
00134  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 134
00135  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 135
00136  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 136
00137  0 43 00450        BRM     DIVERT          PROGRAM OPERATOR 137
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                    *
00140  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 140
00141  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 141
00142  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 142
00143  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 143
00144  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 144
00145  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 145
00146  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 146
00147  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 147
00150  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 150
00151  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 151
00152  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 152
00153  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 153
00154  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 154
00155  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 155
00156  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 156
00157  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 157
00160  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 160
00161  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 161
00162  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 162
00163  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 163
00164  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 164
00165  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 165
00166  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 166
00167  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 167
00170  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 170
00171  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 171
00172  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 172
00173  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 173
00174  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 174
00175  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 175
00176  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 176
00177  0 43 00450           BRM      DIVERT          PROGRAM OPERATOR 177
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                    *
                    *       EXTERNAL INTERRUPT LINKAGES
                    *
00200  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 0
00201  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 1
00202  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 2
00203  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 3
00204  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 4
00205  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 5
00206  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 6
00207  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 7
00210  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 10
00211  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 11
00212  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 12
00213  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 13
00214  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 14
00215  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 15
00216  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 16
00217  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 17
00220  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 20
00221  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 21
00222  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 22
00223  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 23
00224  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 24
00225  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 25
00226  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 26
00227  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 27
00230  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 30
00231  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 31
00232  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 32
00233  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 33
00234  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 34
00235  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 35
00236  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 36
00237  0 43 00450           BRM      DIVERT          EXTERNAL INTERRUPT 37
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                        *
                        *       RECEIVERS FOR INTERRUPTS AND TRAPS.
                        *
00240  0 00 00000  INT30  PZE
00241  0 43 00450  !30    BRM     DIVERT
00242  0 00 00000  INT31  PZE
00243  0 43 00450  !31    BRM     DIVERT
00244  0 00 00000  INT32  PZE
00245  0 43 00450  !32    BRM     DIVERT
00246  0 00 00000  INT33  PZE
00247  0 43 00450  !33    BRM     DIVERT
00250  0 00 00000  INT34  PZE
00251  0 43 00450  !34    BRM     DIVERT
00252  0 00 00000  INT35  PZE
00253  0 43 00450  !35    BRM     DIVERT          CONTROL PANEL INTERRUPT
00254  0 00 00000  INT36  PZE
00255  0 01 02307         BRU     PWRON           RESTART LAST FUNCTION
00256  0 00 00000  INT37  PZE
00257  0 01 02316         BRU     PWROFF
00260  0 00 00000  XTRP40 PZE
00261  0 43 00450  T40    BRM     DIVERT
00262  0 00 00000  TRP41  PZE
00263  0 43 00450  T41    BRM     DIVERT
00264  0 00 00000  TRP42  PZE
00265  0 43 00450  T42    BRM     DIVERT
00266  0 00 00000  TRP43  PZE
00267  0 43 00450  T43    BRM     DIVERT
00270  0 00 00000  TRP44  PZE
00271  0 43 00450  T44    BRM     DIVERT
00272  0 00 00000  INT45  PZE
00273  0 43 00450  !45    BRM     DIVERT
00274  0 00 00000  XINT56 PZE
00275  0 43 00450  !56    BRM     DIVERT
00276  0 00 00000  XINT57 PZE
00277  0 43 00450  !57    BRM     DIVERT
```



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                        *
00300  0 00 00000  INT60  PZE
00301  0 43 00450  !60    BRM     DIVERT
00302  0 00 00000  INT61  PZE
00303  0 43 00450  !61    BRM     DIVERT
00304  0 00 00000  INT62  PZE
00305  0 43 00450  !62    BRM     DIVERT
00306  0 00 00000  INT63  PZE
00307  0 43 00450  !63    BRM     DIVERT
00310  0 00 00000  INT64  PZE
00311  0 43 00450  !64    BRM     DIVERT
00312  0 00 00000  INT65  PZE
00313  0 43 00450  !65    BRM     DIVERT
00314  0 00 00000  INT66  PZE
00315  0 43 00450  !66    BRM     DIVERT
00316  0 00 00000  INT67  PZE
00317  0 43 00450  !67    BRM     DIVERT
00320  0 00 00000  INT70  PZE
00321  0 43 00450  !70    BRM     DIVERT
00322  0 00 00000  INT71  PZE
00323  0 43 00450  !71    BRM     DIVERT
00324  0 00 00000  INT72  PZE
00325  0 43 00450  !72    BRM     DIVERT
00326  0 00 00000  INT73  PZE
00327  0 43 00450  !73    BRM     DIVERT
00330  0 00 00000  INT74  PZE
00331  0 43 00450  !74    BRM     DIVERT
00332  0 00 00000  FLAGS  PZE
00333  0 00 00000         PZE
00334  0 00 00000  INT76  PZE
00335  0 43 00450  !76    BRM     DIVERT
00336  0 00 00000  INT77  PZE
00337  0 43 00450  !77    BRM     DIVERT
```

```
                        *
                        *       SYSTEM PARAMETER TABLE
                        *
00340  0 20 02401  SIMA  NOP     SIM             SYSTEM IDENTIFIER MESSAGE ADDRESS
00341  0 20 02404  SAMA  NOP     SAM             SYSTEM ABSTRACT MESSAGE ADDRESS
00342  0 20 03277  SVMA  NOP     SVM             SYSTEM VARIABLE MESSAGE ADDRESS
00343  0 10 00400  SOCW  EIGHT   UAW             SYSTEM OUTPUT CODE WORD
00344  0 00 00000        PZE
00345  0 00 00000        PZE
00346  0 00 00663  SLIST PZE     ILREQ
00347  0 00 00000  STA   PZE     0               SYSTEM BRANCH ADDRESS
                        *
                        *       UNIT PARAMETER TABLE
                        *
00350  0 00 00000  UIMA  PZE     0               UNIT IDENTIFIER MESSAGE ADDRESS
00351  0 00 00000  UAMA  PZE     0               UNIT ABSTRACT MESSAGE ADDRESS
00352  0 00 00000  UVMA  PZE     0               UNIT VARIABLE MESSAGE ADDRESS
00353  0 00 00000  UOCW  PZE     0               UNIT OUTPUT CODE WORD
00354  0 00 00000  UID   PZE
00355    77777777  FAW   DATA    77777777
00356  0 00 01216        PZE     ULIST
00357  0 00 00554  UTA   PZE     UENTRY+1        UNIT BRANCH ADDRESS+1
```



```
                        *
                        *       FUNCTION PARAMETER TABLE
                        *
00360  0 00 00000  FIMA  PZE     0               FUNCTION IDENTIFIER MESSAGE ADDRESS
00361  0 00 00000  FAMA  PZE     0               FUNCTION ABSTRACT MESSAGE ADDRESS
00362  0 00 00000  FVMA  PZE     0               FUNCTION VARIABLE MESSAGE ADDRESS
00363  0 00 00000  FOCW  PZE     0               FUNCTION OUTPUT CODE WORD
00364  0 00 00000  NEXT  PZE
00365  0 00 00000  FID   PZE
00366  0 00 01234        PZE     FLIST
00367  0 00 00513  FTA   PZE     FENTRY+1        FUNCTION BRANCH ADDRESS+1
                        *
                        *       OBJECT PARAMETER TABLE
                        *
00370  0 01 00430  OIMA  ONE     OBJECT          PRINT CONTENTS OF OBJECT FOR IDENT.
00371  0 20 03321  OAMA  NOP     OAM             OBJECT ABSTRACT MESSAGE ADDRESS
00372  0 20 03441  OVMA  NOP     OVM             OBJECT VARIABLE MESSAGE ADDRESS
00373  0 10 00410  OOCW  EIGHT   AREG            OBJECT OUTPUT CODE WORD
00374  0 00 00000        PZE
00375  0 00 00000        PZE
00376  0 00 00663        PZE     ILREQ
00377  0 00 00430        PZE     OBJECT          OBJECT BRANCH ADDRESS
```

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                   *
                   *       SYSTEM VARIABLE TABLE
                   *
00400    67004005  UAw     DATA    67004005        UNIT ACCESS WORD
00401    00044000  STATUS  DATA    00044000        ERROR DEVICE(0) INTER ENAB(3) RTC(6)
00402    00000000  LOCKS   DATA    00000000        UNIT AND FUNCTION LOCKS
00403    20001000  RADSIZ  DATA    20001000        RAD SIZES FOR ALL CHANNELS
00404    00004000  DSCSIZ  DATA    00004000        DISC SIZES FOR ALL CHANNELS
00405    00000007  SYSIZE  DATA    00000007        SYSTEM SIZE WORD
00406    00000000  SEED    DATA    00000000        RANDOM NUMBER SEED
00407    00000000  TIME    DATA    00000000        VALUE OF REAL TIME CLOCK WHEN IMPLIMENTED
                   *
                   *       OBJECT VARIABLE TABLE
                   *
00410    00000000  AREG    DATA    00000000        CONTENTS OF ACCUMULATOR
00411    00000000  RREG    DATA    00000000        CONTENTS OF EXTENDED ACCUMULATOR
00412    00000000  XREG    DATA    00000000        CONTENTS OF INDEX REGISTER
00413    00000000  AVRFLO  DATA    00000000        CONTENTS OF OVERFLOW FLIP-FLOP(BIT 2)
00414    00000000  ERRORS  DATA    00000000        TOTAL NUMBER OF SYSTEM ERRORS
00415    00000000  RL1     DATA    00000000        CONTENTS OF USER RELABLING REGISTER 1
00416    00000000  RL2     DATA    00000000        CONTENTS OF USER RELABLING REGISTER 2
00417    00000000  RL4     DATA    00000000        CONTENTS OF MONITOR RELABLING REGISTER
                   *
                   *       LINKAGES TO UNIT AND FUNCTION
                   *
00420  0 00 00000  UNIT    PZE     0
00421  0 61 00420          MIN     UNIT
00422  0 01 00555          BRU     UENTRY
00423  0 00 00000  UCNTR   PZE
                   *
00424  0 00 00000  FUNCTN  PZE     0
00425  0 61 00424          MIN     FUNCTN
00426  0 01 00514          BRU     FENTRY
00427  0 00 00000  FCNTR   PZE
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                   *
                   *       OBJECT SUB ROUTINES
                   *
00430  0 00 00000  OBJECT  PZE     0
00431  0 40 20040          BPT4                    TEST FOR CONTROL ENTRY REQUEST
00432  0 43 00665          BRM     CONTRL          ENTER CONTROL
00433  0 51 00430          BRR     OBJECT
                   *
00434  0 00 00000  END     PZE     0
00435  0 40 20400          BPT1                    TEST FOR LOOP ON OBJECT ROUTINE
00436  0 01 00431          BRU     OBJECT+1        YES
00437  0 51 00434          BRR     END
                   *
00440  0 00 00000  RETURN  PZE     0
00441  0 02 20001          EOM     20001           RESET OVERFLOW
00442  0 61 00440          MIN     RETURN          POINT TO NOP WITH RETURN ADDRESS
00443  0 76*00440          LDA*    RETURN
00444  0 14 03624          ETR     *37777          GET ADDRESS
00445  0 16 03625          MRG     *00100000       MERGE IN A BRU
00446  0 35 00451          STA     DIVERT+1
00447  0 51 00440          BRR     RETURN
                   *
00450  0 00 00000  DIVERT  PZE     0               INTERRUPT, TRAP AND POP RECORDER
00451  0 00 00000          PZE     0
                   *
00452  0 00 00000  DONE    PZE     0
00453  0 01 00626          BRU     LAST            LAST FUNCTION TEST
                   *
00454  0 00 00000  REPORT  PZE     0
00455  0 01 00501          BRU     RENTRY          ENTER REPORT SUB-ROUTINE
                   *
00456  0 00 00000  FDONE   PZE     0
00457  0 01 00606          BRU     FLAST
```

```
                    *
                    *       ERROR SUB ROUTINE
                    *
00460  0 00 00000  ERROR   PZE     0
00461  0 40 20100           BPT3                    TEST TO INHIBIT ERROR OUTPUT
00462  0 01 00474           BRU     INCERR          INHIBIT ERROR OUTPUT
00463  0 43 01432           BRM     NORMAL          SAVE REGISTERS
00464  0 40 20100  LINK    BPT3
00465  0 01 00473           BRU     INCERR+1
00466  0 61 00460           MIN     ERROR
00467  0 76*00460           LDA*    ERROR           PICK UP OUTPUT CODE WORD
00470  0 43 01567           BRM     OUTPUT          OUTPUT ERROR MESSAGE
00471  0 72 03626           SKA     +40000000       TEST FOR LINKING
00472  0 01 00464           BRU     LINK
00473  0 43 01453           BRM     RESET           RESTORE REGISTERS
00474  0 61 00414  INCERR   MIN     ERRORS          INCREMENT ERROR COUNTER
00475  0 40 20200           BPT2                    TEST TO REPORT ON ERRORS
00476  0 51 00460           BRR     ERROR           NO-EXIT
00477  0 43 00465           BRM     CONTRL          GO TO CONTROL TO REPORT ON ERRORS
00500  0 51 00460           BRR     ERROR
                    *
                    *       USER OUTPUT SUB-ROUTINE
                    *
00501  0 02 22000  RENTRY  EOM     22000           TO 940 MODE
00502  0 43 01432           BRM     NORMAL          SAVE MACHINE STATUS
00503  0 61 00454  RLINK   MIN     REPORT          POINT TO CODE WORD
00504  0 76*00454           LDA*    REPORT          PICK UP OUTPUT CODE WORD
00505  0 40 20100           BPT3                    TEST TO INHIBIT ERROR OUTPUT
00506  0 01 00512           BRU     RLINK1          YES
00507  0 43 01567           BRM     OUTPUT          OUTPUT MESSAGE
00510  0 72 03626           SKA     +40000000       TEST FOR LINKING
00511  0 01 00503           BRU     RLINK
00512  0 43 01453  RLINK1   BRM     RESET           RESTORE REGISTERS
00513  0 51 00454           BRR     REPORT
```



```
                    *
                    *       FUNCTION INITIALIZER ROUTINE
                    *
00514  0 02 22000  FENTRY  EOM     22000
00515  0 43 01432           BRM     NORMAL          NORMALIZE MACHINE
00516  0 43 02130           BRM     INTCLR          CLEAR OUT INTERRUPTS
00517  0 76 00424           LDA     FUNCTN
00520  0 14 03627           ETR     +7737777
00521  0 35 00424           STA     FUNCTN
00522  0 75*00424           LDB*    FUNCTN          PICK UP PARAMETER TABLE POINTER
00523  0 71 03630           LDX     +360            SET DESTINATION ADDRESS
00524  0 76 03631           LDA     +37777772       CONTROL WORD = MOVE 6 WORDS
00525  0 43 00643           BRM     MOVER           MOVE 6 WORDS FROM (FPT) TO FIMA
00526  0 76 03632           LDA     +37777740
00527  0 75 03633           LDB     +100
00530  0 71 03634           LDX     +200
00531  0 43 00643           BRM     MOVER           MOVE BRM DIVERT TO EXT INTS
00532  0 76 03635           LDA     +40404040
00533  0 35 00415           STA     RL1
00534  0 35 00416           STA     RL2
00535  0 76 03636           LDA     +0607
00536  0 35 00417           STA     RL4
00537  0 76 03637           LDA     +06100407
00540  0 35 00075           STA     75              SET UP RTC CELL
00541  0 76 03640           LDA     +INT64+4300000
00542  0 35 00064           STA     64
00543  0 76 03641           LDA     +INT66+4300000
00544  0 35 00066           STA     66
00545  0 76 03642           LDA     +INT31+4300000
00546  0 35 00031           STA     31
00547  0 76 00402           LDA     LOCKS
00550  0 35 02357           STA     FIW
00551  0 76 00365           LDA     FID             FUNCTION IDENTIFIER
00552  0 72 00355           SKA     FAW             ACTIVATION TEST
00553  0 01 00621           BRU     ACTFUN          ACTIVATE FUNCTION
00554  0 01*00364           BRU*    NEXT            DO NOT ACTIVATE FUNCTION
```

```
00555  0 02 22000  UENTRY EBM     22000          TO 940 MODE
00556  0 76 00577         LDA     ACCESS
00557  0 35 00001         STA     1              STARTING BRANCH
00560  0 43 01432         BRM     NORMAL         NORMALIZE MACHINE
00561  0 43 02130         BRM     INTCLR         CLEAR OUT INTERRUPTS
00562  0 76 00420         LDA     UNIT
00563  0 14 03627         ETR     =7737777
00564  0 35 00420         STA     UNIT           CLEAN UP MARK WORD
00565  0 75*00420         LDB*    UNIT
00566  0 71 03643         LDX     =350
00567  0 76 03631         LDA     =37777772      CONTROL WORD, MOVE 6 WORDS
00570  0 43 01443         BRM     MOVER          MOVE UNIT PARAMETERS
00571  0 76 00402         LDA     LOCKS
00572  0 35 02372         STA     UIW
00573  0 76 00354         LDA     UID
00574  0 72 00400         SKA     UAW            ACTIVATION TEST
00575  0 01 00401         BRU     HARGLD         GIVE UID MESSAGE
00576  0 43 01743  DISMIS BRM     RTO            READ TAPE, SKIP IF EOF
00577  0 01 04000  ACCESS BRU     4000           START UNIT
00600  0 01 00576         BRU     DISMIS         READ FIRST UNIT
00601  0 46 20040  HARGLD BPT=
00602  0 01 00441         BRU     ACTVAT         DONT GIVE ID MESSAGE
00603  0 76 00350         LDA     UIMA
00604  0 43 01567         BRM     OUTPUT         OUTPUT ID MESSAGE
00605  0 01 00441         BRU     ACTVAT         ACTIVATE UNIT
```



```
00606  0 02 22000  FLAST  EBM     22000          TO 940 MODE
00607  0 43 01432         BRM     NORMAL         NORMALIZE MACHINE
00610  0 43 02130         BRM     INTCLR         CLEAR OUT ANY INTERRUPTS
00611  0 76 00402         LDA     LOCKS
00612  0 72 03444         SKA     =4000          SKIP IF NOT LOCKED
00613  0 01 00421         BRU     ACTFUN
00614  0 76 02357         LDA     FIW
00615  0 55 03445         ADD     =-1            SUBTRACT 1
00616  0 72 03444         SKA     =4000          SKIP IF NOT DONE
00617  0 01*00364         BRU*    NEXT           GET NEXT FUNCTN
00620  0 35 02357         STA     FIW
00621  0 61 00427  ACTFUN MIN     FCNTR
00622  0 76 00401         LDA     STATUS
00623  0 72 03446         SKA     =400000        SKIP IF NO RTC
00624  0 02 20100         EBM     20100          ARM RTC
00625  0 51 00424         BRR     FUNCTN
                *
00626  0 02 22000  LAST   EBM     22000          TO 940 MODE
00627  0 43 01432         BRM     NORMAL         NORMALIZE MACHINE
00630  0 43 02130         BRM     INTCLR         CLEAR OUT INTERRUPTS
00631  0 76 00402         LDA     LOCKS
00632  0 72 03426         SKA     =40000000      SKIP IF NOT LOCKED
00633  0 01 00641         BRU     ACTVAT
00634  0 76 02372         LDA     UIW
00635  0 55 03447         ADD     =77770000      SUBTRACT 10000
00636  0 72 03626         SKA     =40000000      SKIP IF NOT DONE
00637  0 01 00576  LOAD   BRU     DISMIS
00640  0 35 02372         STA     UIW            NEW UIW COUNT
00641  0 61 00423  ACTVAT MIN     UCNTR
00642  0 51 00420         BRR     UNIT           START UP UNIT
```

```
                    *
                    *       MOVES DATA FROM LOC IN XREG TO LOC IN BREG.  COUNT IN AREG.
                    *
00643  0 00 00001   MOVER   PZE     1
00644  0 36 02360           STB     FROM            SET 'FROM' ADDRESS
00645  0 37 02371           STX     TO              SET 'TO' ADDRESS
00646  0 35 02353           STA     COUNT           SET NUMBER OF WORDS TO BE MOVED
00647  0 75*02360   MOVE    LDB*    FROM
00650  0 61 02360           MIN     FROM            MOVE
00651  0 36*02371           STB*    TO
00652  0 61 02371           MIN     TO
00653  0 61 02353           MIN     COUNT
00654  0 53 02353           SKN     COUNT           FINISHED
00655  0 01 00647           BRU     MOVE            NO
00656  0 51 00643           BRR     MOVER
                    *
00657  0 76 03650   ILUNIT  LDA     =NOUMSG+2000000
00660  0 01 00662           BRU     **2
00661  0 76 03651   ILFUNC  LDA     =NOFMSG+2000000
00662  0 01 00664           BRU     **2
00663  0 76 03652   ILREQ   LDA     =REQMSG+2000000
00664  0 01 01210           BRU     SETMSG
```



```
                    *
                    *       CONTROL ROUTINE
                    *
00665  0 00 00001   CONTRL  PZE     1
00666  0 43 01432           BRM     NORMAL          NORMALIZE MACHINE STATUS
00667  0 71 03653           LDX     =*2000
00670  0 40 20040           BPT4                    TEST BREAKPOINT 4
00671  0 01 00670           BRU     **1             HANG ON BREAKPOINT 4
00672  0 41 00670           BRX     **2
00673  0 76 03654   CONLUP  LDA     =0              SET TYPEWRITER AS
00674  0 35 02355           STA     DEVICE          SELECTED DEVICE
00675  0 76 03655           LDA     =CONSYM+2000000
00676  0 43 01567           BRM     OUTPUT          OUTPUT CONTROL SYMBOL(*)
00677  0 43 01510           BRM     INPUT           INPUT CONTROL CHARACTERS(S,U,F,B,T,M,E)
00700  0 76 02375           LDA     =ORDIN
00701  0 14 03656           ETR     =3
00702  0 55 03657           ADD     =*3
00703  0 17 03445           EOR     =*1
00704  0 35 02365           STA     SRCODE          EDIT SOURCE CODE
00705  0 76 03660           LDA     =CONSPC+2000000
00706  0 43 01567           BRM     OUTPUT          OUTPUT SPACE AS A SUCCESS INDICATOR
00707  0 76 02352           LDA     CHARIN          INPUT CHAR
00710  0 17 03661           EOR     =47             TEST FOR P
00711  0 72 03662           SKA     =77
00712  0 01 00753           BRU     0               NOT P
```

```
00713  0 76 00401  P       LDA     STATUS
00714  0 72 03463          SKA     #4              SKIP IF NOT 940
00715  0 01 00721          BRU     RBL0K           OK TO RELABL
00716  0 76 02375          LDA     *0RDIN
00717  0 14 03624          ETR     #37777          GET ADDRESS
00720  0 01 00741          BRU     RBD0NE          BRU OVER RELABELING
00721  0 76 02375  RBL0K   LDA     *0RDIN
00722  0 66 21013          RCY     11D             GET RL BYTE
00723  0 14 03464          ETR     #37
00724  0 75 03454          LDB     #0
00725  0 71 03465          LDX     #=7
00726  0 35 02377          STA     *K1             SAVE RL BYTE
00727  0 61 02377  RBL00P  *IN     *K1             INCREMENT RL BYTE
00730  0 67 21006          LCY     6
00731  0 16 02377          *RG     *K1
00732  0 14 03466          ETR     #37373737       EXTRACT OFF FLAG BITS
00733  0 41 00727          BRX     RBL00P          BUILD 8 RL BYTES
00734  0 67 20030          LCY     30              EXCHANGE A AND B
00735  0 71 03436          LDX     #0607           RL4
00736  0 43 01067          BR*     SETREL
00737  0 76 02375          LDA     *0RDIN          GET CONTROL WORD
00740  0 14 03467          ETR     #3777           GET PAGE ADDRESS
00741  0 35 02377  RBD0NE  STA     *K1
00742  0 76 02375          LDA     *0RDIN
00743  0 66 21003          RCY     3               PUT COUNT IN OP CODE
00744  0 14 03470          ETR     #01700000
00745  0 73 03671          SKG     #01000000       IS COUNT GREATER THAN 8
00746  0 01 00750          BRU     *+2             NO , OK
00747  0 76 03671          LDA     #01000000       SET COUNT TO 8
00750  0 16 03472          *RG     #40000          SET IA BIT
00751  0 16 02377          *RG     *K1             PUT ON ADDRESS
00752  0 01 01200          BRU     *P0
```



```
                    *
00753  0 72 03473  0       SKA     #76             TEST FOR 0 (OBJECT LEVEL SELECTION)
00754  0 01 00766          BRU     U               NOT 0
00755  0 71 03474          LDX     #30
00756  0 43 01610          BR*     INPUT           INPUT CHARS(I,A,V,T)
00757  0 43 01123          BR*     LEVEL           PROCESS REQUEST
00760  0 76 02375          LDA     *0RDIN          GET ADDRESS
00761  0 72 03445          SKA     #=1             SKIP IF 0
00762  0 01 00764          BRU     *+2
00763  0 01 01105          BRU     SETEXT          GO TO START OF LAST OBJECT TEST
00764  0 55 03445          ADD     #=1             SUBTRACT 1
00765  0 01 01106          BRU     SETEXT+1
```

```
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00766  0 17 03675  U       EBR     #23
00767  0 72 03662          SKA     #77             TEST FOR U
00770  0 01 01020          BRU     S               NOT U
00771  0 71 03676          LDX     #10             UNIT LEVEL
00772  0 43 01523          BRM     DINPUT          INPUT NEXT CHAR
00773  0 43 01123          BRM     LEVEL           PROCESS NEXT CHAR
00774  0 76 00402          LDA     LOCKS
00775  0 14 03677          ETR     #77773777       REMOVE FUNCTION LOCK
00776  0 16 03626          MRG     #40000000       SET UNIT LOCK
00777  0 35 00402          STA     LOCKS
01000  0 43 01115          BRM     CONVRT          GET UID
01001  0 72 00400          SKA     UAW
01002  0 01 01004          BRU     *+2
01003  0 01 00657          BRU     ILUNIT          UNIT NOT IN UAW
01004  0 72 00354          SKA     UID              SKIP IF NOT PRESENT UNIT
01005  0 01 01105          BRU     SETEXT          EXIT
01006  0 35 00354          STA     UID              SAVE NEW UID
01007  0 43 01735          BRM     REWIND          REWIND TAPE AND SCAN OVER CONTROL
01010  0 43 01743  GETU    BRM     RTO             READ FIRST UNIT
01011  0 01 01013          BRU     *+2             READ OK
01012  0 01 00657          BRU     ILUNIT          COULD NOT FIND UNIT
01013  0 71 04001          LDX     4001            GET UPT POINTER
01014  0 76 00354          LDA     UID             GET NEW UID
01015  2 72 00004          SKA     4,2             SKIP IF NOT CORRECT UNIT
01016  0 01 04000          BRU     4000            START UNIT
01017  0 01 01010          BRU     GETU            GET ANOTHER UNIT
```

```
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01020  0 17 03700  S       EBR     #6              TEST FOR S (SYSTEM LEVEL SELECTION)
01021  0 72 03662          SKA     #77
01022  0 01 01033          BRU     T               NOT S
01023  0 71 03654          LDX     #0
01024  0 43 01510          BRM     INPUT           INPUT (I,A,V,T)
01025  0 43 01123          BRM     LEVEL           PROCESS REQUEST
01026  0 76 00402          LDA     LOCKS
01027  0 14 03701          ETR     #37773777       REMOVE UNIT AND FUNCTION LOCKS
01030  0 35 00402          STA     LOCKS
01031  0 43 01735          BRM     REWIND          RETURN TAPE TO BEGINNING
01032  0 01 00576          BRU     DISMIS
                    *
01033  0 72 03673  T       SKA     #76             TEST FOR T (TRANSFER)
01034  0 01 01052          BRU     F               NOT T
01035  0 76 02375          LDA     *0RDIN
01036  0 72 03645          SKA     *+1             TEST FOR RETURN OR HALT AND TRANSFER
01037  0 01 01041          BRU     *+2
01040  0 01 01111          BRU     EXIT
01041  0 16 03625  SETHLT  MRG     #100000         MAKE INTO A BRANCH
01042  0 35 01051          STA     XFER
01043  0 76 03702          LDA     *RTCOFF+2000000
01044  0 43 01567          BRM     OUTPUT
01045  0 76 03703          LDA     *HANDT+1
01046  0 01 01106          BRU     SETEXT+1
                    *
01047  0 02 20200  HANDT   EBM     20200           DISARM RTC
01050  0 00 00000          HLT
01051  0 00 00000  XFER    PZE
```

```
01052  0 17 03704  F       EOR     =44
01053  0 72 03662          SKA     =77             SKIP IF F
01054  0 01 01307          BRU     EDIT
01055  0 71 03705          LDX     =20             FUNCTION LEVEL
01056  0 43 01523          BRM     DINPUT          GET NEXT CHAR
01057  0 43 01123          BRM     LEVEL           PROCESS NEXT CHAR
01060  0 76 02402          LDA     LOCKS
01061  0 16 03706          MRG     =40004000       SET UNIT AND FUNCTION LOCKS
01062  0 35 02402          STA     LOCKS
01063  0 43 01115          BRM     CONVRT          GET FID
01064  0 72 02765          SKA     FID             SKIP IF NOT PRESENT FUNCTION
01065  0 01 01105          BRU     SETEXT
01066  0 35 02765          STA     FID
01067  0 71 02472          LDX     =40000          PUT BIT 9 IN X
01070  0 77*01420          EAX*    UNIT            PUT UNIT MARK IN X
01071  0 37 02756  GETF    STX     FADDR
01072  0 37 01051          STX     XFER
01073  0 43 01245          BRM     FFIND
01074  0 01 02661          BRU     ILFUNC          COULD NOT FIND FUNCTION
01075  2 76 0 005          LDA     5,2             GET     FID
01076  0 72 02765          SKA     FID             SKIP IF NOT CORRECT FUNCTION
01077  0 01 01103          BRU     GOODF
01100  2 77*02004          EAX*    4,2             GET NEXT FUNCTION START
01101  2 77 37777          EAX     -1,2            SUBTRACT 1
01102  0 01 01071          BRU     GETF            LOOK FOR NEXT FUNCTION
01103  0 35 02755  GOODF   STA     FAW
01104  0 01 01105          BRU     SETEXT          START FUNCTN
```



```
01105  0 76 01051  SETEXT LDA     XFER
01106  0 14 03424         ETR     =37777
01107  0 16 02413         MRG     =VRFLG
01110  0 35 02465         STA     CONTRL
01111  0 76 03707  EXIT    LDA     =CONRET+02000000
01112  0 43 01567         BRM     OUTPUT
01113  0 43 01453         BRM     RESET
01114  0 51 02665         BRR     CONTRL
                    *
                    *       CONVERT A DECIMAL NUMBER INTO A BIT POSITION
                    *
01115  0 00 00002  CONVRT PZE     2
01116  0 71 02375         LDX     =BRDIN          SET NUMBER INTO INDEX REG
01117  0 76 03426         LDA     =40000000
01120  0 75 03454         LDB     =0
01121  2 66 20000         RCY     0,2             CONVERT DECIMAL NUMBER TO BIT POSITION
01122  0 51 01115         BRR     CONVRT
                    *
                    *       PROCESSES THE REQUESTS FOR S,U F AND 0
                    *
01123  0 00 00002  LEVEL   PZE     2               PROCESS I,A,V AND T REQUESTS
01124  0 72 03710         SKA     =75             TEST FOR T (LEVEL TRANSFER)
01125  0 01 01131         BRU     V               NOT T
01126  2 76 00347         LDA     STA,2           SET TRANS TO SPECIFIED LEVEL
01127  0 35 01051         STA     XFER
01130  0 51 01123         BRR     LEVEL           EXIT LEVEL
```

```
                    *
01131  0 72 03711  V       SKA     =73             TEST FOR V (OUTPUT VARIABLES)
01132  0 01 01175          BRU     A               NOT V
01133  2 76 00342          LDA     SVMA,2          PICK UP VARIABLES MESSAGE ADDRESS
01134  0 43 01567          BRM     OUTPUT          OUTPUT HEADING
01135  2 76 00343          LDA     SOCW,2          PICK UP OUTPUT CODE WORD
01136  0 43 01567          BRM     OUTPUT          OUTPUT DISPLAY
01137  0 14 03424          ETR     =37777
01140  0 35 02345          STA     ADRESS          SAVE ADDRESS
01141  2 75 00343          LDB     SOCW,2          PICK UP OUTPUT CODE WORD
01142  0 67 20011          LCY     9               SHIFT MODIFY COUNT INTO A REG
01143  0 14 03662          ETR     =77
01144  0 35 02354          STA     COUNT
01145  0 60 02354  MODIFY  SKR     COUNT           DECREMENT COUNT
01146  0 01 01147          BRU     *+1
01147  0 53 02354          SKN     COUNT           TEST COUNT > 0
01150  0 01 01152          BRU     *INPUT          YES
01151  0 01 00673          BRU     CONLUP
                    *
01152  0 43 01510  *INPUT  BRM     INPUT           INPUT MODIFICATIONS (* OR /)
01153  0 17 03712          EOR     =12
01154  0 72 03662  COMMA   SKA     =77             TEST FOR COMMA
01155  0 01 01167          BRU     PERIOD          NOT COMMA
01156  0 76 02375          LDA     *WORDIN
01157  0 72 03645          SKA     *=1             TEST FOR NO CHANGE BITS
01160  0 01 01165          BRU     CHANGE          CHANGE BITS PRESENT-DO NOT SPACE
01161  0 02 02641          EOM     2641            TYPE 4 CHAR MODE
01162  0 12 03435          *IW     =40404040       4 DASHES
01163  0 12 03435          *IW     =40404040       4 MORE DASHES
01164  0 02 14000          EOM     14000           TERMINATE OUTPUT
01165  0 17*02345  CHANGE  EOR*    ADRESS          CHANGE SELECTED BITS
01166  0 01 01172          BRU     STORE
```



```
                    *
01167  0 72 03664  PERIOD  SKA     =37             TEST FOR PERIOD
01170  0 01 00673          BRU     CONLUP          NOT PERIOD
01171  0 76 02375          LDA     *WORDIN
01172  0 35*02345  STORE   STA*    ADRESS          STORE WORD
01173  0 61 02345          MIN     ADRESS          INCREMENT ADDRESS
01174  0 01 01145          BRU     MODIFY
                    *
01175  0 72 03664  A       SKA     =37             TEST FOR A (OUTPUT ABSTRACT)
01176  0 01 01203          BRU     I               NOT A
01177  2 76 00341          LDA     SAMA,2          PICK UP ABSTRACT MESSAGE ADDRESS
01200  0 75 00401  MPO     LDB     STATUS
01201  0 36 02355          STB     DEVICE          SET DEVICE FOR ERROR COMMUNICATIONS
01202  0 01 01210          BRU     SETMSG
                    *
01203  0 72 03713  I       SKA     =27             TEST FOR I (OUTPUT INDENTIFIER MESSAGE)
01204  0 01 01212          BRU     L               NOT I
01205  0 76 03660          LDA     =CONSPC+2000000
01206  0 43 01567          BRM     OUTPUT          OUTPUT SPACE
01207  2 76 00340          LDA     SIMA,2          PICK UP IDIENTIFIER MESSAGE ADDRESS
01210  0 43 01567  SETMSG  BRM     OUTPUT          OUTPUT SELECTED LEVEL REQUEST
01211  0 01 00673          BRU     CONLUP
```

```
01212  0 17 03714  L       EOR     *22
01213  0 72 03462          SKA     *77             SKIP IF L
01214  0 01 00463          BRU     ILREQ
01215  2 01*00346          BRU*    SLIST,2
                    *
01216  0 76 03715  ULIST   LDA     *CONTRL
01217  0 35 00665          STA     CONTRL
01220  0 76 00401          LDA     STATUS
01221  0 35 02355          STA     DEVICE          SET ERROR DEVICE
01222  0 76 03454          LDA     *0
01223  0 35 00354          STA     UID
01224  0 43 01735          BRM     REWIND
01225  0 43 01743  LSTRDR  BRM     RTO             READ NEXT UNIT
01226  0 01 01230          BRU     **2             READ OK
01227  0 01 00473          BRU     CONLUP
01230  0 71 04001          LDX     4001
01231  2 76 00000          LDA     0,2             UIM ADDRESS
01232  0 43 01567          BRM     OUTPUT
01233  0 01 01225          BRU     LSTRDR
                    *
01234  0 71 03716  FLIST   LDX     *44000          START OF SEARCH
01235  0 37 02356          STX     FADDR
01236  0 76 00401          LDA     STATUS
01237  0 35 02355          STA     DEVICE          SET ERROR DEVICE
01240  0 43 01245  LSTSCN  BRM     FFIND
01241  0 01 00473          BRU     CONLUP
01242  2 76 00000          LDA     0,2             GET     FID
01243  0 43 01567          BRM     OUTPUT          OUTPUT FID
01244  0 01 01240          BRU     LSTSCN        GET NEXT FID
```



```
01245  0 00 00000  FFIND   PZE
01246  0 71 02356          LDX     FADDR
01247  0 75 03445          LDB     **1
01250  0 76 03717          LDA     *FUNCTN**4300000
01251  2 70 00000          SKM     0,2
01252  0 41 01251          BRX     **1
01253  0 41 01255          BRX     **2
01254  0 51 01245          BRR     FFIND           DONE
01255  0 37 02356          STX     FADDR           SAVE ADDRESS
01256  2 77*00000          EAX*    0,2             GET FPT POINTER
01257  0 61 01245          MIN     FFIND
01260  0 51 01245          BRR     FFIND           EXIT SKIPPING
```

```
                        *
                        *       SET RELABLING REGISTERS WITH RL1,RL2, AND RL4
                        *
01261  0 00 00000  RELABL PZE
01262  0 76 00415        LDA     RL1
01263  0 75 00416        LDB     RL2
01264  0 71 00417        LDX     RL4
01265  0 43 01267        BRM     SETREL
01266  0 51 01261        BRR     RELABL
                        *
01267  0 00 00000  SETREL PZE
01270  0 06 20332        EBD     20332           SET EM REGISTERS
01271  0 35 02366        STA     RRR
01272  0 76 00401        LDA     STATUS
01273  0 72 03463        SKA     =4              SKIP IF NOT 940
01274  0 01 01276        BRU     **2
01275  0 51 01267        BRR     SETREL
01276  0 02 20400        EBM     20400
01277  0 13 02366        PBT     RRR
01300  0 36 02366        STB     RRR
01301  0 02 21000        EBM     21000
01302  0 13 02366        PBT     RRR
01303  0 37 02366        STX     RRR
01304  0 02 21400        EBM     21400
01305  0 13 02366        PBT     RRR
01306  0 51 01267        BRR     SETREL
```



```
                        *
                        *       EDITS EXISTING SYSTEM ON TAPE 0 ONTO TAPE 1
                        *
01307  0 17 03656  EDIT  EBR     =03
01310  0 72 03662        SKA     =77             SKIP IF E
01311  0 01 01372        BRU     C
01312  0 43 01523        BRM     DINPUT          GET UNIT ID
01313  0 43 01115        BRM     CONVRT
01314  0 35 00354        STA     UID
01315  0 76 03720        LDA     =ILREQ=1
01316  0 35 01051        STA     XFER
01317  0 53 02365        SKN     SRCODE
01320  0 43 01735        BRM     REWIND
01321  0 43 02022        BRM     BEGIN1          WRITE CONTROL ON TAPE
01322  0 53 02365  ELOOP  SKN     SRCODE          SKIP IF MAG TAPE 0
01323  0 01 01325        BRU     **2
01324  0 01 01342        BRU     GETSRC
01325  0 43 01743        BRM     RTO
01326  0 01 01330        BRU     **2             READ OK
01327  0 01 01415        BRU     EOF             READ EOF, WRITE EOF AND REWIND
01330  0 71 04001        LDX     4001
01331  2 76 00004        LDA     4,2             GET UNIT ID
01332  0 72 00354        SKA     UID             SKIP IF IT IS NOT UNIT
01333  0 01 01342        BRU     GETSRC        GET SOURCE
01334  0 76 00401  CENTRY LDA     STATUS
01335  0 35 02355        STA     DEVICE          LIST ON ERROR DEVICE
01336  2 76 00000        LDA     0,2             GET UIM ADDRESS
01337  0 43 01567        BRM     OUTPUT
01340  0 43 02063        BRM     =T1             WRITE UNIT ON TAPE 1
01341  0 01 01322        BRU     ELOOP           GET NEXT UNIT
```

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01342  0 71 02365  GETSRC LDX     SRCODE
01343  0 74 03721         LDA     =3204000
01344  0 35 02367         STA     START
01345  0 76 03722         LDA     =3237777
01346  0 35 02370         STA     STOP
01347  0 43 01504         BRM     XCHECK
01350  2 01 01352         BRU     *+2,2
01351  0 01 01355         BRU     MTOF
01352  0 01 01362         BRU     PTFD
01353  0 01 01364         BRU     CRFD
01354  0 01 00473         BRU     CONLUP
                   *
01355  0 43 10410  MTOF   SKS     10410           MAG TAPE 0 READY
01356  0 01 01360         BRU     *+2
01357  0 01 01355         BRU     *-2
01360  0 02 03610         EOM     3610            READ MT 0
01361  0 01 01367         BRU     FILL
                   *
01362  0 02 02404  PTFD   EOM     2604
01363  0 01 01367         BRU     FILL
                   *
01364  0 43 12006  CRFD   SKS     12006           CARD READER READY
01365  0 01 01364         BRU     *-1
01366  0 02 03406         EOM     3606            READ CARD BIN
                   *
01367  0 71 03665  FILL   LDX     *-7
01370  0 32 00002         XIM     2
01371  0 01 00002         BRU     2
```

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01372  0 17 03700  C      EOR     =06
01373  0 72 03662         SKA     =77             SKIP IF C
01374  0 01 01402         BRU     M
01375  0 43 01523         BRM     CINPUT          GET UID
01376  0 43 01115         BRM     CONVRT          MAKE UID
01377  0 35 00354         STA     UID
01400  0 71 04001  BACKIN LDX     4001
01401  0 01 01334         BRU     CENTRY
01402  0 17 03723  M      EOR     =67
01403  0 72 03662         SKA     =77             SKIP IF M
01404  0 01 01424         BRU     B
01405  0 76 02375         LDA     ADRDIN          GET ADDRESS
01406  0 14 03424         ETR     =37777          EXTRACT ADDRESS
01407  0 35 02345         STA     ADRESS          SAVE FOR MODIFY
01410  0 76 03676         LDA     =10
01411  0 35 02354         STA     CONT            SAVE FOR MODIFY
01412  0 76 00707         LDA     =CONRET+2000000
01413  0 43 01567         BRM     OUTPUT
01414  0 01 01145         BRU     MODIFY          ALLOW EIGHT WORDS TO BE CHANGED
01415  0 43 02050  EOF    BRM     RDY1            WAIT FOR TAPE 1 READY
01416  0 02 02051         EOM     2051            WRITE TAPE 1 FORWARD
01417  0 12 03724         XIM     =17000000       WRITE EOF
01420  0 02 14000         EOM     14000           TERMINATE OUTPUT
01421  0 43 02050         BRM     RDY1            WAIT FOR TAPE 1 READY
01422  0 02 14011         EOM     14011           REWIND TAPE 1
01423  0 01 00473         BRU     CONLUP
01424  0 17 03726  B      EOR     =66
01425  0 72 03645         SKA     *-1
01426  0 01 00463         BRU     ILREQ
01427  0 43 01761         BRM     RDY0            CHECK TAPE 0 READY
01430  0 02 07630         EOM     7630            BACK SPACE TAPE 0
01431  0 01 01342         BRU     GETSRC          GET SRC CODE
```

```
                        *
                        *       NORMALIZE MACHINE STATUS
                        *
01432  0 00 00002  NORMAL PZE     2
01433  0 43 01472         BRM     PUT             STORE REGISTERS
01434  0 76 01432         LDA     NORMAL          TEST FOR OVERFLOW
01435  0 14 03726         ETR     #50000000
01436  0 35 00413         STA     OVRFLO          SAVE OVERFLOW
01437  0 76 00401         LDA     STATUS          SET INTERRUPT INDICATORS IN STATUS
01440  0 14 03727         ETR     #40444444       EXTRACT OFF INT ENABLE INDICATOR
01441  0 40 20002         SKS     20002           TEST INTERRUPTS ENABLED
01442  0 16 03730         MRG     #4000000        YES.SET INDICATION BIT 3
01443  0 35 00401         STA     STATUS          SAVE INDICATORS
01444  0 76 03435         LDA     #40404040
01445  0 75 03435         LDB     #40404040
01446  0 71 03436         LDX     #0607
01447  0 43 01267         BRM     SETREL          NORMALIZE RELABELING
01450  0 02 20004         EOM     20004           DISABLE INTERRUPTS
01451  0 02 20200         EOM     20200           DISARM RTC
01452  0 51 01432         BRR     NORMAL
```



```
                        *
                        *       RESTORE MACHINE STATUS
                        *
01453  0 00 00002  RESET  PZE     2
01454  0 43 01261         BRM     RELABL          RESTORE RELABELING
01455  0 76 00401         LDA     STATUS          INTERRUPT INDICATORS
01456  0 72 03646         SKA     #400000         TEST FOR CLOCK PULSE OPTION
01457  0 02 20100         EOM     20100           ARM CLOCK PULSE INTERRUPT
01460  0 72 03730         SKA     #4000000        TEST FOR INTERRUPTS ENABLED
01461  0 02 20002         EOM     20002           ENABLE INTERRUPTS
01462  0 35 02355         STA     DEVICE          SET ERROR REPORTING DEVICE
01463  0 76 01453         LDA     RESET
01464  0 14 03624         ETR     #37777
01465  0 16 00413         MRG     OVRFLO
01466  0 35 01453         STA     RESET           RESTORE OVERFLOW STATUS
01467  0 43 01477         BRM     GET             LOAD REGISTERS
01470  0 02 20001         EOM     20001           RESET OVERFLOW
01471  0 51 01453         BRR     RESET
```

```
                    *
                    *       STORE THE REGISTERS
                    *
01472  0 00 00004   PUT     PZE     4
01473  0 35 00410           STA     AREG
01474  0 36 00411           STB     BREG
01475  0 37 00412           STX     XREG
01476  0 51 01472           BRR     PUT
                    *
                    *       RESTORE THE REGISTERS
                    *
01477  0 00 00004   GET     PZE     4
01500  0 76 00410           LDA     AREG
01501  0 75 00411           LDB     BREG
01502  0 71 00412           LDX     XREG
01503  0 51 01477           BRR     GET
                    *
                    * WAIT FOR W=BUFFER TO COME READY
                    *
01504  0 00 00000   WCHECK  PZE
01505  0 40 21000           SKS     21000           W BUFFER READY
01506  0 01 01505           BRU     **1
01507  0 51 01504           BRR     WCHECK
```



```
                    *
                    *       INPUT ROUTINE
                    *
01510  0 00 00003   INPUT   PZE     3
01511  0 76 01510           LDA     INPUT
01512  0 35 01523           STA     DINPUT          SET INPUT EXIT THRU DINPUT
01513  0 76 03454           LDA     =0              INITIALIZE NORDIN WITH 0
01514  0 43 01554           BRM     IN              INPUT ONE CHARACTER
01515  0 72 03731           SKA     =70             TEST FOR OCTAL DIGIT
01516  0 01 01530           BRU     NODIG           NOT AN OCTAL DIGIT
01517  0 66 20003           RCY     3
01520  0 76 02375           LDA     NORDIN
01521  0 67 20003           LCY     3
01522  0 01 01555           BRU     DIGIT
                    *
                    *       DECIMAL INPUT ROUTINE
                    *
01523  0 00 00003   DINPUT  PZE     3
01524  0 76 03454           LDA     =0              INITIALIZE WITH 0
01525  0 43 01554           BRM     IN              INPUT ONE CHAR
01526  0 73 03732           SKG     =9              TEST FOR DECIMAL DIGIT
01527  0 01 01545           BRU     DECMAL          YES
01530  0 17 03733   NODIG   EOR     =40             TEST FOR DASH=FORMAT CHAR
01531  0 72 03662           SKA     =77
01532  0 01 01534           BRU     NODASH          NOT A DASH
01533  0 01 01556           BRU     SPACE           DASH
                    *
01534  0 17 03734   NODASH  EOR     =52             TEST FOR A SPACE
01535  0 72 03662           SKA     =77
01536  0 01 01540           BRU     NOSPC           NOT A SPACE
01537  0 01 01556           BRU     SPACE
```

```
                        *
01540  0 17 03711  NOSPC  EOR     =73             TEST FOR SLASH
01541  0 72 03662         SKA     =77
01542  0 51 01523         BRR     DINPUT          NOT A DIGIT, DASH, SPACE OR SLASH
01543  0 76 03654         LDA     =0
01544  0 01 01555         BRU     DIGIT
                        *
01545  0 76 02375  DECMAL LDA     WORDIN
01546  0 75 03454         LDB     =0
01547  0 67 20002         LCY     2
01550  0 55 02375         ADD     WORDIN
01551  0 67 20001         LCY     1
01552  0 55 02352         ADD     CHARIN
01553  0 01 01555         BRU     DIGIT
                        *
                        *       CHARACTER INPUT ROUTINE
                        *
01554  0 00 00004  IN      PZE     4
01555  0 35 02375  DIGIT   STA     WORDIN          UPDATE WORDIN
01556  0 40 21000  SPACE   SKS     21000           CHANNEL READY TEST
01557  0 01 01556         BRU     *-1
01560  0 02 02001         EOM     2001            READ TYPEWRITER=ONE CHARACTER MODE
01561  0 32 02352         XIM     CHARIN
01562  0 02 00000         EOM     0               DISCONNECT TYPEWRITER
01563  0 76 02352         LDA     CHARIN          PICK UP INPUT CHARACTER
01564  0 14 03662         ETR     =77
01565  0 35 02352         STA     CHARIN
01566  0 51 01554         BRR     IN
```



```
                        *
                        *       OUTPUT ROUTINE
                        *
01567  0 00 00003  OUTPUT PZE     3
01570  0 37 02400         STX     WK2
01571  0 35 02374         STA     WORD            SAVE CODE WORD
01572  0 14 03735         ETR     =7777777        EXTRACT ALL BUT REL BIT
01573  0 72 03672         SKA     =40000          SKIP IF NOT MAPPED
01574  0 17 03736         EOR     =40040000       TAKE OUT IA BIT AND INSERT REL BIT
01575  0 35 02346         STA     ADDRES
01576  0 76 03654         LDA     =0              PICK UP ZERO CHAR
01577  0 43 01706         BRM     ON              TURN ON SELECTED OUTPUT DEVICE
01600  0 75 02346  REGOUT LDB     ADDRES          PICK UP OUTPUT CODE WORD
01601  0 67 20004         LCY     4               SHIFT BIT 4 OF CODE WORD INTO SIGN BIT
01602  0 36 02347         STB     BCD             BCD<0 OF CODE WORD IS A NOP
01603  0 67 20005         LCY     5               SHIFT COUNT INTO A REG
01604  0 14 03737         ETR     =377
01605  0 35 02353  SETCNT STA     COUNT
01606  0 53 02347  BCDTST SKN     BCD             TEST FOR BCD OUTPUT
01607  0 01 01614         BRU     BINARY          NOT BCD
01610  0 76*02346  GETWRD LDA*    ADDRES          PICK UP WORD
01611  0 43 01636         BRM     WRDOUT          OUTPUT WORD
01612  0 61 02346         MIN     ADDRES          INCREMENT ADDRESS
01613  0 01 01606         BRU     BCDTST
```

```
                    *
01614  0 60 02353 BINARY SKR     COUNT           DECREMENT COUNT
01615  0 01 01616         BRU    **1
01616  0 53 02353         SKN    COUNT           TEST COUNT < 0
01617  0 01 01610         BRU    GETWRD          NO
01620  0 12 03421 MEMP0   MIW    CONSYM          CAR RET FOR TYPEWRITER
01621  0 76 03426         LDA    =40000000
01622  0 43 01706         BRM    BX              LINE FEED FOR LINE PRINTER
01623  0 76 02346         LDA    ADDRES
01624  0 72 03740         SKA    =37700000       TEST FOR MP0 OR BINARY
01625  0 01 01651         BRU    TERM0P          BINARY=TERMINATE OUTPUT
01626  0 76 02375         LDA    WORDIN          GET MP0 ADDRESS
01627  0 14 03741         ETR    =177777         EXTRACT 64K ADDRESS
01630  0 43 01636         BRM    WRDOUT          OUTPUT ADDRESS
01631  0 74 02375         LDA    WORDIN
01632  0 55 03476         ADD    =10             INCREMENT ADDRESS
01633  0 35 02375         STA    WORDIN
01634  0 76 03676         LDA    =10             SET COUNT = 10
01635  0 01 01605         BRU    SETCNT
```



```
                    *
                    *       OUTPUTS ONE WORD IN BINARY OR BCD
                    *
01636  0 00 00004 WRDOUT PZE    4
01637  0 75 03742         LDB    =44444440       CHARACTER PRESENT MASK
01640  0 53 02347 OUTLUP SKN    BCD
01641  0 66 20003         RCY    3               SHIFT BINARY CHAR
01642  0 35 02351         STA    CHAR            SAVE CHAR TO BE OUTPUTTED
01643  0 17 03743         EOR    =37000000       TEST FOR TERMINATE OUTPUT CHAR (37)
01644  0 72 03744         SKA    =77000000
01645  0 01 01665         BRU    FORMAT          NOT A 37 CHAR
01646  0 76 02374         LDA    AORD            RESTORE A REGISTER
01647  0 72 03745         SKA    =20000000       TEST FOR REGISTER OUTPUT
01650  0 01 01661         BRU    SETREG
01651  0 40 20040 TERM0P  BPT4
01652  0 01 01651         BRU    **1
01653  0 02 14000         EOM    14000           TERMINATE OUTPUT
01654  0 40 21000         SKS    21000           BUFFER READY TEST
01655  0 01 01654         BRU    **1
01656  0 76 02374         LDA    AORD
01657  0 71 02400         LDX    XR2             RESTORE X REG
01660  0 51 01567         BRR    OUTPUT          NO=EXIT OUTPUT
                    *
01661  0 76 02363 SETREG LDA    REGADD
01662  0 35 02346         STA    ADDRES
01663  0 35 02374         STA    AORD
01664  0 01 01600         BRU    REGOUT
```

```
                    *
01665  0 40 20040  FORMAT BPT4
01666  0 01 01704         BRU     SETADR          TERMINATE MESSAGE
01667  0 12 02351         MIW     CHAR            OUTPUT CHAR
01670  0 17 03746         EOR     #25000000       TEST FOR TOP OF FORM OR CHAR RET
01671  0 72 03747         SKA     #60000000
01672  0 72 03724         SKA     #17000000
01673  0 01 01675         BRU     **2
01674  0 43 01706         BRM     ON              TOP OF FORM OR CHAR RET
01675  0 14 03750         ETR     #777777         REMOVE CHAR BITS
01676  0 67 00006  LCY    LSH     6               SHIFT LAST CHAR OUT
01677  0 72 03751         SKA     #7              TEST FOR LAST CHAR OF WORD
01700  0 01 01440         BRU     OUTLUP          NOT LAST CHAR
01701  0 53 02347         SKN     BCD
01702  0 12 03752         MIW     #12000000       OUTPUT SPACE AFTER BINARY WORD
01703  0 51 01436         BRR     WRDOUT
                    *
01704  0 35 02346  SETADR STA     ADDRES
01705  0 01 01620         BRU     MEMPO
```



```
                    *
                    *       TURNS ON SELECTED DEVICE AND FORMATS
                    *
01706  0 00 00005  ON     PZE     5
01707  0 72 03645         SKA     **1             TEST FOR DEVICE ON
01710  0 02 14000         EOM     14000           DEVICE ON.TERMINATE OUTPUT
01711  0 43 01504         BRM     XCHECK          CHANNEL READY TEST
01712  0 53 02355         SKN     DEVICE          TEST FOR PRINTER
01713  0 01 01731         BRU     TYPE            NO.TURN ON TYPEWRITER
01714  0 71 03753         LDX     #77400000
01715  0 37 02366         STX     RRR             TEMPORARY STORAGE
01716  0 61 02366  PRLOOP MIN     RRR
01717  0 53 02366         SKN     RRR             SKIP UNTIL TIMEOUT
01720  0 01 01731         BRU     TYPE
01721  0 40 12060         SKS     12060           PRINTER READY TEST
01722  0 01 01716         BRU     PRLOOP          NOT READY, TO TIMER
01723  0 72 03626         SKA     #40000000       TEST FOR LINE FEED
01724  0 02 10460         EOM     10460           LINE FEED
01725  0 72 03745         SKA     #20000000       TEST FOR TOP OF FORM
01726  0 02 11460         EOM     11460           TOP OF FORM
01727  0 02 02060         EOM     2060            PRINT.ONE CHAR MODE
01730  0 51 01706         BRR     ON
                    *
01731  0 71 03672  TYPE   LDX     #40000
01732  0 41 01732         BRX     *
01733  0 02 02041         EOM     2041            TYPE.ONE CHAR MODE
01734  0 51 01706         BRR     ON
                    *
01735  0 00 00000  REWIND PZE
01736  0 43 01761         BRM     RDY0            WAIT FOR TAPE 0 READY
01737  0 02 14010         EOM     14010           REWIND TAPE 0
01740  0 43 01761         BRM     RDY0            WAIT FOR TAPE 0 READY
01741  0 02 03630         EOM     3630            SCAN FORWARD OVER CONTROL
01742  0 51 01735         BRR     REWIND
```

```
                        *
                        *       MAG TAPE 0 READ DRIVER
                        *
01743  0 00 00002 RT0   PZE     2               READ TAPE UNIT 0
01744  0 43 01761       BRM     RDY0
01745  0 02 03610       EOM     3610            READ FORWARD
01746  0 43 01774       BRM     READ            READ ONE UNIT
01747  0 51 01743       BRR     RT0             NORMAL EXIT
01750  0 01 01754       BRU     TAPERR          CHANNEL ERROR
01751  0 43 01735       BRM     REWIND          REWIND TAPE 0
01752  0 61 01743       MIN     RT0
01753  0 51 01743       BRR     RT0
                        *
01754  0 76 03754 TAPERR LDA     =TERM+2000000    MAG TAPE ERROR MESSAGE
01755  0 43 01567       BRM     OUTPUT
01756  0 43 00665       BRM     CONTRL
01757  0 02 07630       EOM     7630            SCAN REVERSE BINARY 4 CHAR MODE
01760  0 01 01744       BRU     RT0+1
                        *
                        *       TEST MAG TAPE 0 READY
                        *
01761  0 00 00003 RDY0  PZE     3               TEST TAPE UNIT 0 READY FOR READ
01762  0 40 14010       SKS     14010           TEST FOR FILE PROTECTED
01763  0 01 01770       BRU     TAP0
01764  0 76 03755       LDA     =TERM1+2000000
01765  0 43 01567       BRM     OUTPUT
01766  0 43 00665       BRM     CONTRL
01767  0 01 01762       BRU     RDY0+1
01770  0 40 10410 TAP0  SKS     10410           UNIT 0 READY
01771  0 40 21000       SKS     21000           BUFFER READY
01772  0 01 01770       BRU     *-2
01773  0 51 01761       BRR     RDY0
```



```
                        *
                        *       READS DIAT FORMATED INPUT DATA
                        *
01774  0 00 00003 READ  PZE     3
01775  0 32 00002       WIM     2               READ WIM 3
01776  0 40 21000       SKS     21000           TEST FOR END OF FILE
01777  0 01 02002       BRU     READER          NOT END OF FILE
02000  0 61 01774       MIN     READ
02001  0 01 02020       BRU     MINRD
                        *
02002  0 32 00003 READER WIM     3               READ WIM 4
02003  0 32 00004       WIM     4               READ BRU 2
02004  0 32 02367       WIM     START           SAVE FIRST WIM
02005  0 32*02367       WIM*    START
02006  0 76 02370 READ0N LDA     STOP            SAVE STOP
02007  0 32 02370       WIM     STOP
02010  0 75*02370       LDB*    STOP
02011  0 32*02370       WIM*    STOP
02012  0 40 21000       SKS     21000           TEST FOR LAST WORD OF DATA
02013  0 01 02006       BRU     READ0N
02014  0 36*02370       STB*    STOP
02015  0 35 02370       STA     STOP            SAVE LAST WIM
02016  0 61 02370       MIN     STOP            INCREMENT ADDRESS OF LAST WIM
02017  0 40 20010       SKS     20010           CHANNEL ERROR TEST
02020  0 61 01774 MINRD MIN     READ            CHANNEL ERROR
02021  0 51 01774       BRR     READ
```

```
                    *
                    *       MAG TAPE 1 CONTROL WRITE DRIVER
                    *
02022  0 00 00002  BEGIN1 PZE     2               WRITES BLDS ONTO MAG TAPE UNIT 1
02023  0 43 01472          BRM     PUT
02024  0 76 02022          LDA     BEGIN1
02025  0 35 02063          STA     WT1             SET RETURN FROM WT1
02026  0 76 00401          LDA     STATUS
02027  0 14 03756          ETR     =40444004       REMOVE INT EN, AND WDT BITS
02030  0 16 03716          MRG     =00044000       FORCE DSC AND RAD WRITE PROTECT BITS
02031  0 35 00401          STA     STATUS
02032  0 76 03654          LDA     =0
02033  0 35 00332          STA     FLAGS           CLEAR FLAGS
02034  0 35 00406          STA     SEED            CLEAR SEED
02035  0 35 00407          STA     TIME            CLEAR TIME
02036  0 75 03757          LDB     =3200030        WIM 30
02037  0 36 02367          STB     START           INITIALIZE START
02040  0 76 03721          LDA     =3204000        WIM 4000
02041  0 35 02370          STA     STOP            INITIALIZE STOP
02042  0 71 03760          LDX     =1              SET ERASE OPERATION
02043  0 43 02050          BRM     RDY1
02044  0 02 14011          EOM     14011           REWIND TAPE UNIT 1
02045  0 76 00637          LDA     LOAD            BRU DISMIS
02046  0 35 02350          STA     BRANCH
02047  0 01 02071          BRU     SETRTY
                    *
                    *       TEST MAG TAPE 1 READY
                    *
02050  0 00 00004  RDY1    PZE     4               TEST TAPE UNIT 1 READY FOR WRITE
02051  0 40 14011          SKS     14011           TEST FOR FILE PROTECT RING
02052  0 01 02057          BRU     TAP1
02053  0 40 10411          SKS     10411           TEST MAG TAPE UNIT 1 READY
02054  0 40 21000          SKS     21000           TEST CHANNEL READY
02055  0 01 02053          BRU     *-2
02056  0 51 02050          BRR     RDY1
02057  0 76 03761  TAP1    LDA     =TERM2+2000000
```



```
02060  0 43 01567          BRM     OUTPUT
02061  0 43 00665          BRM     CONTRL
02062  0 01 02051          BRU     RDY1+1
```

```
                        *
                        *       MAG TAPE 1 UNIT WRITE DRIVER
                        *
02063  0 00 00003  WT1  PZE     3               WRITE MAG TAPE UNIT 1
02064  0 43 01472        BRM     PUT             SAVE REGISTERS
02065  0 76 02577        LDA     ACCESS          BRU 4000
02066  0 35 02350        STA     BRANCH
02067  0 71 03654  AGAIN  LDX    .0              SET WRITE OPERATION
02070  0 75 03762        LDB     .77777770       SET 9 RETRYS
02071  0 36 02364  SETRTY STB     RETRY
02072  0 76 02367  GETADR LDA     START           PICK UP STARTING ADDRESS
02073  0 35 02346        STA     ADDRES
02074  0 76 02370        LDA     STOP            PICK UP LAST ADDRESS
02075  0 43 02050        BRM     RDY1
02076  2 23 02126        EXU     OPER,2          WRITE (X.0) OR ERASE (X.1)
02077  0 12 03763        MIW     .3220003        WIM 3
02100  0 12 03764        MIW     .3220004        WIM 4
02101  0 12 03765        MIW     .100002         BRU 2
02102  0 12 02346  WRTLUP MIW     ADDRES          OUTPUT WIM ADDRESS
02103  0 12*02346        MIW*    ADDRES          OUTPUT CONTENTS OF ADDRESS
02104  0 61 02346        MIN     ADDRES          INCREMENT ADDRESS
02105  0 73 02346        SKG     ADDRES          TEST FOR LAST ADDRESS
02106  0 01 02110        BRU     **2             LAST ADDRESS
02107  0 01 02102        BRU     WRTLUP          NOT LAST ADDRESS
02110  0 12 02350        MIW     BRANCH          RETURN BRANCH
02111  0 02 14000        EOM     14000           TERMINATE OUTPUT
02112  0 43 02050        BRM     RDY1
02113  0 40 20010        SKS     20010           TEST FOR CHANNEL ERROR
02114  0 01 02121        BRU     WRTERR          YES
02115  0 53 02364        SKN     RETRY           TEST FOR NINTH RETRY
02116  0 01 02067        BRU     AGAIN           YES
02117  0 43 01477        BRM     GET
02120  0 51 02063        BRR     WT1
```



```
                        *
02121  0 02 07431  WRTERR EOM     7431            SCAN REVERSE BINARY
02122  0 61 02364        MIN     RETRY           INCREMENT RETRY COUNTER
02123  0 53 02364        SKN     RETRY           TEST FOR NINTH RETRY
02124  0 71 03760        LDX     .1              NINTH RETRY.ERASE THE TAPE
02125  0 01 02072        BRU     GETADR
                        *
02126  0 02 03651  OPER   EOM     3651            WRITE FORWARD BINARY 4 CHAR MODE
02127  0 02 03671        EOM     3671            ERASE FORWARD BINARY 4 CHAR MODE
                        *
02130  0 00 00000  INTCLR PZE
02131  0 43 02440        BRM     RETURN
02132  0 20 02134        NOP     **2
02133  0 02 20002        EOM     20002           ENABLE INTERRUPTS
02134  0 76 00401        LDA     STATUS
02135  0 72 03663        SKA     .4              SKIP IF NOT 940
02136  0 11 02140        BRI     **2
02137  0 01*02140        BRU*    **1
02140  0 20 02140        NOP     *
02141  0 02 21004        EOM     21004           DISABLE INTERRUPTS
02142  0 51 02130        BRR     INTCLR
```

```
                    *
                    *       PRIVILEDGED INSTRUCTION TRAP HANDLER
                    *
02143  0 00 00000   TRP40   PZE
02144  0 35 00410           STA     AREG            SAVE A REGISTER
02145  0 76 02143           LDA     TRP40           PICK UP MARK
02146  0 35 00260           STA     XTRP40          SET TRAP ADDRESS TO PROCEED DIVERT ENTRY
02147  0 14 03735           ETR     •7777777        REMOVE REL AND OVFLO BITS
02150  0 35 02143           STA     TRP40           MONITOR MODE RETURN ADDRESS
02151  0 72 03766           SKA     •34000          TEST FOR TRAP BELOW 4000
02152  0 01 02166           BRU     PIT             TRAP OCCURRED ABOVE 4000
02153  0 76 00415           LDA     RL1             GET REL REG 0
02154  0 72 03743           SKA     •37000000       CHECK REL REG 0 = 0
02155  0 01 02166           BRU     PIT             NO•TRAP OCCURRED ABOVE 4000
02156  0 60 02143           SKR     TRP40           POINT TO MARKED LOCATION
02157  0 01 02160           BRU     **1
02160  0 76•02143           LDA•    TRP40           PICK UP MARK
02161  0 14 03735           ETR     •7777777        REMOVE REL AND OVFLO BITS
02162  0 35•02143           STA•    TRP40           RESTORE MARK
02163  0 35 02373           STA     USERTR          SAVE LOCATION OF USER TRANSITION
02164  0 76 00410           LDA     AREG            RESTORE A REGISTER
02165  0 51 02143           BRR     TRP40           RETURN TO PRIV INST IN MONITOR MODE
                    *
02166  0 76 00410   PIT     LDA     AREG            RESTORE A REGISTER
02167  0 01 00261           BRU     T40
```



```
                    *
                    *       CPU PARITY INTERRUPT HANDLER
                    *
02170  0 00 00000   INT56   PZE
02171  0 35 02376           STA     WK0
02172  0 76 00401           LDA     STATUS
02173  0 72 03463           SKA     •4              SKIP IF NOT 940
02174  0 11 02176           BRI     **2             CLEAR PARITY INTERRUPT
02175  0 01•02176           BRU•    **1             CLEAR PARITY INTERRUPT
02176  0 00 02177   PARPTR  PZE     NOPAR
02177  0 37 02377   NOPAR   STX     WK1             SAVE X
02200  0 71 02170           LDX     INT56
02201  0 37 00274           STX     XINT56
02202  0 71 03767           LDX     •PARMSG•1
02203  0 37 02176           STX     PARPTR          SET NEXT PARITY TO REPORT ERROR
02204  0 71 02230           LDX     MPMSG
02205  0 37 02221           STX     PARMSG          SET MONITOR MODE PARITY MESSAGE
02206  0 71 03472           LDX     •40000
02207  2 77 00000           EAX     0,2
02210  0 41 02207           BRX     **1             ADDRESS ALL OF MEMORY IN MONITOR MODE
02211  0 71 02231           LDX     UPMSG
02212  0 37 02221           STX     PARMSG          SET USER MODE PARITY MESSAGE
02213  0 71 03472           LDX     •40000
02214  6 77 00000           EAX     0,6
02215  0 41 02214           BRX     **1             ADDRESS ALL OF MEMORY IN USER MODE
02216  0 71 02232           LDX     FPMSG
02217  0 37 02221           STX     PARMSG          SET FALSE PARITY MESSAGE
```

```
02220  0 43 00460          BRM     ERROR           REPORT PARITY
02221  0 00 00000  PARMSG  PZE
02222  2 20 03527          NOP     PARERR,2
02223  0 71 03770          LDX     =NOPAR
02224  0 37 02176          STX     PARPTR          RESTORE PARITY POINTER
02225  0 76 02376          LDA     WK0             RESTORE A
02226  0 71 02377          LDX     WK1           RESTORE X
02227  0 01 00275          BRU     I56
                   *
02230  4 20 03505  MPMSG   NOP     MONPAR,4
02231  4 20 03514  UPMSG   NOP     USRPAR,4
02232  0 20 03522  FPMSG   NOP     FLSPAR
```



```
                   *
                   *       I/O PARITY INTERRUPT HANDLER
                   *
02233  0 00 00000  INT57   PZE
02234  0 02 12000          EOM     12000
02235  0 33 02303          PIN     PINW            W CHANNEL INTERLACE
02236  0 35 02376          STA     WK0
02237  0 76 00403          LDA     RADSIZ
02240  0 16 00404          MRG     DSCSIZ          BITS TO TELL WHICH CHANNELS ARE THERE
02241  0 72 03771          SKA     =70000000       SKIP IF NO E CHANNEL
02242  0 01 02244          BRU     **2
02243  0 01 02246          BRU     **3
02244  0 06 12000          EOD     12000
02245  0 33 02305          PIN     PINE            E CHANNEL INTERLACE WORD
02246  0 72 03772          SKA     =07000000       SKIP IF NO F CHANNEL
02247  0 01 02251          BRU     **2
02250  0 01 02253          BRU     **3
02251  0 06 12100          EOD     12100
02252  0 33 02306          PIN     PINF            F CHANNEL INTERLACE WORD
02253  0 72 03731          SKA     =00000070       SKIP IF NO Y CHANNEL
02254  0 01 02256          BRU     **2
02255  0 01 02260          BRU     **3
02256  0 02 12100          EOM     12100
02257  0 33 02304          PIN     PINY            Y CHANNEL INTERLACE WORD
02260  0 76 02233          LDA     INT57
02261  0 35 00276          STA     XINT57          SET ADDRESS TO PRECEDE DIVERT ENTRY
```

```
02262  0 43 00454          BRM     REPORT
02263  4 20 03543          NOP     IOPAR,4
02264  0 04 02303          FOUR    PINW
02265  0 43 00460          BRM     ERROR
02266  0 20 03423          NOP     CONRET
02267  0 76 03454          LDA     =0
02270  0 35 02303          STA     PINW
02271  0 35 02304          STA     PINY
02272  0 35 02305          STA     PINE
02273  0 35 02306          STA     PINF
02274  0 76 00401          LDA     STATUS
02275  0 72 03733          SKA     =40             SKIP IF NOT 940
02276  0 11 02300          BRI     I57EXT
02277  0 01*02300          BRU*    I57EXT
02300  0 20 02300  I57EXT  NOP     *
02301  0 76 02376          LDA     =K0
02302  0 01 00077          BRU     I57
                    *
02303  0 00 00000  PINW    PZE
02304  0 00 00000  PINY    PZE
02305  0 00 00000  PINE    PZE
02306  0 00 00000  PINF    PZE
```



```
                    *
                    *       POWER ON INTERRUPT HANDLER
                    *
02307  0 76 00354  PWRON   LDA     UID
02310  0 75 00365          LDB     FID
02311  0 71 00430          LDX     OBJECT
02312  0 43 00460          BRM     ERROR
02313  4 20 03571          NOP     PWRFAL,4
02314  2 20 03602          NOP     UFOOE,2
02315  0 01 00514          BRU     FENTRY          RESTART FUNCTION
                    *
02316  0 43 02331  PWROFF  BRM     DISCON
02317  0 71 03472          LDX     =40000
02320  0 67 20060          LCY     48D
02321  0 41 02320          BRX     **1
02322  0 76 00354          LDA     UID
02323  0 75 00365          LDB     FID
02324  0 71 00430          LDX     OBJECT
02325  0 43 00460          BRM     ERROR
02326  4 20 03575          NOP     POFINT,4
02327  2 20 03602          NOP     UFOOE,2
02330  0 01 00514          BRU     FENTRY
                    *
02331  0 00 00003  DISCON  PZE     3
02332  0 02 20004          EOM     20004           DISABLE INTERRUPTS
02333  0 02 20200          EOM     20200           DISARM CLOCK PULSE INTERRUPT
02334  0 02 00000          EOM     0               DISCONNECT W
02335  0 02 00100          EOM     100             DISCONNECT Y
02336  2 02 00000          EOM     0,2             DISCONNECT C
02337  2 02 00100          EOM     100,2           DISCONNECT D
02340  0 06 00000          EOD     0               DISCONNECT E
02341  0 06 00100          EOD     100             DISCONNECT F
02342  2 06 00000          EOD     0,2             DISCONNECT G
02343  2 06 00100          EOD     100,2           DISCONNECT H
02344  0 51 02331          BRR     DISCON
```

```
                        *
                        *       CONSTANTS AND WORKING STORAGE FOR DIAGNOSTIC CONTROL PROGRAM
                        *
02345  0 00 00000   ADRESS PZE
02346  0 00 00000   ADDRES PZE
02347  0 00 00000   BCD    PZE
02350  0 00 00000   BRANCH PZE
02351  0 00 00000   CHAR   PZE
02352  0 00 00000   CHARIN PZE
02353  0 00 00000   COUNT  PZE
02354  0 00 00000   COWNT  PZE
02355  0 00 00000   DEVICE PZE
02356  0 00 00000   FADDR  PZE      0
02357  0 00 00000   FIW    PZE
02360  0 00 00000   FROM   PZE
02361  0 00 00000   IPCHAR PZE
02362  0 00 00000   LIST   PZE
02363  0 05 00410   REGADD FIVE     AREG
02364  0 00 00000   RETRY  PZE
02365  0 00 00000   SRCODE PZE
02366  0 00 00000   RRR    PZE
02367  0 00 00000   START  PZE
02370  0 00 00000   STOP   PZE
02371  0 00 00000   TO     PZE
02372  0 00 00000   UIW    PZE
02373  0 00 00000   USERTR PZE
02374  0 00 00000   WORD   PZE
02375  0 00 00000   WORDIN PZE
02376  0 00 00000   WK0    PZE
02377  0 00 00000   WK1    PZE
02400  0 00 00000   WK2    PZE
                        *
```



```
                        *
                        *       DIAGNOSTIC CONTROL PROGRAM MESSAGES
                        *
02401    52464324   SIM    BCD      ' BLDS 3.0'!
02402    62120333
02403    00371212
02404    52523226   SAM    BCD      '   FOR UNIT, FUNCTION OR OBJECT ABSTRACTS TYPE =U A,=F A OR =O A.'
02405    46511264
02406    45316373
02407    12266445
02410    23633146
02411    45124651
02412    12462241
02413    25236312
02414    21226263
02415    51212363
02416    62126370
02417    47251240
02420    64122173
02421    40261221
02422    12465112
02423    40461221
02424    33121212
02425    52622563           BCD      ' SET SYSTEM VARIABLES AND TYPE .T FOR AUTO TEST.'
02426    12637062
02427    63254412
02430    65215131
02431    21224325
02432    62122145
02433    24126370
02434    47251240
02435    63122446
02436    51122164
02437    63461263
02440    25626333
02441    52522251           BCD      '  BREAK POINT SETTINGS; BPTI    SET.LOOP ON OBJECT PROGRAM'
```

```
02442    25214212
02443    47463145
02444    63126225
02445    63633145
02446    27621552
02447    22476301
02450    12121212
02451    62256313
02452    43464647
02453    12464512
02454    46224125
02455    23631247
02456    51462751
02457    21441212
02460    52224763          BCD     ' BPT2    SET.NO STOP ON ERRORS.'
02461    02121212
02462    12622563
02463    13454612
02464    62634447
02465    12464512
02466    25515146
02467    51623312
02470    52224763          BCD     ' BPT3    SET.INHIBIT ERROR OUTPUT.'
02471    03121212
02472    12622563
02473    13314530
02474    31223163
02475    12255151
02476    46511246
02477    64634764
02500    63331212
02501    52224763          BCD     ' BPT4 TOGGLE.GO TO CONTROL OR KILL OUTPUT.'
02502    04126346
02503    27274325
02504    13274412
02505    63461223
```



```
02506    46456351
02507    46431246
02510    51124231
02511    43431246
02512    64634764
02513    63331212
02514    52526270          BCD     '  SYNTAX: LEVEL SELECTION(1ST CHAR);'
02515    45632167
02516    15524325
02517    65254312
02520    62254325
02521    23633146
02522    45740162
02523    63122330
02524    21513456
02525    52621362          BCD     ' S.SYSTEM U.UNIT F.FUNCTION O.OBJECT'
02526    70626325
02527    44526413
02530    64453163
02531    52261326
02532    64452363
02533    31464552
02534    46134622
02535    41252363
02536    52631351          BCD     ' T.RETURN TRANSFER XXXXXT.HALT AND TRANSFER TO XXXXX'
02537    25636451
02540    45126351
02541    21456226
02542    25515267
02543    67676767
02544    63133221
02545    43631221
02546    45241263
02547    51214562
02550    26255112
02551    63461267
```

```
02552    67676767
02553    52736767          BCD     ' YXXXXXXP=MEMORY PRINT OUT Y WORDS FROM XXXXXX.'
02554    67676767
02555    47134425
02556    44465170
02557    12475131
02560    45631246
02561    64631270
02562    12664651
02563    24621226
02564    51464412
02565    67676767
02566    67673312
02567    52676767          BCD     ' XXXXXM=MEMORY MODIFY AT LOC XXXXX'
02570    67674413
02571    44254446
02572    51701244
02573    46243126
02574    70122163
02575    12434423
02576    12676767
02577    67671212
02600    52524447          BCD     '  OPERATION REQUESTS(2ND CHAR); I=IDENTIFY A=ABSTRACT'
02601    25512163
02602    31464512
02603    51255064
02604    25626362
02605    74024524
02606    12233021
02607    61345452
02610    31133124
02611    25456331
02612    26705221
02613    13212262
02614    63512123
02615    63121212
```



```
02616    52651365          BCD     ' V=VARIABLES DISPLAY AND MODIFY'
02617    21513121
02620    22432562
02621    12243162
02622    47432170
02623    12214524
02624    12444424
02625    31267212
02626    52522126          BCD     '  AFTER CHANGING' SYSTEM VARIABLES = IDLE, START, RUN'
02627    63255112
02630    23302145
02631    27314527
02632    15526270
02633    62632544
02634    12652151
02635    31212243
02636    25621240
02637    12312443
02640    25731262
02641    63215163
02642    73125164
02643    45121212
02644    52644531          BCD     ' UNIT VARIABLES = DO A UNIT TRANSFER'
02645    63126521
02646    51312122
02647    43256212
02650    40122446
02651    12211264
02652    45316312
02653    63512145
02654    62262551
02655    52266445          BCD     ' FUNCTION VARIABLES = DO A FUNCTION TRANSFER '
02656    23633146
02657    45126521
02660    51312122
02661    43256212
```

```
02662    40122446
02663    12211226
02664    64452363
02665    31464512
02666    63512145
02667    62262551
02670    52121212
02671    52121240          BCD     !   .S T.AUTO MODE   .U XXT.TRANS TO UNIT XX!
02672    62126313
02673    21646346
02674    12444424
02675    25521212
02676    40641267
02677    67631363
02700    51214562
02701    12634612
02702    64453163
02703    12676712
02704    52121240          BCD     !   .F XXT.TRANS TO FUNCTION XX!
02705    26126767
02706    63136351
02707    21456212
02710    63461226
02711    64452363
02712    31464512
02713    67671212
02714    52121240          BCD     !   .O XXXXXT.TRANS TO OBJECT AT XXXXX!
02715    46126767
02716    67676763
02717    13635121
02720    45621263
02721    46134422
02722    41252363
02723    12216312
02724    67676767
02725    67121212
```



```
02726    52121240          BCD     !   .O T.RESTART PRESENT OBJECT TEST   .U L.UNIT LIST!
02727    46126313
02730    51256263
02731    21516312
02732    47512562
02733    25456312
02734    46224125
02735    23631263
02736    25626352
02737    12124064
02740    12431364
02741    45316312
02742    43316263
02743    52121240          BCD     !   .F L.FUNCTION LIST!
02744    26124313
02745    26644523
02746    63314445
02747    12433162
02750    63121212
02751    52522330          BCD     !  CHARACTERS FOR MODIFYING VARIABLES!
02752    21512123
02753    63255162
02754    12264651
02755    12444624
02756    31267331
02757    45271265
02760    21513121
02761    22432562
02762    52611323          BCD     ! /.CLEAR DIGITS ..STORE WORD ,.SPACES(.) OVER WORD!
02763    43252151
02764    12243127
02765    31636252
02766    33136263
02767    46512512
02770    66465124
02771    52731362
```

```
02772    47212325
02773    62744034
02774    12466525
02775    51126646
02776    51241212
02777    52526270          BCD     '  SYSTEM VARIABLES,'
03000    62632544
03001    12652151
03002    31212243
03003    25625612
03004    52642166          BCD     ' UAW    = BITS ARE UNITS TO BE ACTIVATED.'
03005    12121212
03006    13122231
03007    63621221
03010    51251264
03011    45316362
03012    12634412
03013    22251221
03014    23633165
03015    21632524
03016    33121212
03017    52121200          BCD     '   0 CPU   1 CPU EX   2 FPAU   3 MEM1   4 MEM2   5 MEM3'
03020    12122347
03021    64521212
03022    01121223
03023    47641225
03024    67521212
03025    02122447
03026    21645212
03027    12031212
03030    44254401
03031    52121204
03032    12124425
03033    44025212
03034    12051212
03035    44254403
```



```
03036    52121100          BCD     '  12  RAD E  15  RAD W  21  DISC W  23  CTE'
03037    12125121
03040    24122552
03041    12012512
03042    12512124
03043    12665212
03044    02011212
03045    24316223
03046    12665212
03047    02031212
03050    23632512
03051    52626321          BCD     ' STATUS =  BIT 0 = ERRORS TO LINE PR,'
03052    63646212
03053    13121222
03054    31631200
03055    12131225
03056    51514451
03057    62126346
03060    12433145
03061    25124751
03062    73121212
03063    52121212          BCD     '          3 = INT ENABLED, 6 = RTC ON, 9 = DISC WRITE PROTECT,'
03064    12121212
03065    12120212
03066    13123145
03067    63122545
03070    21224325
03071    24731206
03072    12131251
03073    63231246
03074    45731211
03075    12131224
03076    31622212
03077    66513163
03100    25124751
03101    46632523
```

```
03102    63731212
03103    52121212          BCD     ' 12 = RAD WRITE PROTECT, 21 = 940'
03104    12121212
03105    12120102
03106    12131251
03107    21241266
03110    51316325
03111    12475146
03112    63252363
03113    73120201
03114    12131211
03115    04001212
03116    52643166          BCD     ' UIW/FIW = BIT 0 LOCKS UNITS, BIT 12 LOCKS FUNCTIONS'
03117    61263166
03120    12121312
03121    22316312
03122    00124346
03123    23426212
03124    64453163
03125    62731222
03126    31631201
03127    02124346
03130    23426212
03131    26644523
03132    63314645
03133    62121212
03134    52121212          BCD     '           BITS 1=11 = UIW, BITS 13=23 = FIW'
03135    12121212
03136    12121212
03137    22316362
03140    12014201
03141    01121312
03142    64316673
03143    12223163
03144    62120103
03145    40020312
```



```
03146    13122631
03147    66121212
03150    52512124          BCD     ' RADSIZ = OCTAL DIGIT MULTIPLES OF 2M CHARS BY CHANNEL.'
03151    62317112
03152    13124623
03153    63214312
03154    24312731
03155    63124464
03156    43633147
03157    43256212
03160    46261202
03161    44122330
03162    21516212
03163    22701223
03164    30214545
03165    25433212
03166    52121212          BCD     '      E = 0=2 = =12=14'
03167    12122512
03170    13120240
03171    02126612
03172    13010240
03173    01041212
03174    52246223          BCD     ' DSCSIZ = OCTAL DIGIT MULTIPLES OF 8 DISCS BY CHANNEL.'
03175    62317112
03176    13124623
03177    63214312
03200    24312731
03201    63124464
03202    43633147
03203    43256212
03204    46261210
03205    12243162
03206    23621222
03207    70122330
03210    21454525
03211    43331212
```

```
03212    52121212          BCD     '       W = 12=14'
03213    12126612
03214    13120102
03215    40010412
03216    52627262          BCD     ' SYSIZE = BITS 0=15 ARE 4 CHAN. EA OF CTE WITH LOOP CARDS'
03217    31712512
03220    13122231
03221    63621200
03222    40010512
03223    21512512
03224    04122330
03225    21453212
03226    25211246
03227    26122363
03230    25126631
03231    63301243
03232    46464712
03233    23215124
03234    62121212
03235    52121212          BCD     '           BITS 21=23 ARE 4TH, 3RD, AND 2ND 16K OF MEMORY'
03236    12121212
03237    12122231
03240    63621202
03241    01401203
03242    12215125
03243    12046330
03244    73120351
03245    24731221
03246    45241202
03247    45241201
03250    06421246
03251    26124425
03252    44465170
03253    52622525          BCD     ' SEED = RANDOM NUMBER SEED'
03254    24121212
03255    51214524
```



```
03256    46441245
03257    64442225
03260    51136225
03261    25241212
03262    52633144          BCD     ' TIME = VALUE OF RTC'
03263    25121212
03264    65214264
03265    25124426
03266    12516323
03267    52526346          BCD     '  TO COPY TAPE, TYPE =E 24(CR)''
03270    12234447
03271    70126321
03272    47257312
03273    63704725
03274    12432512
03275    02047423
03276    51343712
03277    52121264  SVM     BCD     '   UAW     STATUS  UIW/FIW   RADSIZ   DSCSIZ   SYSIZE   SEED      TIME ''
03300    21661212
03301    12121262
03302    63216364
03303    62121264
03304    31666126
03305    31661212
03306    12512124
03307    62317112
03310    12122462
03311    23623171
03312    12121262
03313    70623171
03314    25121212
03315    62252524
03316    12121212
03317    12126331
03320    44255237
03321    52523224  BAM     BCD     '   DIAGNOSTIC MESSAGE FORMAT IS A SIGNAL NAME, A DASH AND'
```

```
03322    31212745
03323    46626331
03324    23124425
03325    62622127
03326    25122646
03327    51442163
03330    12316212
03331    21126231
03332    27452143
03333    12452144
03334    25731221
03335    12242162
03336    30122145
03337    24121212
03340    52444624          BCD     ' MODULE LOCATIONS SEPARATED BY COMMAS, LOGIC LAYOUT'
03341    64432512
03342    43462721
03343    63314445
03344    62126225
03345    47215121
03346    63252412
03347    22701223
03350    46444421
03351    62731243
03352    46273123
03353    12432170
03354    46646312
03355    52472127          BCD     ' PAGE NR IN PARENS,  SYNTAX:'
03356    25124551
03357    12314512
03360    47215125
03361    45623352
03362    52627245
03363    63216715
03364    52404612          BCD     ' =0 I=TYPES LOCATION OF OBJECT PROGRAM'
03365    31136370
```



```
03366    47256212
03367    43462321
03370    63314445
03371    12462612
03372    46224125
03373    23631247
03374    51462751
03375    21441212
03376    52404412          BCD     ' =0 A=OBJECT ABSTRACT =0 V=OBJECT VARIABLES'
03377    21134422
03400    41252363
03401    12212262
03402    63512123
03403    63524246
03404    12651346
03405    22412523
03406    63126721
03407    51312122
03410    43256212
03411    52404412          BCD     ' =0 XXXXXT=TRANSFER TO LOC XXXXX'
03412    67676767
03413    67631363
03414    51214562
03415    26255112
03416    63461243
03417    46231267
03420    67676767
03421    52404612          BCD     ' =0 T=TRANSFER TO PRESENT OBJECT TEST, OBJECT VARIABLES ARE: '
03422    63136351
03423    21456226
03424    25511263
03425    46124751
03426    25622545
03427    63124422
03430    41252363
03431    12632562
```

```
03432    63335246
03433    22412523
03434    63126521
03435    51312122
03436    43256212
03437    21512515
03440    52121212
03441    52121221  BVM     BCD     '   AREG     BREG     XREG     BVRFLG   ERRORS   RL1      RL2      RL4 ''
03442    51252712
03443    12121212
03444    22512527
03445    12121212
03446    12675125
03447    27121212
03450    12466551
03451    26434412
03452    12122551
03453    51465162
03454    12121212
03455    51431112
03456    12121212
03457    12514302
03460    12121212
03461    12125143
03462    04523712
03463    17371212  REQMSG  DATA    17371212        CHECK MARK
03464    52442127  TERM    BCD     ' MAG TAPE ERROR''
03465    12632147
03466    25122551
03467    51451137
03470    52632147  TERM1   BCD     ' TAPE 0 NOT FILE PROTECTED''
03471    25121212
03472    45466212
03473    26314325
03474    12475146
03475    63252363
```



```
03476    25243712
03477    52632147  TERM2   BCD     ' TAPE 1 FILE PROTECTED''
03500    25121112
03501    26314325
03502    12475146
03503    63252363
03504    25243712
03505    52444445  MONPAR  BCD     ' MONITOR MODE CPU PARITY''
03506    31634451
03507    12444424
03510    25122347
03511    64124721
03512    51314372
03513    37121212
03514    52646225  USRPAR  BCD     ' USER MODE CPU PARITY''
03515    51124446
03516    24251223
03517    47641247
03520    21513163
03521    70371212
03522    52262143  FLSPAR  BCD     ' FALSE CPU PARITY''
03523    62251223
03524    47641247
03525    21513163
03526    70371212
03527    52121221  PARERR  BCD     '   AREG     BREG   ADDRESS  OVERFLOW ERRORS ''
03530    51252712
03531    12121212
03532    22512527
03533    12121221
03534    24245125
03535    62621212
03536    46652551
03537    26434466
03540    12255151
03541    46516252
```

```
03542    37121212
03543    52316146  IOPAR  BCD     ' I/O PARITY'
03544    12472151
03545    31637012
03546    52121266         BCD     '   WCHAN    YCHAN    ECHAN    FCHAN ''
03547    23302145
03550    12121212
03551    70233021
03552    45121212
03553    12282330
03554    21451212
03555    12122623
03556    30214552
03557    37121212
03560    52314343  NOUMSG BCD     ' ILLEGAL UNIT''
03561    25272143
03562    12644531
03563    63371212
03564    52314343  NOFMSG BCD     ' ILLEGAL FUNCTION''
03565    25272143
03566    12266445
03567    23633146
03570    45371212
03571    52474666  PWRFAL BCD     ' POWER FAILURE''
03572    25511224
03573    21314364
03574    51253712
03575    52262143  POFINT BCD     ' FALSE PWR OFF INT''
03576    62251247
03577    66511246
03600    26761231
03601    45633712
03602    52121264  UFOOE  BCD     '   UID      FIC     OBJECT  OVERFLOW  ERRORS ''
03603    31241212
03604    12121212
03605    26312412
```



```
03606    12121212
03607    46224125
03610    23631212
03611    46652551
03612    26434666
03613    12122551
03614    51465162
03615    52371212
03616    52516323  RTCOFF BCD     ' RTC OFF''
03617    12462426
03620    37121212
03621    52403712  CONSYM BCD     ' *''
03622    12371212  CONSPC BCD     ' ''
03623    52371212  CONRET BCD     ' ''
```

END

LITERALS USED:

```
03624    00037777
03625    00100000
03626    40000000
03627    07737777
03630    00000360
03631    37777772
03632    37777740
03633    00001400
03634    00001300
03635    40404040
03636    00000407
03637    06100407
03640    04301310
03641    04300314
03642    04301342
03643    00001350
03644    00004000
03645    77777777
03646    00401000
03647    77771000
03650    02003560
03651    02003564
03652    02003463
03653    77774300
03654    00001000
03655    02003421
03656    00000003
03657    77777775
03660    02003422
03661    00000047
03662    00000077
03663    00000004
03664    00000037
03665    77777771
```



```
03666    37373737
03667    00003777
03670    01700000
03671    01000000
03672    00040000
03673    00000076
03674    00004030
03675    00000023
03676    00000010
03677    77773777
03700    00000006
03701    37773777
03702    02003416
03703    00001046
03704    00000044
03705    00000020
03706    40004000
03707    02003423
03710    00001075
03711    00000073
03712    00000012
03713    00000027
03714    00001022
03715    00007665
03716    00044000
03717    04301424
03720    00001462
03721    03204000
03722    03237777
03723    00000067
03724    17000000
03725    00000066
03726    50000000
03727    40444444
03730    04000000
03731    00000070
```

```
03732    00000011
03733    00000040
03734    00000052
03735    07777777
03736    40040000
03737    00000377
03740    37700000
03741    00177777
03742    44444440
03743    37000000
03744    77000000
03745    20000000
03746    25000000
03747    60000000
03750    07777777
03751    00000007
03752    12000000
03753    77400000
03754    02003464
03755    02003470
03756    40444004
03757    03000030
03760    00001001
03761    02003477
03762    77777770
03763    03000003
03764    03001004
03765    03101002
03766    00034000
03767    00002220
03770    00003477
03771    77000000
03772    07001000
```


3773 CELLS USED BY PROGRAM

LOCAL SYMBOLS USED •

ACCESS		577•	ACTFUN		621•	ACTVAT		641•
ADDRES		2346•	ADRESS		2345•	AGAIN		2067•
AREG		410•	A		1175•	BACKIN	N	1400•
BCD		2347•	BCDTST		1606•	BEGIN1		2022•
BINARY		1614•	BRANCH		2350•	BREG		411•
B		1424•	CENTRY		1334•	CHANGE		1165•
CHAR		2351•	CHARIN		2352•	COMMA	N	1154•
CONLUP		673•	CONRET		3623•	CONSYM		3621•
CONSPC		3622•	CONTRL		665•	CONVRT		1115•
COUNT		2353•	COWNT		2354•	CRFO		1364•
C		1372•	DECMAL		1545•	DEVICE		2355•
DIGIT		1555•	DINPUT		1523•	DISCON		2331•
DISMIS		576•	DIVERT		450•	DONE	N	452•
DSCSIZ		404•	EDIT		1307•	ELOOP		1322•
END		434•	EOF		1415•	ERROR		460•
ERRORS		414•	EXIT		1111•	FADDR		2356•
FAMA	N	361•	FAW		355•	FCNTR		427•
FDONE	N	456•	FENTRY		514•	FFIND		1245•
FID		365•	FILL		1367•	FIMA	N	360•
FIW		2357•	FLAGS		332•	FLAST		606•
FLIST		1234•	FLSPAR		3522•	FOCW	N	363•
FORMAT		1665•	FPMSG		2232•	FWOM		2360•
FTA	N	367•	FUNCTN		424•	FVMA	N	362•
F		1052•	GET		1477•	GETADR		2072•
GETF		1071•	GETSRC		1342•	GETU		1010•
GETWRD		1610•	GOODF		1103•	HANDT		1047•
HARDLD		601•	I30	N	241•	I31	N	243•
I32	N	245•	I33	N	247•	I34	N	251•
I35	N	253•	I45	N	273•	I56		275•
I57		277•	I57EXT		2300•	I60	N	301•
I61	N	303•	I62	N	305•	I63	N	307•

I64	N	311*	I65	N	313*	I66	N	315*
I67	N	317*	I70	N	321*	I71	N	323*
I72	N	325*	I73	N	327*	I74	N	331*
I76	N	335*	I77	N	337*	ILFUNC		661*
ILREG		663*	ILUNIT		657*	INCERR		474*
INPUT		1510*	INT30		240*	INT31		242*
INT32		244*	INT33		246*	INT34		250*
INT35		252*	INT36		254*	INT37		256*
INT45		272*	INT56		2170*	INT57		2233*
INT60		300*	INT61		302*	INT62		304*
INT63		306*	INT64		310*	INT65		312*
INT66		314*	INT67		316*	INT70		320*
INT71		322*	INT72		324*	INT73		326*
INT74		330*	INT76		334*	INT77		336*
INTCLR		2130*	IN		1554*	IOPAR		3543*
IRCHAR	N	2061*	I		1203*	LAST		626*
LCK	N	1676*	LEVEL		1123*	LINK		464*
LIST	N	2362*	LOAD		637*	LOCKS		402*
LSTRDR		1235*	LSTSCN		1240*	L		1212*
MEMB		1620*	MINRD		2020*	MODIFY		1145*
MONBAR		3505*	MOVER		643*	MOVE		647*
MPMSG		2230*	MPB		1200*	MTOF		1355*
M		1402*	NEXT		364*	NODASH		1534*
NODIG		1530*	NOPMSG		3564*	NOPAR		2177*
NORMAL		1432*	NOSPC		1540*	NOUMSG		3560*
OAM		2321*	OAMA	N	371*	OBJECT		430*
OIMA	N	370*	ON		1706*	OOCW	N	373*
OPER		2126*	OUTLUP		1640*	OUTPUT		1567*
OVM		2441*	OVMA	N	372*	OVRFLO		413*
P		753*	PARERR		3527*	PARMSG		2221*
PARPTR		2176*	PERIOD		1167*	PINE		2305*
PINP		2306*	PINX		2303*	PINY		2304*
PIT		2166*	PRPINT		3575*	PRLOOP		1716*
PTRO		1362*	PUT		1472*	PWRFAL		3571*
RLPOFF		2316*	PWRON		2307*	P	N	713*
RADSIZ		403*	RBDONE		741*	RBLOK		721*

RDLOOP		727*	RDY0		1761*	RDY1		2050*
READ		1774*	READER		2002*	READON		2006*
REGADD		2363*	REGPUT		1600*	RELABL		1261*
RENTRY		501*	REPORT		454*	REQMSG		3463*
RESET		1453*	RETRY		2364*	RETURN		440*
RGIND		1735*	RL1		415*	RL2		416*
RL4		417*	RLINK		503*	RLINK1		512*
RRR		2366*	RTO		1743*	RTCOFF		3616*
SAM		2404*	SAMA		341*	SEED		406*
SETADR		1704*	SETCNT		1605*	SETEXT		1105*
SETHLT	N	1041*	SETMSG		1210*	SETRTY		2071*
SETREG		1661*	SETREL		1267*	SIM		2401*
SIMA		340*	SLIST		346*	SOCW		343*
SPACE		1556*	SRCODE		2365*	STA		347*
START		2367*	STATUS		401*	STOP		2370*
STORE		1172*	SVM		3277*	SVMA		342*
SYSIZE	N	405*	S		1020*	T40		261*
T41	N	263*	T42	N	265*	T43	N	267*
T44	N	271*	TAPC		1770*	TAP1		2057*
TAPERR		1754*	TERM		3464*	TERM1		3470*
TERM2		3477*	TERMOP		1651*	TIME		407*
TS		2371*	TRP40		2143*	TRP41		262*
TRP42		264*	TRP43		266*	TRP44		270*
TYPE		1731*	T		1033*	UAMA	N	351*
UAM		400*	UCNTR		423*	UENTRY		555*
UFORE		2602*	UID		354*	UIMA		350*
UIM		2372*	ULIST		1216*	UNIT		420*
UOCW	N	353*	UPMSG		2231*	USERTR		2373*
USRPAR		3514*	UTA	N	357*	UVMA	N	352*
U		766*	V		1131*	WCHECK		1504*
WINPUT		1152*	WKO		2376*	WK1		2377*
WK2		2400*	WORD		2374*	WORDIN		2375*
WOUT		1634*	WRTERR		2121*	WRTLUP		2102*
WT1		2063*	XFER		1051*	XINT56		274*
XINT57		276*	XREG		412*	XTRP40		260*