

IDENTIFICATION

PRODUCT CODE: DEC-Ø8-LBASA-A-LA
PRODUCT NAME: LISTING OF BASIC-8
DATE: FEBRUARY 10, 1972

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SIC.LBE

PALB-V7

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JMP I .+1
START

INTHLT, HLT
INTPLC, 7700

/BASIC4,52

0000

FIELD 0

/TO HELP BINARY LOADER IN CASE HE BLOWS IT.

```
/00000 +-----+
/      | SYSTEM |
/11000 +-----+
/      | ARRAY  |
/      | SPACE  |
/      +-----+
/      | FREE   |
/      +-----+
/      | CODIFIED |
/      | BASIC   |
/      +-----+
/      | SYMBOL  |
/      | TABLE  |
/      +-----+
/      | LINEBUF |
/      +-----+
/      | STACK  |
/      +-----+
/      | FORLIST |
/      +-----+
/      | GOLIST  |
/17756 +-----+
/      | RIM    |
/      | LOADER  |
/17777 +-----+
```

```
/4200 +
/4201 -
/4302 *
/4303 /
/4404 =
/4105 #
/4106 <
/4107 >
/4110 <#
```

```
/4110  =<
/4111  >=
/4111  =>
/4112  <=
/4213  (UMINUS)
/4014  (DONE)
/4015  ,
/4016  /
/4017  )
/4021  TO
/4022  STEP
/4023  (
/4024  FN
/4025  COS
/4026  TAN
/4027  ATN
/4030  LOG
/4031  EXP
/4032  SQR
/4033  ABS
/4034  SIN
/4035  INT
/4036  RND
/4037  SIN
/6000  (CRLF)
/6000  \
/6001  END
/6002  FOR
/6003  GOSUB
/6004  GOTO
/6004  THEN
/6005  IF
/6006  INPUT
/6007  LET
/6010  NEXT
/6011  PRINT
/6012  RETURN
/6013  STOP
/6014  DIM
/6015  RESTORE
/6017  DEF
/6020  READ
/6021  DATA
/6022  (EXIT)
/6023  (EOF)
```

```
0000  FEXIT=0000
0040  FSNE=0040
0050  FSEQ=0050
0100  FSGE=0100
0110  FSLE=0110
0140  FSGT=0140
0150  FSLE=0150
```

1000 FJMP=1000
1400 FJMPI=1400
2000 FST=2000
2400 FSTI=2400
3000 FLD=3000
3400 FLDI=3400
4000 FA0=4000
4400 FADI=4400
5000 FSB=5000
5400 FSBI=5400
6000 FMP=6000
6400 FMPI=6400
7000 F0V=7000
7400 F0VI=7400
8200 FWD=200
8600 BKWD=600

6530 ADCL=6530
6531 ADLM=6531
6532 ADST=6532
6533 ADRB=6533
6534 ADSK=6534
6535 ADSE=6535
6536 ADLE=6536
6537 ADR8=6537
6050 DILC=6050
6051 DICO=6051
6052 DI80=6052
6053 DILX=6053
6054 DILY=6054
6055 DIXY=6055
6056 DILE=6056
6057 DIRE=6057
6134 CLEN=6134
6133 CLAB=6133
6132 CLOE=6132
6130 CLZE=6130
6131 CLSK=6131
6137 CLCA=6137
6135 CLSA=6135
6136 CLBA=6136

```

00000 2000      0
00001 5400    JMP I   .+1
00002 6600    INTER
    
```

/INTERUPT ROUTINES.
/UP, UP AND AWAY.

```

00003 2000  ARRLOC, 0
00004 0000  CODELOC,0
00005 3000  PSYMTAB,0
00006 0000  NSYMTAB,0
00007 0215  O215,  215
00010 0212  O212,  212
00011 0260  O260,  260
00012 2000  OV,      0
00013 0000  INDEX1, 0
00014 0000  INDEX2, 0
00015 3000  DISAUTO,0
00016 0000  AC3,      0
00017 0000  AC2,      0
00020 0000  AC1,      0
00021 0000  OP3,      0
00022 0000  OP2,      7
00023 0000  OP1,      L
00024 0000  ACS,      0
00025 0000  ACE,      0
00026 0000  OPS,      0
00027 0177  O177,  177
00030 0000  OPE,      0
00031 0000  TMP,      0
00032 7201  PGETCH, GETCH
00033 0741  PPUTCH, PUTCH
00034 0000  DIMFLAG,0
          4435  FENTER=JMS I .JFPT

00035 4200
00036 0000  PDL,      0
00037 7512  PLINBUF, LINBUF
00040 0266  MLINBUF, -LINBUF
00041 0135  MENLIN, -ENDLIN
00042 0000  PRTEMP, 0
00043 0000  DECEXP, 0
00044 5335  PNUMBUF, NUMBUF
00045 0000  LOCCTR, 0
00046 0000  READLOC,0
00047 7363  PARGERR, ARGERR
00050 0000  WORD,      0
00051 0240  O240,  240
00052 0000  LINENO, 0
00053 0000  GOTEMP, 0
00054 7740  O7740,  7740
00055 7770  O7770,  7770
00056 0000  EPTR,      0
00057 0000  FPTR,      0
00060 0000  GPTR,      0
00061 0000  HPTR,      0
00062 0002  O2,       2
00063 0000  FORCT, 0
    
```

| | | |
|-------|------|-----------------|
| 00064 | 0000 | SNUMFLG,0 |
| 00065 | 0012 | C12, 12 |
| 00066 | 0000 | OLLOOP, 0 |
| 00067 | 0000 | ADDRESS,0 |
| 00070 | 0077 | O77, 77 |
| 00071 | 0377 | O377, 377 |
| 00072 | 0007 | O7, 7 |
| 00073 | 0000 | OPERAND,01010 |
| 00074 | 0000 | |
| 00075 | 0000 | |
| 00076 | 7501 | PTEXT, XXTEXT |
| 00077 | 4142 | PERROR, ERROR |
| 00100 | 6441 | PSXERR, SXERR |
| 00101 | 1004 | PEVAL, EVAL |
| 00102 | 1400 | PGETADD,GETADDR |
| 00103 | 0213 | PEXECUT,EXECUTE |
| 00104 | 2364 | PPUSH, PUSH |
| 00105 | 3551 | PPOP, POP |
| 00106 | 4744 | PFIX, FIX |
| 00107 | 1202 | PGOTOPR,GJTOPR |
| 00110 | 0472 | PPASSCR,FASSCR |
| 00111 | 1015 | PGETOPR,GETOPR |
| 00112 | 0341 | PSTOVAR,STOVAR |
| 00113 | 0311 | PGETVAR,GETVAR |
| 00114 | 3702 | PPRINTX,PRINTXT |
| 00115 | 1674 | PGETBLK,GETBLK |
| 00116 | 2707 | PSLOOP, SLOOP |
| 00117 | 5000 | POUTNUM,OUTNUM |
| 00120 | 2405 | PEDIT, EDIT |
| 00121 | 6430 | PSTICKI,STICKIT |
| 00122 | 3110 | PNONBLN,NONBLNK |
| 00123 | 3747 | PPRINUM,PRINUM |
| 00124 | 2603 | PGETLIN,GETLIN |
| 00125 | 7644 | PPDLIST,PDLIST |
| 00126 | 0000 | COLUMN, 0 |
| 00127 | 0000 | INDEV, 0 |
| 00130 | 0000 | OUTD2, 0 |
| 00131 | 0000 | OUTDEV, 0 |
| 00132 | 0000 | ODEV, 0 |
| 00133 | 0000 | CNTLO, 0 |
| 00134 | 0000 | NOINT, 0 |
| 00135 | 0000 | RBSWCH, 0 |
| 00136 | 0000 | DISB, 0 |
| 00137 | 7116 | PRESET, RESETI |
| 00140 | 7465 | SPECINT,CCINTK |
| 00141 | 7326 | PCOWT, COWT |
| 00142 | 7146 | DELOUT, OUTDEL |
| 00143 | 0360 | CNCLR, CLRCNT |
| 00144 | 6413 | SPLEFT, RMLEFT |
| 00145 | 0000 | PTEN, TEN |
| 00146 | 4600 | PANORM, ANORM |
| 00147 | 4402 | PARI, ARI |
| 00150 | 4654 | PALI, ALI |
| 00151 | 2014 | ONE, 2014 |
| 00152 | 0000 | ZERO, 01010 |

/THIS PREVENTS INTERRUPTS DURING CRITICAL TIMES.

```

00153 0000
00154 0000
00155 0200 0200, 200
00156 0000 FPFLAG, 0
00157 4035 POADD, OADD
00160 0004 04, 4
00161 2330 PLINFIX,LINFIX
00162 7745 07745, 7745
00163 6400 PCHKFIT,CHKFIT
00164 7725 PGOLIST,GOLIST
00165 0000 GSBPTR, 0
0001 GET=1
4566 ISIT=JMS I ,)XISIT;XGISIT
00166 4073
00167 4066
4570 MUSTBE=JMS I ,)XMUST;XGMUST
00170 7352
00171 7345
00172 7563 PLBEGIN,LBEGIN
00173 0214 MLBEGIN,-LBEGIN-1
00174 0074 MLEND, -ENDPOL
00175 4104 PISITLI,)SITLIT
    
```

```

0200 PAGE
0177 *-1
    
```

```

00177 0000 GETWD, 0
00200 1405 TAD I LOCCTR
00201 3050 DCA WORD
00202 2045 ISZ LOCCTR
00203 5577 JMP I GETWD
00204 0205 PLETD0, LETD0
00205 4570 LETD0, MUSTBE /'0'
00206 3673 3673
00207 4501 JMS I PEVAL
00210 4570 MUSTBE /((CR) OR '\
00211 2000 2000
00212 4341 JMS STOVAR
00213 4177 EXECUTE,JMS GETWD
00214 1204 TAD PLETD0
00215 3311 DCA GETVAR
00216 1450 TAD I WORD
00217 7510 SPA
00220 5231 JMP KEYWD
00221 7640 SZA CLA /IS IT A LINEND
00222 5313 JMP NOTKWD /NO
00223 1050 TAD WORD
    
```

| | | | | | |
|-------|------|--------|---------|---------|-------------------------|
| 00224 | 3052 | | DCA | LINENO | |
| 00225 | 4177 | | JMS | GETWD | |
| 00226 | 1450 | | TAD I | WORD | |
| 00227 | 7722 | | SMA CLA | | |
| 00230 | 5313 | | JMP | NOTKWD | |
| 00231 | 7332 | KEYWD, | CLA CLL | CML RTR | |
| 00232 | 1450 | | TAD I | WORD | |
| 00233 | 7420 | | SNL | | /IS IT A STATEMENT WORD |
| 00234 | 5500 | | JMP I | PSXERR | /NO |
| 00235 | 1240 | | TAD | SJUMP | |
| 00236 | 3237 | | DCA | .*1 | |
| 00237 | 7402 | | HLT | | |
| 00240 | 5641 | SJUMP, | JMP I | .*1 | |
| 00241 | 0213 | | EXECUTE | | |
| 00242 | 2567 | | END | | |
| 00243 | 0413 | | FOR | | |
| 00244 | 0505 | | GOSUB | | |
| 00245 | 0517 | | GOTO | | |
| 00246 | 0375 | | IF | | |
| 00247 | 4007 | | INPUT | | |
| 00250 | 0312 | | LET | | |

| | | |
|-------|------|-----------------|
| 00251 | 0600 | NEXT |
| 00252 | 2173 | PRINT |
| 00253 | 0677 | RETURN |
| 00254 | 2570 | STOP |
| 00255 | 6472 | DIM |
| 00256 | 3773 | RESTORE |
| 00257 | 0467 | SKIPIT |
| 00260 | 1576 | DEF |
| 00261 | 1623 | READ |
| 00262 | 0467 | SKIPIT |
| 00263 | 2402 | EXIT |
| 00264 | 2570 | STOP |
| 00265 | 7173 | TTYIN |
| 00266 | 7165 | TTYOUT |
| 00267 | 7163 | LPTOUT |
| 00270 | 7164 | PTPOUT |
| 00271 | 7172 | PTRIN |
| 00272 | 6441 | SXERR |
| 00273 | 5573 | RUBO |
| 00274 | 5574 | NORUBO |
| | | IFNZRO MACHINE< |

/THIS SLOT IS NOW FREE, (6031)

CLEAR
 DELAY
 USE
 PLOT
 REALTIME
 SETRATE
 SETCLOCK
 WAITC
 WAIT
 SXERR
 ACCEPT
 REJECT>

/"UCOM" --- USER COMMAND.

IFZERO MACHINE<

| | | |
|-------|------|-------|
| 00275 | 6441 | SXERR |
| 00276 | 6441 | SXERR |
| 00277 | 6441 | SXERR |
| 00300 | 6441 | SXERR |
| 00301 | 6441 | SXERR |
| 00302 | 6441 | SXERR |
| 00303 | 6441 | SXERR |
| 00304 | 6441 | SXERR |
| 00305 | 6441 | SXERR |
| 00306 | 6441 | SXERR |
| 00307 | 6441 | SXERR |
| 00310 | 6441 | SXERR |

```

00311 0000 GETVAR, 0
00312 4177 LET, JMS GETWD
00313 4572 NOTKWD, MUSTBE /A VARIABLE
00314 7000 7000
00315 1052 TAD WORD
00316 3343 DCA VAR
00317 3344 DCA SSONE
00320 3345 DCA SSTWO
00321 4567 GET+ISIT /''
00322 3755 3755
00323 5711 JMP I GETVAR /NO
00324 4501 JMS I PEVAL
00325 4506 JMS I PFIX
00326 3344 DCA SSONE
00327 4566 ISIT /'',
00330 3763 3763
00331 5335 JMP NOCOMMA /NO
00332 4501 JMS I PEVAL
00333 4506 JMS I PFIX
00334 3345 DCA SSTWO
00335 4570 NOCOMMA, MUSTBE /''
00336 3761 3761
00337 4177 JMS GETWD
00340 5711 JMP I GETVAR
00341 0000 STOVAR, 0
00342 4502 JMS I PGETADDR
00343 0000 VAR, 0
00344 0000 SSONE, 0
00345 0000 SSTWO, 0
00346 4435 FENTER
00347 2467 FSTI ADDRESS
00350 0000 FEXIT
00351 5741 JMP I STOVAR
00352 4477 FNERR, JMS I PERROR
00353 0625 TEXT 'FUNCTION'
00354 1003
00355 2411
00356 1716
00357 0000
00360 0000 CLRCNT, 0 /ROUTINE WHICH CHECKS STATUS OF CONTROL C FLAG.
00361 7201 CLA IAC
00362 1134 TAD NOINT /WAS IT SET TO -1?
00363 7650 SNA CLA
00364 5767 JMP I PBOMB /YEP, GIVE STOP MESSAGE,
00365 3134 DCA NOINT /NOPE, RESET IT,
00366 5760 JMP I CLRCNT /AND EXIT
00367 6670 PBOMB, CNTLCR

```

```

00370 4477 SPACERR, JMS I PERROR
00371 2417 TEXT 'TOO-BIG'

```

00372 1755
 00373 0211
 00374 2700

```

00375 4501 IF, JMS I PEVAL
00376 4435 FINDER
00377 2073 FJT OPERAND
00400 0000 FEXIT
00401 4570 MUSTBE /'THEN'
00402 1774 1774
00403 1073 TAD OPERAND
00404 7750 SPA SNA CLA
00405 5267 JMP SKIPIT
00406 4567 GET+ISIT /A LINENO
00407 0000 0000
00410 5612 JMP I XEXECU
00411 5320 JMP GOTO+1
00412 0214 XEXECU, EXECUTE+1
00413 4571 FOR, GET+MUSTBE /A VARIABLE
00414 7000 7000
00415 4357 JMS FINDIT
00416 5235 JMP NOTHERE
00417 7201 CLA IAC
00420 1013 TAD INDEX1
00421 3014 DCA INDEX2
00422 7240 CLA CMA
00423 1013 TAD INDEX1
00424 3013 DCA INDEX1
00425 5232 JMP INLUPF
00426 1414 LUPF, TAD I INDEX2
00427 3413 DCA I INDEX1
00430 1414 TAD I INDEX2
00431 3413 DCA I INDEX1
00432 2053 INLUPF, ISZ GOTEMP
00433 5226 JMP LUPF
00434 2063 ISZ FORCT
00435 1063 NOTHERE, TAD FORCT
00436 1304 TAD OII
00437 7750 SPA SNA CLA /CAN'T FIT 9 IN FORLIST
00440 5301 JMP FORERR
    
```

| | | | | |
|-------|------|-----------------|----------|----------------------------------|
| 00441 | 1250 | TAD | WORD | |
| 00442 | 7041 | CIA | | |
| 00443 | 3413 | DCA I | INDEX1 | |
| 00444 | 1250 | TAD | WORD | |
| 00445 | 3252 | DCA | FORVAR | |
| 00446 | 4571 | GET+MUSTBE | | /'0' |
| 00447 | 3673 | 3673 | | |
| 00450 | 4501 | JMS I | PEVAL | |
| 00451 | 4502 | JMS I | PGETADDR | |
| 00452 | 2000 | FORVAR, 0 | | |
| 00453 | 2000 | 0 | | |
| 00454 | 2000 | 0 | | |
| 00455 | 4435 | FENTER | | |
| 00456 | 2467 | FSTI | ADDRESS | |
| 00457 | 0000 | FEXIT | | |
| 00460 | 4570 | MUSTBE | | /'TO' |
| 00461 | 3757 | 3757 | | |
| 00462 | 1045 | TAD | LOCCTR | |
| 00463 | 3413 | DCA I | INDEX1 | |
| 00464 | 7240 | CLA CMA | | |
| 00465 | 1063 | TAD | FORCT | |
| 00466 | 3063 | DCA | FORCT | |
| | | | | |
| 00467 | 4671 | SKIPIT, JMS I | PIGNORE | /LOOK FOR "\" OR C.R. |
| 00470 | 5503 | JMP I | PEXECUTE | /AND EXECUTE THE NEXT STATEMENT. |
| | | | | |
| 00471 | 2115 | PIGNORE, IGNORE | | |
| | | | | |
| 00472 | 2000 | PASSCR, 0 | | /THIS LOOKS FOR A REAL C.R. |
| 00473 | 4671 | JMS I | PIGNORE | /LOOK FOR "\" OR C.R. |
| 00474 | 2050 | ISZ | WORD | |
| 00475 | 4566 | ISIT | | |
| 00476 | 4100 | 4100 | | /A REAL C.R. ? |
| 00477 | 5273 | JMP | ,=4 | /NOPE, A SLASH. |
| 00500 | 5672 | JMP I | PASSCR | /AND RETURN TO CALLER. |

```

00501 4477 FORERR, JMS I  PERROR
00502 0617 TEXT 'FOR'
00503 2200
00504 0011 011, 11
00505 4177 GOSUB, JMS GETWD
00506 4332 JMS GOBOTH
00507 1165 TAD GSBPTR
00510 1325 TAD MGSBEND
00511 7650 SNA CLA
00512 5326 JMP DEEPERR
00513 1045 TAD LOCCTR
00514 3565 DCA I GSBPTR
00515 2165 ISZ GSBPTR
00516 5321 JMP GOTO+2
00517 4177 GOTO, JMS GETWD
00520 4332 JMS GOBOTH
00521 2053 ISZ GOTEMP
00522 1453 TAD I GOTEMP
00523 3045 DCA LOCCTR
00524 5503 JMP I PEXECUTE
00525 0023 MGSBEND, -GSBEND
00526 4477 DEEPERR, JMS I  PERROR
00527 0717 TEXT 'GOSUB'
00530 2325
00531 0200
00532 0000 GOBOTH, 0
00533 4570 MUSTBE /A LINENO
00534 0000
00535 1050 TAD WORD
00536 3053 DCA GOTEMP
00537 2050 ISZ WORD
00540 4566 ISIT /DEFINED
00541 0000
00542 5350 JMP ISITDF
00543 4477 JMS I  PERROR
00544 1411 TEXT 'LINENO'
00545 1605
00546 1617
00547 0000
00550 4571 ISITDF, GET+MUSTBE /(CR) OR '\
00551 2000
00552 5732 JMP I  GOBOTH
00553 0000 VARTEMP, 01010
00554 0000
00555 0000
00556 7704 PXFORLI, FORLIST-1
00557 0000 FINDIT, 0
00560 1063 TAD FORCT
00561 3053 DCA GOTEMP
00562 1356 TAD PXFORLIST
00563 3013 DCA INDEX1
00564 5372 JMP INLOOP
00565 1413 FINDLUP, TAD I  INDEX1
00566 1050 TAD WORD

```

| | | | | |
|-------|------|----------------------------|--------------------|--------------|
| 00567 | 7650 | | SNA CLA | |
| 00570 | 5375 | | JMP | FOUND |
| 00571 | 2013 | | ISZ | INDEX1 |
| 00572 | 2053 | INLOOP, | ISZ | GOTEMP |
| 00573 | 5365 | | JMP | FINDLUP |
| 00574 | 5757 | | JMP I | FINDIT |
| 00575 | 2357 | FOUND, | ISZ | FINDIT |
| 00576 | 5757 | | JMP I | FINDIT |
| | 0600 | | PAGE | |
| 00600 | 4571 | NEXT, | GET+MUSTBE | /A VARIABLE |
| 00601 | 7000 | | 7000 | |
| 00602 | 4672 | | JMS I | PFINDIT |
| 00603 | 5273 | | JMP | NEXTERR |
| 00604 | 1050 | | TAD | WORD |
| 00605 | 3237 | | DCA | NEXTVAR |
| 00606 | 4571 | | GET+MUSTBE | /(CR) OR '\' |
| 00607 | 2000 | | 2000 | |
| 00610 | 1045 | | TAD | LOCCTR |
| 00611 | 3271 | | DCA | LOCTEMP |
| 00612 | 1413 | | TAD I | INDEX1 |
| 00613 | 3045 | | DCA | LOCCTR |
| 00614 | 4501 | | JMS I | PEVAL |
| 00615 | 4435 | | FENTER | |
| 00616 | 2303 | | FST+FWD+FORLIM=. | |
| 00617 | 0000 | | FEXIT | |
| 00620 | 4566 | | ISIT | /(CR) OR '\' |
| 00621 | 2000 | | 2000 | |
| 00622 | 5226 | | JMP | TRYPSTEP /NO |
| 00623 | 4435 | | FENTER | |
| 00624 | 3151 | | FLO | ONE |
| 00625 | 1207 | | FJMP+FWD+GOTSTEP=. | |
| 00626 | 4570 | TRYPSTEP, MUSTBE | | /'STEP' |
| 00627 | 3756 | | 3756 | |
| 00630 | 4501 | | JMS I | PEVAL |
| 00631 | 4570 | | MUSTBE | /(CR) OR '\' |
| 00632 | 2000 | | 2000 | |
| 00633 | 4435 | | FENTER | |
| 00634 | 2270 | GOTSTEP, FST+FWD+FORSTEP=. | | |
| 00635 | 0000 | | FEXIT | |
| 00636 | 4502 | | JMS I | PGETADDR |
| 00637 | 0000 | NEXTVAR, 0 | | |
| 00640 | 0000 | | 0 | |
| 00641 | 0000 | | 0 | |
| 00642 | 4435 | | FENTER | |
| 00643 | 3467 | | FLOI | ADDRESS |
| 00644 | 4260 | | FAD+FWD+FORSTEP=. | |
| 00645 | 2672 | | FST+BKWD+.=VARTEMP | |
| 00646 | 5253 | | FSD+FWD+FORLIM=. | |
| 00647 | 0000 | | FEXIT | |
| 00650 | 1024 | | TAD | ACS |
| 00651 | 1324 | | TAD | FORSTEP |
| 00652 | 7700 | | SMA CLA | |
| 00653 | 1020 | | TAD | AC1 |

```

00650 7640      SZA CLA
00655 5263      JMP      FORDONE
00656 4435      FENTER
00657 3704      FLD+BKW0+,-VARTEMP
00662 2467      FSTI   ADDRESS
00661 2000      FEXIT
00662 5503      JMP I   PEXECUTE
00663 1271      FORDONE,TAD  LOCTEMP
00664 3045      DCA    LOCCTR
00665 2063      ISZ   FORCT
00666 2053      ISZ   GOTEMP
00667 5265      JMP      .-2
00670 5503      JMP I   PEXECUTE
00671 0000      LOCTEMP,0
00672 0557      PFINDIT,FINDIT
00673 4477      NEXTERR,JMS I  PERROR
00674 1605      TEXT 'NEXT'
00675 3024
00676 0000
00677 4571      RETURN, GET+MUSTBE / (CR) OR '\
00700 2000
00701 1165      TAD    GSBPTR
00702 1320      TAD    MGOLIST
00703 7650      SNA CLA
00704 5313      JMP    RETNERR
00705 7240      CLA CMA
00706 1165      TAD    GSBPTR
00707 3165      DCA    GSBPTR
00710 1565      TAD I  GSBPTR
00711 3045      DCA    LOCCTR
00712 5503      JMP I  PEXECUTE
00713 4477      RETNERR,JMS I  PERROR
00714 2205      TEXT 'RETURN'
00715 2425
00716 2216
00717 0000
00720 0053      MGOLIST,-GOLIST
00721 0000      FORLIM, 01010
00722 0000
00723 0000
00724 0000      FORSTEP,010
00725 0000
00726 0000      SGN,    0
00727 4435      FENTER
00730 0100      FSQE
00731 3205      FLD+FWD+MNSONE-,
00732 0150      FSLE
00733 3151      FLD    ONE
00734 0000      FEXIT
00735 5726      JMP I  SGN
00736 6014      MNSONE, 60141010
00737 0000
00740 0000
00741 0000      PUTCH, 0
00742 3326      DCA    SGN

```

| | | | | |
|-------|------|---------|-----|---------|
| 22743 | 1326 | | TAD | SGN |
| 22744 | 2027 | PCCUNT, | AND | 0177 |
| 22745 | 1374 | | TAD | 07763A |
| 22746 | 7640 | | SZA | CLA |
| 22747 | 5357 | | JMP | PNOCR |
| 22750 | 1344 | | TAD | PCCUNT |
| 22751 | 1126 | | TAD | COLUMN |
| 22752 | 3237 | | DCA | NEXTVAR |
| 22753 | 3126 | | DCA | COLUMN |

/IS IT A C.R.
 /NOPE.
 /ADD IN EXTRA PLACES FOR GOOD LUCK.
 /SAVE COLUMN POSITION

```

00754 1237 TAD NEXTVAR
00755 0376 AND PUTXRA
00756 7110 CLL RAR
00757 7170 PNOCR, CLL CML CMA RAR
00760 3237 DCA NEXTVAR
00761 1326 TAD SGN
00762 0375 AND 0140A
00763 7440 SZA
00764 1365 TAD 07640A
00765 7640 07640A, SZA CLA
00766 2126 ISZ COLUMN
00767 1326 TAD SGN
00770 4777 JMS I JPUTCH
00771 2237 ISZ NEXTVAR
00772 5370 JMP .+2
00773 5741 JMP I PUTCH
    
```

```

/REGET WHERE WE WERE.
/ARE WE INSERTING NULL CHARACTERS?
/NOW DIVIDE BY 2.
/AND NOW INVERT AND DIVIDE BY 2 AGAIN.
/SAVE FOR LATER USE, THIS IS NULL COUNTER.
/RECALL THE CHARACTER.
    
```

```

00774 7763 07763A, 7763
00775 0140 0140A, 140
00776 0000 PUTXRA, 1
00777 7000 JPUTCH, PUTER
    
```

```

/INCREMENT THE COUNTER
/GIVE NULLS UNTIL IT'S SATISFIED.
    
```

```

/NULL AFTER C,R, WORD.
    
```

1000 PAGE

```

01000 4603 START, JMS I XRESTA
01001 5602 JMP I .+1
01002 2440 SCRATCH
01003 7407 XRESTA, ISET

01004 0000 EVAL, 0
01005 4177 JMS GETWD
01006 1204 TAD EVAL
01007 4504 EVALGO, JMS I PPUSH
01010 1363 TAD 04014
01011 4504 JMS I PPUSH
01012 5216 JMP GETOPR+1
01013 1364 ISUMIN, TAD 04213
01014 4504 JMS I PPUSH
01015 4177 GETOPR, JMS GETWD
01016 4566 ISIT
01017 3577
01020 7410 SKP
01021 5213 JMP ISUMIN
01022 4566 ISIT
01023 3600
01024 7410 SKP
01025 5215 JMP GETOPR
    
```

```

/REST FLAGS AND DEVICES.
    
```

''''

''''

| | | | | |
|-------|------|----------------|----------|--|
| 01026 | 4566 | ISIT | /'(' | |
| 01027 | 3755 | 3755 | | |
| 01030 | 5235 | JMP | NOPAREN | /NO |
| 01031 | 4224 | JMS | EVAL | |
| 01032 | 4570 | MUSTBE | /'')' | |
| 01033 | 3761 | 3761 | | |
| 01034 | 5507 | JMP I | PGOTOPR | |
| 01035 | 4566 | NOPAREN, ISIT | | /A VARIABLE |
| 01036 | 7000 | 7000 | | |
| 01037 | 5305 | JMP | NOTVAR | /NO |
| 01040 | 3276 | DCA | ONESS | |
| 01041 | 3277 | DCA | TWOSS | |
| 01042 | 1050 | TAD | WORD | |
| 01043 | 3275 | DCA | WDTEMP | |
| 01044 | 4567 | GET+ISIT | /'(' | |
| 01045 | 3755 | 3755 | | |
| 01046 | 5274 | JMP | GOTSS | /NO |
| 01047 | 1275 | TAD | WDTEMP | |
| 01050 | 4504 | JMS I | PPUSH | |
| 01051 | 4204 | JMS | EVAL | |
| 01052 | 4566 | ISIT | /'')' | |
| 01053 | 3763 | 3763 | | |
| 01054 | 5264 | JMP | ONEDIM | |
| 01055 | 4506 | JMS I | PFIX | |
| 01056 | 4504 | JMS I | PPUSH | |
| 01057 | 4204 | JMS | EVAL | |
| 01060 | 4506 | JMS I | PFIX | |
| 01061 | 3277 | DCA | TWOSS | |
| 01062 | 4505 | JMS I | PPOP | |
| 01063 | 5266 | JMP | .+3 | |
| 01064 | 3277 | ONEDIM, DCA | TWOSS | |
| 01065 | 4506 | JMS I | PFIX | |
| 01066 | 3276 | DCA | ONESS | |
| 01067 | 4570 | MUSTBE | /'')' | |
| 01070 | 3761 | 3761 | | |
| 01071 | 4505 | JMS I | PPOP | |
| 01072 | 3275 | DCA | WDTEMP | |
| 01073 | 4177 | JMS | GETWD | |
| 01074 | 4502 | GOTSS, JMS I | PGETADDR | |
| 01075 | 0000 | WDTEMP, 0 | | |
| 01076 | 0000 | ONESS, 0 | | |
| 01077 | 0000 | TWOSS, 0 | | |
| 01100 | 4435 | FENTER | | |
| 01101 | 3467 | FLOI | ADDRESS | |
| 01102 | 0000 | FEXIT | | |
| 01103 | 5704 | JMP I | .+1 | |
| 01104 | 1203 | OPDONE | | |
| 01105 | 4575 | NOTVAR, JMS I | PISITLIT | /ISIT A LITERAL |
| 01106 | 5310 | JMP | ISITFUN | /NO |
| 01107 | 5507 | JMP I | PGOTOPR | /IT IS IN THE AC NOW |
| 01110 | 1450 | ISITFUN, TAD I | WORD | |
| 01111 | 1362 | TAD | 03754 | /-4024, WHICH IS BEGINNING OF FUNCTIONS. |
| 01112 | 7510 | SPA | | /IS IT A LEGAL FUNCTION? |
| 01113 | 5500 | JMP I | PSXERR | /NO. EXIT WITH MESSAGE. |
| 01114 | 7450 | SNA | | /WAS IT 'FN' |

| | | | | |
|-------|------|------------|--------------|----------------------------------|
| 01115 | 4177 | JMS | GETWD | /YES, SKIP OVER LETTER |
| 01116 | 4504 | JMS I | PPUSH | |
| 01117 | 4571 | GET+MUSTBE | | /'(' |
| 01122 | 3755 | 3755 | | |
| 01121 | 4204 | JMS | EVAL | |
| 01122 | 4505 | JMS I | PPOP | |
| 01123 | 1330 | TAD | FJUMP | |
| 01124 | 3325 | DCA | +.1 | |
| 01125 | 7402 | HLT | | |
| 01126 | 5727 | JMP I | +.1 | |
| 01127 | 1200 | FNEXIT | | |
| 01130 | 4731 | FJUMP, | JMS I FUNTAB | |
| 01131 | 5453 | FUNTAB, | FN | |
| 01132 | 5616 | COS | | |
| 01133 | 5600 | TAN | | |
| 01134 | 6200 | ATN | | |
| 01135 | 6114 | LOG | | |
| 01136 | 6000 | EXP | | |
| 01137 | 5412 | SQR | | |
| 01140 | 6425 | ABS | | |
| 01141 | 0726 | SN | | |
| 01142 | 6434 | INT | | |
| 01143 | 5353 | RND | | |
| 01144 | 5624 | SIN | | |
| 01145 | 1761 | PUTJ | | /POINTER TO PUT CHAR ROUTINE, |
| 01146 | 6441 | SXERR | | /FOR THE MISC. FUNCTIONS. |
| 01147 | 6441 | SXERR | | |
| 01150 | 6441 | SXERR | | |
| 01151 | 1770 | GETJ | | /GET A CHAR FROM THE TTY. |
| | | IFNZRO | MACHINE< | |
| | | ADC | | /"NORMAL" A-D CONVERSION RETURN. |
| | | TST | | /"TEST CHARACTER BUFFER". |
| | | TIM | | /TIME (# OF CLOCK TICKS). |
| | | | | |
| | | IFZERO | MACHINE< | |
| 01152 | 6441 | SXERR | | |
| 01153 | 7421 | TST | | |
| 01154 | 6441 | SXERR | | |
| | | | | |
| 01155 | 5547 | TAB | | /TAB FUNCTION IS IMPLEMENTED. |
| 01156 | 6441 | SXERR | | /UNIMPLEMENTED USER FUNCTION. |
| | | IFNZRO | MACHINE< | |
| | | CLS | | /GET STATUS OF LAST TICK. |

| | | | | |
|-------|------|------------|----------|----------------------------------|
| 01115 | 4177 | JMS | GETWD | /YES,SKIP OVER LETTER |
| 01116 | 4504 | JMS I | PPUSH | |
| 01117 | 4571 | GET+MUSTBE | | /'(' |
| 01122 | 3755 | 3755 | | |
| 01121 | 4204 | JMS | EVAL | |
| 01122 | 4505 | JMS I | PPOP | |
| 01123 | 1330 | TAD | FJUMP | |
| 01124 | 3325 | DCA | .+1 | |
| 01125 | 7402 | HLT | | |
| 01126 | 5727 | JMP I | .+1 | |
| 01127 | 1200 | FNEXIT | | |
| 01130 | 4731 | FJUMP, | JMS I | FUNTAB |
| 01131 | 5453 | FUNTAB, | FN | |
| 01132 | 5616 | | COS | |
| 01133 | 5600 | | TAN | |
| 01134 | 6200 | | ATN | |
| 01135 | 6114 | | LOG | |
| 01136 | 6000 | | EXP | |
| 01137 | 5412 | | SQR | |
| 01140 | 6425 | | ABS | |
| 01141 | 0726 | | STN | |
| 01142 | 6434 | | INT | |
| 01143 | 5353 | | RND | |
| 01144 | 5624 | | SIN | |
| 01145 | 1761 | | PUTJ | /POINTER TO PUT CHAR ROUTINE. |
| 01146 | 6441 | | SXERR | /FOR THE MISC. FUNCTIONS. |
| 01147 | 6441 | | SXERR | |
| 01150 | 6441 | | SXERR | |
| 01151 | 1770 | | GETJ | /GET A CHAR FROM THE TTY. |
| | | IFNZRO | MACHINE< | |
| | | ADC | | /"NORMAL" A-D CONVERSION RETURN. |
| | | TST | | /"TEST CHARACTER BUFFER". |
| | | TIM | | /TIME (# OF CLOCK TICKS). |
| | | | | |
| | | IFZERO | MACHINE< | |
| 01152 | 6441 | | SXERR | |
| 01153 | 7421 | | TST | |
| 01154 | 6441 | | SXERR | |
| | | | | |
| 01155 | 5547 | | TAB | /TAB FUNCTION IS IMPLEMENTED. |
| 01156 | 6441 | | SXERR | /UNIMPLEMENTED USER FUNCTION. |
| | | IFNZRO | MACHINE< | |
| | | CLS | | /GET STATUS OF LAST TICK. |

```

01200 4570 FNEXT, MUSTBE      /'')
01201 3761          3761
01202 4177 GOTOPR, JMS      GETWD
01203 4505 OPDONE, JMS I   PPOP
01204 3066          DCA    OLDOP
01205 1450          TAD I  WORD
01206 0272          AND    0700
01207 7650          SNA CLA
01210 5220          JMP    ITSOP
01211 1450          TAD I  WORD
01212 0275          AND    07077
01213 1273          TAD    03755
01214 7100          CLL
01215 1366          TAD    023
01216 7620          SNL CLA
01217 5500          JMP I  PSXERR
01220 1066 ITSOP, TAD    OLDOP
01221 0272          AND    0700
01222 3271          DCA    OTEMP
01223 1450          TAD I  WORD
01224 0272          AND    0700
01225 7041          CIA
01226 1271          TAD    OTEMP
01227 7700          SMA CLA
01230 5247          JMP    DOITNOW
01231 1066          TAD    OLDOP
01232 4504          JMS I  PPUSH
01233 4435          FENTER
01234 2073          FST    OPERAND
01235 0000          FEXIT
01236 1073          TAD    OPERAND
01237 4504          JMS I  PPUSH
01240 1074          TAD    OPERAND+1
01241 4504          JMS I  PPUSH
01242 1075          TAD    OPERAND+2
01243 4504          JMS I  PPUSH
01244 1450          TAD I  WORD
01245 4504          JMS I  PPUSH
01246 5511          JMP I  PGETOPR
01247 1066 DOITNOW, TAD    OLDOP
01250 0070          AND    077
01251 1274          TAD    07764A
01252 7450          SNA
01253 5363          JMP    UDOPER
    
```

| | | | |
|-------|------|--------------------|----------------------------------|
| 01254 | 7021 | IAC | |
| 01255 | 7650 | SNA CLA | |
| 01256 | 5321 | JMP | UMOPER |
| 01257 | 1266 | TAD | OLDOP |
| 01262 | 2270 | AND | 077 |
| 01261 | 1276 | TAD | OJUMP |
| 01262 | 3271 | DCA | OTEMP |
| 01263 | 4505 | JMS I | PPOP |
| 01264 | 3075 | DCA | OPERAND+2 |
| 01265 | 4505 | JMS I | PPOP |
| 01266 | 3074 | DCA | OPERAND+1 |
| 01267 | 4505 | JMS I | PPOP |
| 01270 | 3073 | DCA | OPERAND |
| 01271 | 7402 | OTEMP, HLT | |
| 01272 | 0700 | 0700, 700 | |
| 01273 | 3755 | 03755, 3755 | |
| 01274 | 7764 | 07764A, 7764 | |
| 01275 | 7077 | 07077, 7077 | |
| 01276 | 5677 | OJUMP, JMP I | .+1 |
| 01277 | 1312 | PLUS | |
| 01300 | 1316 | M'NUS | |
| 01301 | 1327 | STAR | |
| 01302 | 1332 | SLASH | |
| 01303 | 5740 | UPARRX | /OR 'UPARROW' IF NO EXTENDED FNS |
| 01304 | 1342 | RELATE | |
| 01305 | 1342 | RELATE | |
| 01306 | 1342 | RELATE | |
| 01307 | 1342 | RELATE | |
| 01310 | 1342 | RELATE | |
| 01311 | 1342 | RELATE | |
| 01312 | 4435 | PLUS, FENTER | |
| 01313 | 4073 | FAD | OPERAND |
| 01314 | 0000 | FADEXT, FEXIT | |
| 01315 | 5203 | JMP | OPDONE |
| 01316 | 4435 | MINUS, FENTER | |
| 01317 | 5073 | FSB | OPERAND |
| 01320 | 0000 | FEXIT | |
| 01321 | 1020 | UMOPER, TAD | AC1 |
| 01322 | 7640 | SZA CLA | |
| 01323 | 7330 | CLA CLL | CML RAR |
| 01324 | 1024 | TAD | ACS |
| 01325 | 3024 | DCA | ACS /DIRECT REF TO FLOATING AC |
| 01326 | 5203 | JMP | OPDONE |
| 01327 | 4435 | STAR, FENTER | |
| 01330 | 6073 | FMP | OPERAND |
| 01331 | 1615 | FJMP+BKWD+,-FADEXT | |
| 01332 | 4435 | SLASH, FENTER | |
| 01333 | 2204 | FST+FWD+SLSHTMP=. | |
| 01334 | 3073 | FLD | OPERAND |
| 01335 | 7202 | FDV+FWD+SLSHTMP=. | |
| 01336 | 1622 | FJMP+BKWD+,-FADEXT | |
| 01337 | 0000 | SLSHTMP, 0/0/0 | |
| 01340 | 0000 | | |
| 01341 | 0000 | | |
| 01342 | 1066 | RELATE, TAD | OLDOP |

| | | | | |
|-------|------|---------------|---------|--------------------|
| 01343 | 1367 | TAD | CONST | |
| 01344 | 3353 | DCA | THESKIP | |
| 01345 | 6201 | CDF | 0 | /***** 8 K INSERT. |
| 01346 | 1753 | TAD I | THESKIP | |
| 01347 | 6211 | CDF | 10 | /***** 8 K INSERT. |
| 01350 | 3353 | DCA | THESKIP | |
| 01351 | 4435 | FENTER | | |
| 01352 | 5073 | FS0 | OPERAND | |
| 01353 | 7402 | THESKIP,HLT | | |
| 01354 | 1204 | FJMP+FWD+4 | | |
| 01355 | 3151 | FLD | ONE | |
| 01356 | 0000 | FEXIT | | |
| 01357 | 5203 | JMP | OPDONE | |
| 01360 | 3152 | FLD | ZERO | |
| 01361 | 0000 | FEXIT | | |
| 01362 | 5203 | JMP | OPDONE | |
| 01363 | 4505 | UDOPER, JMS I | PPOP | |
| 01364 | 3066 | DCA | OLDOP | |
| 01365 | 5466 | JMP I | OLDOP | |
| 01366 | 0023 | 023, | 23 | |
| 01367 | 5263 | CONST, | ,=-4104 | |
| 01370 | 0050 | FSEQ | / | 0 |
| 01371 | 0140 | FSGT | / | < |
| 01372 | 0110 | FSLT | / | > |
| 01373 | 0100 | FSGE | / | <0 |
| 01374 | 0150 | FSLE | / | >0 |
| 01375 | 0040 | FSNE | / | <> |

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| | | | | |
|-------|------|-----------|---------|--------------------|
| 01400 | 0000 | GETADDR,0 | | |
| 01401 | 6201 | CDF | 0 | /***** 8 K INSERT. |
| 01402 | 1600 | TAD I | GETADDR | |
| 01403 | 3014 | DCA | INDEX2 | |
| 01404 | 2200 | ISZ | GETADDR | |
| 01405 | 1600 | TAD I | GETADDR | |
| 01406 | 3362 | DCA | GSS1 | |
| 01407 | 2200 | ISZ | GETADDR | |
| 01410 | 1600 | TAD I | GETADDR | |

| | | | |
|-------|------|---------|---------|
| 01411 | 3363 | DCA | GSS2 |
| 01412 | 2200 | ISZ | GETADOR |
| 01413 | 0211 | CDF | 10 |
| 01414 | 1414 | TAD I | INDEX2 |
| 01415 | 3067 | DCA | ADDRESS |
| 01416 | 2067 | ISZ | ADDRESS |
| 01417 | 1362 | TAD | GSS1 |
| 01420 | 7650 | SNA CLA | |
| 01421 | 5260 | JMP | NOSS1 |
| 01422 | 1414 | TAD I | INDEX2 |
| 01423 | 7450 | SNA | |
| 01424 | 5261 | JMP | ALLOC |
| 01425 | 7140 | CLL CMA | |
| 01426 | 1362 | TAD | GSS1 |
| 01427 | 7630 | SZL CLA | |
| 01430 | 5370 | JMP | SSERR |
| 01431 | 1414 | TAD I | INDEX2 |
| 01432 | 3364 | DCA | GDIM2 |
| 01433 | 1363 | TAD | GSS2 |
| 01434 | 7450 | SNA | |
| 01435 | 5253 | JMP | NOSS2 |
| 01436 | 7141 | CLL CIA | |
| 01437 | 1364 | TAD | GDIM2 |
| 01440 | 7620 | SNL CLA | |
| 01441 | 5370 | JMP | SSERR |
| 01442 | 1362 | TAD | GSS1 |
| 01443 | 7041 | CIA | |
| 01444 | 3362 | DCA | GSS1 |
| 01445 | 7410 | SKP | |
| 01446 | 1364 | TAD | GDIM2 |
| 01447 | 2362 | ISZ | GSS1 |
| 01450 | 5246 | JMP | ,=2 |
| 01451 | 1363 | TAD | GSS2 |
| 01452 | 3362 | DCA | GSS1 |
| 01453 | 1362 | TAD | GSS1 |
| 01454 | 7104 | CLL RAL | |
| 01455 | 1362 | TAD | GSS1 |
| 01456 | 1067 | TAD | ADDRESS |
| 01457 | 3067 | DCA | ADDRESS |
| 01460 | 5600 | JMP I | GETADDR |
| 01461 | 2034 | ISZ | DIMFLAG |
| 01462 | 7410 | SKP | |
| 01463 | 5273 | JMP | ISDIM |
| 01464 | 3034 | DCA | DIMFLAG |
| 01465 | 1363 | TAD | GSS2 |
| 01466 | 7640 | SZA CLA | |
| 01467 | 1367 | TAD | 013 |
| 01470 | 3363 | DCA | GSS2 |
| 01471 | 1367 | TAD | 013 |
| 01472 | 3362 | DCA | GSS1 |
| 01473 | 1363 | TAD | GSS2 |
| 01474 | 7450 | SNA | |
| 01475 | 7201 | CLA IAC | |
| 01476 | 7041 | CIA | |
| 01477 | 3364 | DCA | GDIM2 |

..... 0 K INSERT.

NOSS2,

NOSS1,
ALLOC,

ISDIM,

| | | | |
|-------|------|----------|-----------|
| 01500 | 2134 | ISZ | NOINT |
| 01501 | 7301 | CLA CLL | IAC |
| 01502 | 1362 | TAD | GSS1 |
| 01503 | 7430 | SZL | |
| 01504 | 5765 | JMP I | PSPACERR |
| 01505 | 2364 | ISZ | GDIM2 |
| 01506 | 5302 | JMP | .-4 |
| 01507 | 3364 | DCA | GDIM2 |
| 01510 | 1364 | TAD | GDIM2 |
| 01511 | 7124 | CLL CML | RAL |
| 01512 | 7420 | SNL | |
| 01513 | 1364 | TAD | GDIM2 |
| 01514 | 3364 | DCA | GDIM2 |
| 01515 | 1364 | TAD | GDIM2 |
| 01516 | 7430 | SZL | |
| 01517 | 5765 | JMP I | PSPACERR |
| 01520 | 4544 | JMS I | SPLEFT |
| 01521 | 7410 | SKP | |
| 01522 | 5765 | JMP I | PSPACERR |
| 01523 | 7344 | CLA CLL | CMA RAL |
| 01524 | 1014 | TAD | INDEX2 |
| 01525 | 3014 | DCA | INDEX2 |
| 01526 | 1003 | TAD | ARRLOC |
| 01527 | 3414 | DCA I | INDEX2 |
| 01530 | 1362 | TAD | GSS1 |
| 01531 | 3414 | DCA I | INDEX2 |
| 01532 | 1363 | TAD | GSS2 |
| 01533 | 3414 | DCA I | INDEX2 |
| 01534 | 7240 | CLA CMA | |
| 01535 | 1067 | TAD | ADDRESS |
| 01536 | 3067 | DCA | ADDRESS |
| 01537 | 1366 | TAD | 07774 |
| 01540 | 3363 | DCA | GSS2 |
| 01541 | 1467 | TAD I | ADDRESS |
| 01542 | 2067 | ISZ | ADDRESS |
| 01543 | 4521 | JMS I | PSTICKIT |
| 01544 | 2363 | ISZ | GSS2 |
| 01545 | 5341 | JMP | .-4 |
| 01546 | 1364 | TAD | GDIM2 |
| 01547 | 7041 | CIA | |
| 01550 | 1160 | TAD | 04 |
| 01551 | 3364 | DCA | GDIM2 |
| 01552 | 4521 | JMS I | PSTICKIT |
| 01553 | 2364 | ISZ | GDIM2 |
| 01554 | 5352 | JMP | .-2 |
| 01555 | 7346 | CLA CLL | CMA RTL |
| 01556 | 1200 | TAD | GETADDR |
| 01557 | 3200 | DCA | GETADDR |
| 01560 | 4543 | JMS I | CNCLR |
| 01561 | 5201 | JMP | GETADDR+1 |
| 01562 | 0000 | GSS1, | 0 |
| 01563 | 0000 | GSS2, | 0 |
| 01564 | 0000 | GDIM2, | 0 |
| 01565 | 0370 | PSPACER, | SPACERR |
| 01566 | 7774 | 07774, | 7774 |

/FORBID INTERRUPTS NOW.

/CHECK FOR CONTROL C.

```

01567 0013 013, 13 / (12) IF 1 ORG INDEXING
01570 0477 SSERR, JMS I PERROR
01571 2325 TEXT 'SUBSCRIPT'
01572 0223
01573 0322
01574 1120
01575 2400

```

```

01576 1052 DEF, TAD LINENO
01577 3013 DCA INDEX1
01600 1413 TAD I INDEX1
01601 3220 DCA USERFN
01602 4571 GET+MUSTBE /'FN'
01603 3754 3754
01604 4571 GET+MUSTBE /A VARIABLE
01605 7000 7000
01606 4571 GET+MUSTBE /'('
01607 3755 3755
01610 4571 GET+MUSTBE /A VARIABLE
01611 7000 7000
01612 4571 GET+MUSTBE /')'
01613 3761 3761
01614 4571 GET+MUSTBE /''
01615 3673 3673
01616 5617 JMP I PSKIPIT
01617 0467 PSKIPIT, SKIPIT
01620 0000 USERFN, 0
01621 4570 MORERD, MUSTBE /', '
01622 3763 3763
01623 4513 READ, JMS I PGETVAR
01624 7240 CLA CMA
01625 1045 TAD LOCCTR
01626 3273 DCA LOCTMP
01627 1046 TAD READLOC
01630 3045 DCA LOCCTR
01631 4567 GET+ISIT / (CR) OR '\
01632 2000 2000
01633 7410 SKP
01634 5260 JMP SEARCH
01635 4566 ISIT /A LINENO
01636 0000 0000
01637 7410 SKP
01640 5260 JMP SEARCH
01641 4566 ISIT /', '
01642 3763 3763
01643 5267 JMP DATAERR
01644 4501 ISSOME, JMS I PEVAL
01645 7240 CLA CMA
01646 1045 TAD LOCCTR
01647 3046 DCA READLOC
01650 1273 TAD LOCTMP

```

| | | | | |
|-------|------|----------------|----------|----------------------------------|
| 01651 | 3045 | DCA | LOCCTR | |
| 01652 | 4512 | JMS I | PSTOVAR | |
| 01653 | 4567 | GET+ISIT | | /(CR) OR '\' |
| 01654 | 2000 | 2000 | | |
| 01655 | 5221 | JMP | MORERD | |
| 01656 | 5503 | JMP I | PEXECUTE | |
| 01657 | 4177 | SCHMOR, JMS | GETWD | |
| 01660 | 4566 | SEARCH, ISIT | | /'DATA' |
| 01661 | 1757 | 1757 | | |
| 01662 | 7410 | SKP | | |
| 01663 | 5244 | JMP | ISSOME | |
| 01664 | 4566 | ISIT | | /(EOF) |
| 01665 | 1755 | 1755 | | |
| 01666 | 5257 | JMP | SCHMOR | |
| 01667 | 4477 | DATAERR, JMS I | PERROR | |
| 01670 | 0401 | TEXT | 'DATA' | |
| 01671 | 2401 | | | |
| 01672 | 0000 | | | |
| 01673 | 0000 | LOCTMP, 0 | | |
| 01674 | 0000 | GETBLK, 0 | | |
| 01675 | 4563 | JMS I | PCHKFIT | |
| 01676 | 1004 | TAD | CODELOC | |
| 01677 | 3045 | DCA | LOCCTR | |
| 01700 | 1004 | TAD | CODELOC | |
| 01701 | 1356 | TAD | ABCDEF | |
| 01702 | 3004 | DCA | CODELOC | |
| 01703 | 1004 | TAD | CODELOC | |
| 01704 | 3357 | DCA | BCDEFG | |
| 01705 | 1005 | TAD | PSYMTAB | /UPDATE SYMBOL TABLE NOW. |
| 01706 | 1356 | TAD | ABCDEF | /BY ADDING IN CORRECTION FACTOR. |
| 01707 | 3005 | DCA | PSYMTAB | |
| 01710 | 1445 | GTBKLP, TAD I | LOCCTR | /MOVE TEXT NOW. |
| 01711 | 2045 | ISZ | LOCCTR | |
| 01712 | 3757 | DCA I | BCDEFG | |
| 01713 | 2357 | ISZ | BCDEFG | |
| 01714 | 1357 | TAD | BCDEFG | /NOW CHECK FOR END. |
| 01715 | 7041 | CIA | | |
| 01716 | 1005 | TAD | PSYMTAB | |
| 01717 | 7640 | SZA CLA | | |
| 01720 | 5310 | JMP | GTBKLP | |
| 01721 | 7240 | CLA CMA | | |
| 01722 | 1006 | TAD | NSYMTAB | |
| 01723 | 3006 | DCA | NSYMTAB | |
| 01724 | 1165 | TAD | GSBPTR | |
| 01725 | 7040 | CMA | | |
| 01726 | 1164 | TAD | PGOLIST | |
| 01727 | 3357 | DCA | BCDEFG | |
| 01730 | 1164 | TAD | PGOLIST | |
| 01731 | 3050 | DCA | WORD | |
| 01732 | 1356 | TAD | ABCDEF | |
| 01733 | 1450 | TAD I | WORD | |
| 01734 | 3450 | DCA I | WORD | |
| 01735 | 2050 | ISZ | WORD | |

| | | | |
|-------|------|--------------------|---------|
| 01736 | 2357 | ISZ | BCDEFG |
| 01737 | 5332 | JMP | ,=5 |
| 01740 | 1263 | TAD | FORCT |
| 01741 | 3357 | DCA | BCDEFG |
| 01742 | 1360 | TAD | PPFORLI |
| 01743 | 3050 | DCA | WORD |
| 01744 | 5352 | JMP | ,+6 |
| 01745 | 1356 | TAD | ABCDEF |
| 01746 | 1450 | TAD I | WORD |
| 01747 | 3450 | DCA I | WORD |
| 01750 | 2050 | ISZ | WORD |
| 01751 | 2050 | ISZ | WORD |
| 01752 | 2357 | ISZ | BCDEFG |
| 01753 | 5345 | JMP | ,=6 |
| 01754 | 1005 | TAD | PSYMTAB |
| 01755 | 5674 | JMP I | GETBLK |
| 01756 | 7774 | ABCDEF, -4 | |
| 01757 | 0000 | BCDEFG, 0 | |
| 01760 | 7706 | PPFORLI, FORLIST+1 | |
| 01761 | 0000 | PUTJ, 0 | |
| 01762 | 4506 | JMS I | PFI |
| 01763 | 7200 | CLA | |
| 01764 | 1016 | TAD | AC3 |
| 01765 | 4433 | JMS I | PPUTCH |
| 01766 | 4546 | JMS I | PANORM |
| 01767 | 5761 | JMP I | PUTJ |

| | | | |
|-------|------|-----------------|---------|
| 01770 | 0000 | GETJ, 0 | |
| 01771 | 4776 | JMS I | PBEGFIX |
| 01772 | 4432 | JMS I | PGETCH |
| 01773 | 3016 | DCA | AC3 |
| 01774 | 4546 | JMS I | PANORM |
| 01775 | 5770 | JMP I | GETJ |
| 01776 | 3762 | PBEGFIX, BEGFIX | |

/GETS A CHARACTER FROM THE TTY.
 /CLEAN UP THE FAC
 /FETCH A CHAR,
 /SAVE IT, BABY!
 /AND NORMALIZE AC.
 /AND RETURN NOW.

2000

PAGE

| | | | |
|-------|------|-------------|--------|
| 02000 | 2134 | NOTNOW, ISZ | NOINT |
| 02001 | 2050 | ISZ | WORD |
| 02002 | 1450 | TAD I | WORD |
| 02003 | 7450 | SNA | |
| 02004 | 5232 | JMP | INSERT |

/RESET *C SWITCH SO NO INTERUPT NOW.

| | | | | |
|-------|------|----------|---------|-----------|
| 22225 | 3371 | | DCA | LOWLOC |
| 22226 | 3450 | | OCA I | WORD |
| 22227 | 1371 | | TAD | LOWLOC |
| 22212 | 3045 | | OCA | LOCCTR |
| 22211 | 4510 | | JMS I | PPASSCR |
| 22212 | 1371 | MOVE, | TAD | LOWLOC |
| 22213 | 7041 | | CIA | |
| 22214 | 1004 | | TAD | CODELOC |
| 22215 | 7650 | | SNA CLA | |
| 22216 | 5230 | | JMP | INSRTS |
| 22217 | 7340 | | CLA CLL | CMA |
| 22220 | 1371 | | TAD | LOWLOC |
| 22021 | 3371 | | OCA | LOWLOC |
| 22022 | 7340 | | CLA CLL | CMA |
| 22023 | 1045 | | TAD | LOCCTR |
| 22024 | 3045 | | DCA | LOCCTR |
| 22025 | 1771 | | TAD I | LOWLOC |
| 22026 | 3445 | | OCA I | LOCCTR |
| 22027 | 5212 | | JMP | MOVE |
| 22030 | 1045 | INSRTS, | TAD | LOCCTR |
| 22031 | 3004 | | OCA | CODELOC |
| 22032 | 1057 | INSERT, | TAD | FPTR |
| 22033 | 1040 | | TAD | MLINBUF |
| 22034 | 7040 | | CMA | |
| 22035 | 3057 | | DCA | FPTR |
| 22036 | 7326 | | CLA CLL | CML RTL |
| 22037 | 1057 | | TAD | FPTR |
| 22040 | 7450 | | SNA | |
| 22041 | 5313 | | JMP | FIXLIN |
| 22042 | 7040 | | CMA | |
| 22043 | 4563 | | JMS I | PCHKFIT |
| 22044 | 1004 | | TAD | CODELOC |
| 22045 | 3045 | | DCA | LOCCTR |
| 22046 | 1437 | | TAD I | PLINBUF |
| 22047 | 7001 | | IAC | |
| 22050 | 3013 | | DCA | INDEX1 |
| 22051 | 1413 | | TAD I | INDEX1 |
| 22052 | 3073 | | OCA | OPERAND |
| 22053 | 1413 | | TAD I | INDEX1 |
| 22054 | 3074 | | DCA | OPERAND+1 |
| 22055 | 4336 | | JMS | COMPARE |
| 22056 | 5261 | | JMP | NOTFRST |
| 22057 | 4361 | | JMS | SUBRA |
| 22060 | 5303 | | JMP | TRANSF |
| 22061 | 4510 | NOTFRST, | JMS I | PPASSCR |
| 22062 | 4336 | | JMS | COMPAR |
| 22063 | 5261 | | JMP | NOTFRST |
| 22064 | 1045 | | TAD | LOCCTR |
| 22065 | 3360 | | OCA | LSTLOC |
| 22066 | 1004 | | TAD | CODELOC |
| 22067 | 3045 | | DCA | LOCCTR |
| 22070 | 4361 | | JMS | SUBRA |
| 22071 | 4177 | | JMS | GETWD |
| 22072 | 1050 | MOVLUP, | TAD | WORD |
| 22073 | 3772 | | OCA I | PUTLOC |

| | | | | |
|-------|------|---------|-------|---------|
| 02074 | 2372 | | ISZ | PUTLOC |
| 02075 | 4177 | | JMS | GETWO |
| 02076 | 1360 | | TAD | LSTLOC |
| 02077 | 7041 | | CIA | |
| 02100 | 1045 | | TAD | LOCCTR |
| 02101 | 7640 | | SZA | CLA |
| 02102 | 5272 | | JMP | MOVLUP |
| 02103 | 1037 | TRANSF, | TAD | PLINBUF |
| 02104 | 3060 | | DCA | GPTR |
| 02105 | 1460 | TRALUP, | TAD I | GPTR |
| 02106 | 2060 | | ISZ | GPTR |
| 02107 | 3772 | | DCA I | PUTLOC |
| 02110 | 2372 | | ISZ | PUTLOC |
| 02111 | 2057 | | ISZ | FPTR |
| 02112 | 5305 | | JMP | TRALUP |
| 02113 | 4561 | FIXLIN, | JMS I | PLINFIX |
| 02114 | 5520 | | JMP I | PEDIT |

02115 0000 IGNORE, 0

/THIS ROUTINE LOOKS FOR A "\" OR A C.R.

| | | | | |
|-------|------|---------|----------|--------------------------------|
| 02116 | 4567 | | GET+ISIT | |
| 02117 | 5000 | | 5000 | /TEXT? |
| 02120 | 5327 | | JMP | NOTBAD /NOPE. |
| 02121 | 4177 | | JMS | GETWD |
| 02122 | 1050 | | TAD | WORD |
| 02123 | 0070 | | AND | 077 |
| 02124 | 7640 | | SZA CLA | /END OF TEXT? |
| 02125 | 5321 | | JMP | ,=4 /NOPE. |
| 02126 | 5316 | | JMP | IGNORE+1 /YEP, GET NEXT ITEM. |
| 02127 | 4575 | NOTBAD, | JMS I | PISITLIT /IS IT A LITERAL? |
| 02130 | 7410 | | SKP | |
| 02131 | 5316 | | JMP | IGNORE+1 /YES. |
| 02132 | 4566 | | ISIT | |
| 02133 | 2000 | | 2000 | /"\" OR C.R. |
| 02134 | 5316 | | JMP | IGNORE+1 / N O |
| 02135 | 5715 | | JMP I | IGNORE /YES, RETURN TO CALLER. |

| | | | | |
|-------|------|-----------------|----------|-------------------------|
| 02136 | 0000 | COMPARE, 0 | | |
| 02137 | 4567 | | GET+ISIT | /A LINENO |
| 02140 | 0000 | | 0000 | |
| 02141 | 5356 | | JMP | IAMLESS |
| 02142 | 1050 | | TAD | WORD |
| 02143 | 7001 | | IAC | |
| 02144 | 3013 | | DCA | INDEX1 |
| 02145 | 1413 | | TAD I | INDEX1 |
| 02146 | 7141 | | CLL CIA | |
| 02147 | 1073 | | TAD | OPERAND |
| 02150 | 7640 | | SZA CLA | |
| 02151 | 5355 | | JMP | FRSTNE |
| 02152 | 1413 | | TAD I | INDEX1 |
| 02153 | 7141 | | CLL CIA | |
| 02154 | 1074 | | TAD | OPERAND+1 |
| 02155 | 7620 | FRSTNE, SNL CLA | | /IS OPERAND<THIS LINENO |
| 02156 | 2336 | IAMLESS, ISZ | COMPARE | /YES |
| 02157 | 5736 | | JMP I | COMPARE |
| 02160 | 0000 | LSTLOC, 0 | | |
| 02161 | 0000 | SUBRA, 0 | | |
| 02162 | 1057 | | TAD | FPTR |
| 02163 | 7100 | | CLL | |
| 02164 | 1004 | | TAD | CODELOC |
| 02165 | 3004 | | DCA | CODELOC |
| 02166 | 1004 | | TAD | CODELOC |
| 02167 | 3372 | | DCA | PUTLOC |
| 02170 | 5761 | | JMP I | SUBRA |
| 02171 | 0000 | LOWLOC, 0 | | |
| 02172 | 0000 | PUTLOC, 0 | | |

| | | | | | |
|-------|------|----------|---------|----------|--|
| 02173 | 4177 | PRINT, | JMS | GETWD | /THIS INSTRUCTION MAY BE COMBINED WITH THE GET INSTRUCTION BEL |
| 02174 | 7346 | | CLA CLL | CMA RTL | /7775==3 FOR DEVICE CHECK. |
| 02175 | 1131 | | TAD | OUTDEV | /MULTIPLY DEVICE BY 3. |
| 02176 | 1131 | | TAD | OUTDEV | |
| 02177 | 1131 | | TAD | OUTDEV | /SO THAT LPT=6, PTP=3, AND TTY=0. |
| 02200 | 1361 | | TAD | 0110 | /NOW ADD IN 72. THUS TTY=72,LPT=00. |
| 02201 | 3357 | | OCA | TWIDTH | /AND SAVE FOR FUTURE USE. |
| | | | | | |
| 02202 | 4566 | | ISIT | | /CHECK FOR FIRST COMMA, ONCE ONLY CHECK. |
| 02203 | 3763 | | 3763 | | |
| 02204 | 5207 | | JMP | PRINTC | /NO. CONTINUE CHECKING. |
| 02205 | 5277 | | JMP | PRINBLK | /YEP. GIVE BLANK, THEN TAB OVER. |
| | | | | | |
| 02206 | 4177 | PRINTG, | JMS | GETWD | /GET NEXT ELEMENT AFTER A TEXT ELEMENT. |
| 02207 | 3345 | PRINTC, | OCA | TABFLG | /RESET TAB INDICATER. |
| 02210 | 4566 | | ISIT | | /CHECK TO SEE IF CARRIAGE RETURN. |
| 02211 | 2000 | | 2000 | | |
| 02212 | 5216 | | JMP | NOPCR | /NOT A CARRIAGE RETURN. CONTINUE CHECKING. |
| | | | | | |
| 02213 | 4514 | | JMS I | PPRINTXT | |
| 02214 | 6931 | | CRLF | | |
| 02215 | 5503 | | JMP I | PEXECUTE | |
| | | | | | |
| 02216 | 4566 | NOPCR, | ISIT | | /IS IT A COMMA (" , ") |
| 02217 | 3763 | | 3763 | | |
| 02220 | 5316 | | JMP | PRENT | /NO. FINISH CHECKING BELOW. |
| 02221 | 5303 | | JMP | PRINCOM | /IT IS. PROCESS THE COMMA NOW. |
| | | | | | |
| 02222 | 4566 | PRINTHS, | ISIT | | /TEXT |
| 02223 | 5000 | | 5000 | | |
| 02224 | 5236 | | JMP | NOTTXT | |
| 02225 | 4177 | PRINGUO, | JMS | GETWD | |
| 02226 | 1050 | | TAD | WORD | |
| 02227 | 7012 | | RTR | | |
| 02230 | 7012 | | RTR | | |
| 02231 | 7012 | | RTR | | |
| 02232 | 4260 | | JMS | PRINHAJ | |
| 02233 | 1050 | | TAD | WORD | |
| 02234 | 4260 | | JMS | PRINHAJ | |
| 02235 | 5225 | | JMP | PRINGUO | |
| 02236 | 1241 | NOTTXT, | TAD | PPRINRET | |
| 02237 | 5600 | | JMP I | PEVALGO | |
| 02240 | 1007 | PEVALGO, | EVALGO | | |
| 02241 | 2242 | PPRINRE, | PRINRET | | |
| 02242 | 1345 | PRINRET, | TAD | TABFLG | /WAS THERE A TAB PRESENT? |

| | | | | | |
|-------|------|----------|----------|--------------|--|
| 02243 | 7640 | SZA | CLA | | |
| 02244 | 5762 | JMP | I | TABTHR | /YEP, EXECUTE TAB CORRECTOR. |
| 02245 | 1360 | TAD | | 014 | /SEE IF ROOM FOR 13 PLACES(1+12). |
| 02246 | 4346 | JMS | | CHECKW | |
| 02247 | 1024 | TAD | | ACS | |
| 02250 | 7710 | SPA | CLA | | |
| 02251 | 5254 | JMP | | .+3 | |
| 02252 | 1051 | TAD | | 0240 | |
| 02253 | 4433 | JMS | I | PPUTCH | |
| 02254 | 4517 | JMS | I | POUTNUM | |
| 02255 | 1051 | TAD | | 0240 | |
| 02256 | 4433 | JMS | I | PPUTCH | |
| 02257 | 5207 | JMP | | PRINTC | /GO BACK AND GET NEXT. |
| 02260 | 0000 | PRINHAF, | 0 | | |
| 02261 | 0070 | AND | | 077 | |
| 02262 | 7450 | SNA | | | |
| 02263 | 5206 | JMP | | PRINTG | /GO SKIP PAST TEXT ELEMENT AND CHECK NEXT. |
| 02264 | 1326 | TAD | | 007736 | |
| 02265 | 7450 | SNA | | | |
| 02266 | 5660 | JMP | I | PRINHAF | |
| 02267 | 1062 | TAD | | 02 | |
| 02270 | 0070 | AND | | 077 | |
| 02271 | 1051 | TAD | | 0240 | |
| 02272 | 3024 | DCA | | ACS | /SAVE CHARACTER FOR A SECOND. |
| 02273 | 4346 | JMS | | CHECKW | /CHECK TO SEE IF IT'LL FIT ON THE LINE. |
| 02274 | 1024 | TAD | | ACS | /RESTORE THE CHARACTER. |
| 02275 | 4433 | JMS | I | PPUTCH | |
| 02276 | 5660 | JMP | I | PRINHAF | |
| 02277 | 7200 | PRINBLK, | CLA | | /MAKE SURE AC IS ZERO. |
| 02300 | 1051 | TAD | | 0240 | |
| 02301 | 4433 | JMS | I | PPUTCH | |
| 02302 | 4346 | JMS | | CHECKW | /CHECK TO SEE IF ROOM FOR ONE MORE. |
| 02303 | 1126 | PRINCOM, | TAD | COLUMN | /SEE IF COLUMN ON COMMA BOUNDRY. |
| 02304 | 7450 | SNA | | | |
| 02305 | 5312 | JMP | | PRINSEM | /YEP. |
| 02306 | 1327 | TAD | | 07762 | /SUBTRACT A LITTLE AN CHECK AGAIN. |
| 02307 | 7500 | SMA | | | /TOO FAR? |
| 02310 | 5304 | JMP | | .-4 | /NOPE. |
| 02311 | 5277 | JMP | | PRINBLK | /YEP, GIVE BLANK AND LOOP AGAIN. |
| 02312 | 4567 | PRINSEM, | GET+ISIT | | /(CR) OR '\' |
| 02313 | 2000 | | 2000 | | |
| 02314 | 7410 | | SKP | | |
| 02315 | 5503 | JMP | I | PEXECUTE/YES | |
| 02316 | 4566 | PRENT, | ISIT | | /' ' |
| 02317 | 3762 | | 3762 | | |
| 02320 | 7410 | | SKP | | |
| 02321 | 5312 | JMP | | PRINSEM /YES | |
| 02322 | 4566 | | ISIT | | /' ' |
| 02323 | 3763 | | 3763 | | |
| 02324 | 5222 | JMP | | PRINTHS | |
| 02325 | 5277 | JMP | | PRINBLK | |
| 02326 | 7736 | 007736, | 7736 | | |
| 02327 | 7762 | 07762, | 7762 | | |

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02330 0000 LINFIX, 0
02331 1004 TAD CODELOC
02332 3045 DCA LOCCTR
02333 4177 LFXLUP, JMS GETWD
02334 1450 TAD I WORD
02335 7640 SZA CLA /IS IT A LINENO
02336 5730 JMP I LINFIX /NO
02337 2050 ISZ WORD
02340 7240 CLA CMA
02341 1045 TAD LOCCTR
02342 3450 DCA I WORD
02343 4510 JMS I PPASSCR
02344 5333 JMP LFXLUP

02345 0000 TABFLG, 0 /TAB FOUND FLAG.

02346 0000 CHECKW, 0 /THIS ROUTINE CHECKS FOR LINE TOO LONG.
02347 1126 TAD COLUMN /GET WHERE AT NOW.
02350 7040 CMA /-WHEREAT=#OF PLACES IN OUT CHAR.
02351 1357 TAD TWIDTH /ADD IN WIDTH OF DEVICE.
02352 7700 SMA CLA /TOO BIG.
02353 5746 JMP I CHECKW /NAH, RETURN TO SENDER.
02354 4514 JMS I PPRINTXT /YEP,GIVE C.R.L.F.
02355 6531 CRLF
02356 5746 JMP I CHECKW /AND RETURN TO SENDER.

02357 0000 TWIDTH, 0 /0 IS OK SINCE IT'LL BE SET UP CORRECTLY.
02360 0014 014, 14 /MAGIC CONSTANT.
02361 0110 0110, 110 /WDTH OF TTY PAPER.

02362 6350 TABTHR, TABDO /ROUTINE WHICH PROCESS TAB CHARACTER.

02363 0073 MENDPDL,-ENDPOL=1

02364 0000 PUSH, 0
02365 3436 DCA I PDL
02366 2036 ISZ PDL
02367 1036 TAD PDL
02370 1363 TAD MENDPDL
02371 7640 SZA CLA
02372 5764 JMP I PUSH
02373 4477 JMS I PERROR
02374 0530 TEXT 'EXPRESSION'
02375 2022
02376 0523
02377 2311
02400 1716
02401 0000

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| | | | | | |
|-------|------|----------|---------|----------|--|
| 02402 | 4541 | EXIT, | JMS I | PCOWT | /WAIT FOR BUFFER TO EMPTY AND THEN CONTINUE. |
| 02403 | 1007 | | TAD | 0215 | |
| 02404 | 4433 | | JMS I | PPUTCH | |
| 02405 | 1010 | EDIT, | TAD | 0212 | |
| 02406 | 4433 | | JMS I | PPUTCH | |
| 02407 | 1130 | | TAD | OUTD2 | /RESET DEVICE |
| 02410 | 3131 | | DCA | OUTDEV | |
| 02411 | 4543 | | JMS I | CNCLR | /CHECK TO SEE IF *C WAS TYPED. |
| 02412 | 1362 | | TAD | PXXTHEN | |
| 02413 | 4524 | | JMS I | PGETLIN | |
| 02414 | 1437 | | TAD I | PLINBUF | |
| 02415 | 3050 | | DCA | WORD | |
| 02416 | 1450 | | TAD I | WORD | |
| 02417 | 7650 | | SNA CLA | | |
| 02420 | 5766 | | JMP I | PNOTNOW | |
| 02421 | 1010 | | TAD | 0212 | |
| 02422 | 4433 | | JMS I | PPUTCH | |
| 02423 | 1130 | | TAD | OUTD2 | /RESET I/O DEVICE. |
| 02424 | 3131 | | DCA | OUTDEV | |
| 02425 | 4566 | | ISIT | | /'RUN' |
| 02426 | 3736 | | SKP | | |
| 02427 | 7410 | | SKP | | |
| 02430 | 5252 | | JMP | RUN | |
| 02431 | 4566 | | ISIT | | /'LIS' |
| 02432 | 3737 | | SKP | | |
| 02433 | 7410 | | SKP | | |
| 02434 | 5763 | | JMP I | PLIST | |
| 02435 | 4566 | | ISIT | | /'SCR' |
| 02436 | 3735 | | SKP | | |
| 02437 | 5254 | | JMP | IMMED | |
| 02440 | 1365 | SCRATCH, | TAD | PPERMSYM | |
| 02441 | 3004 | | DCA | CODELOC | |
| 02442 | 1364 | | TAD | PXXEOF | |
| 02443 | 3765 | | DCA I | PPERMSYM | |
| 02444 | 1365 | | TAD | PPERMSYM | |
| 02445 | 7001 | | IAC | | |
| 02446 | 3005 | | DCA | PSYMTAB | |
| 02447 | 7240 | | CLA CMA | | |
| 02450 | 3006 | | DCA | NSYMTAB | |
| 02451 | 4537 | | JMS I | PRESET | /RESET DEVICES AFTER SCRATCH. |
| 02452 | 4262 | RUN, | JMS | CLEARV | |
| 02453 | 5503 | | JMP I | PEXECUTE | |
| 02454 | 1037 | IMMED, | TAD | PLINBUF | |

| | | | | | |
|-------|------|---------|-------|----------|-------------------|
| 02455 | 3045 | | DCA | LOCCTR | |
| 02456 | 1364 | | TAD | PXXEOP | |
| 02457 | 3052 | | DCA | LINENO | |
| 02460 | 5503 | | JMP I | PEXECUTE | |
| | | | | | |
| 02461 | 7400 | PJSET, | SETUP | | |
| | | | | | |
| 02462 | 0000 | CLEARV, | 0 | | |
| 02463 | 4661 | | JMS I | PJSET | |
| 02464 | 5303 | | JMP | RUNIN | |
| 02465 | 1456 | RUNLUP, | TAD I | EPTR | |
| 02466 | 1360 | | TAD | 07000A | |
| 02467 | 7640 | | SZA | CLA | /IS IT A VARIABLE |
| 02470 | 5277 | | JMP | RUNNOT | /NO |
| 02471 | 2056 | | ISZ | EPTR | |
| 02472 | 1456 | | TAD I | EPTR | |
| 02473 | 3060 | | DCA | GPTR | |

| | | | | |
|-------|------|-----------------|----------|--------------------------|
| 02474 | 1460 | TAD I | GPTR | |
| 02475 | 3456 | DCA I | EPTR | |
| 02476 | 7410 | SKP | | |
| 02477 | 2056 | RUNNOT, ISZ | EPTR | |
| 02500 | 2056 | ISZ | EPTR | |
| 02501 | 2056 | ISZ | EPTR | |
| 02502 | 2056 | ISZ | EPTR | |
| 02503 | 2057 | RUNIN, ISZ | FPTR | |
| 02504 | 5265 | JMP | RUNLUP | |
| 02505 | 1361 | TAD | PLIMIT | |
| 02506 | 3003 | DCA | ARRLOC | |
| 02507 | 1005 | TAD | PSYMTAB | |
| 02510 | 3056 | DCA | EPTR | |
| 02511 | 1006 | TAD | NSYMTAB | |
| 02512 | 3057 | DCA | FPTR | |
| 02513 | 5343 | JMP | RUN2IN | |
| 02514 | 1456 | RUN2LUP, TAD I | EPTR | |
| 02515 | 1360 | TAD | 07000A | |
| 02516 | 7640 | SZA CLA | | /IS IT A VARIABLE |
| 02517 | 5337 | JMP | RUN2NOT | /NO |
| 02520 | 2056 | ISZ | EPTR | |
| 02521 | 1456 | TAD I | EPTR | |
| 02522 | 3031 | DCA | TMP | |
| 02523 | 1003 | TAD | ARRLOC | |
| 02524 | 3456 | DCA I | EPTR | |
| 02525 | 1031 | TAD | TMP | |
| 02526 | 4521 | JMS I | PSTICKIT | |
| 02527 | 4521 | JMS I | PSTICKIT | |
| 02530 | 4521 | JMS I | PSTICKIT | |
| 02531 | 4521 | JMS I | PSTICKIT | |
| 02532 | 2056 | ISZ | EPTR | |
| 02533 | 3456 | DCA I | EPTR | |
| 02534 | 2056 | ISZ | EPTR | |
| 02535 | 3456 | DCA I | EPTR | |
| 02536 | 5342 | JMP | +.4 | |
| 02537 | 2056 | RUN2NOT, ISZ | EPTR | |
| 02540 | 2056 | ISZ | EPTR | |
| 02541 | 2056 | ISZ | EPTR | |
| 02542 | 2056 | ISZ | EPTR | |
| 02543 | 2057 | RUN2IN, ISZ | FPTR | |
| 02544 | 5314 | JMP | RUN2LUP | |
| 02545 | 1004 | TAD | CODELOC | |
| 02546 | 3045 | DCA | LOCCTR | |
| 02547 | 1125 | TAD | PPDLIST | |
| 02550 | 3036 | DCA | PDL | |
| 02551 | 1004 | TAD | CODELOC | |
| 02552 | 3046 | DCA | READLOC | |
| 02553 | 7240 | CLA CMA | | |
| 02554 | 3063 | DCA | FORCT | |
| 02555 | 1164 | TAD | PGOLIST | |
| 02556 | 3165 | DCA | GSBPTR | |
| 02557 | 5662 | JMP I | CLEARV | |
| 02560 | 7000 | 07000A, 7000 | | |
| 02561 | 0003 | PLIMIT, LIMIT | | /FIRST WORD OF USER AREA |
| 02562 | 7253 | PXXTHEN, XXTHEN | | |

```

02563 3630 PLIST, LIST
02564 7502 PXXEOF, XXEOF
02565 7222 PPERMSY, PERMSY
02566 2202 PNOTNOW, NOTNOW
02567 4262 END, JMS CLEARV
02572 4537 STOP, JMS I PRESET
02571 4541 JMS I PCOWT
02572 4514 JMS I PPRINTXT
02573 6525 READY
02574 5520 JMP I PEDIT
    
```

```

/RESET ALL DEVICES NOW,
/AND WAIT FOR I/O TO FINISH UP.
/AND GIVE THE STOP MESSAGE
    
```

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```

02600 4561 GETLRET, JMS I PLINFIX
02601 4543 JMS I CNCLR
02602 5683 JMP I GETLIN
02603 8000 GETLIN, 0
02604 3064 DCA SNUMFLG
02605 1131 TAD OUTDEV
02606 3130 DCA OUTOZ
02607 3131 DCA OUTDEV
02610 1172 NEWLIN, TAD PLBEGIN
02611 3056 DCA EPTR
02612 1370 TAD O40
02613 3456 DCA I EPTR
02614 2056 ISZ EPTR
02615 4432 NEWCHAR, JMS I PGETCH
02616 3456 DCA I EPTR
02617 7240 CLA CMA
02620 1127 TAD INDEV
02621 7640 SZA CLA
02622 5226 JMP .+4
02623 3133 DCA CNTLO
02624 7201 CLA IAC
02625 3131 DCA OUTDEV
    
```

/CHECK TO SEE IF "C WAS TYPED WHILE HERE.

```

/GET THE OUTPUT DEVICE.
/SAVE FOR A SECOND.
/TURN OFF THE OUTPUT DEVICE.
    
```

```

/CHECK THE INPUT DEVICE NOW.
/GET IT, BABY.
/IS IT THE TTY?
/NOPE.
/IT IS, RESET CONTROL 0,
/AND TEMPORARILY SET THE OUTPUT TO THE TTY.
    
```

```

02626 1456      TAD I  EPTR
02627 1374      TAD   07603
02630 7450      SNA           /IS IT ALT-MODE (175)
02631 5263      JMP    ALTMODE /YES
02632 1367      TAD   036
02633 7450      SNA           /IS IT '1'
02634 5266      JMP    BARROW  /YES
02635 1371      TAD   0122
02636 7450      SNA           /IS IT (CAR. RET.)
02637 5300      JMP    CARRET  /YES
02640 1375      TAD   07715
02641 7450      SNA           /IS IT '0'
02642 5215      JMP    NEWCHAR /YES
02643 0372      AND   0140B
02644 7440      SZA
02645 1363      TAD   07640B
02646 7640      SZA CLA      /IS IT A PRINTABLE CHARACTER
02647 5215      JMP    NEWCHAR /NO
02650 1456      TAD I  EPTR
02651 4433      JMS I  PPUTCH
02652 1056      TAD   EPTR
02653 2056      ISZ   EPTR
02654 1174      TAD   MLEND
02655 7640      SZA CLA
02656 5215      JMP    NEWCHAR
02657 4537      TUBIG, JMS I  PRESET      /RESET ALL DEVICES NOW,
02660 4514      JMS I  PPRINTXT      /AND GIVE THE ERROR MESSAGES.
02661 5162      TOOLONG
02662 5210      JMP    NEWLIN
02663 4514      ALTMODE, JMS I PPRINTXT
02664 6501      DELETED
02665 5210      JMP    NEWLIN
02666 1056      BARROW, TAD   EPTR
02667 1173      TAD   MLBEGIN
02670 7650      SNA CLA
02671 5215      JMP    NEWCHAR
02672 7240      CLA CMA
02673 1056      TAD   EPTR
02674 3056      DCA   EPTR
02675 1373      TAD   03737B
02676 4433      JMS I  PPUTCH
02677 5215      JMP    NEWCHAR
02700 1007      CARRET, TAD   0215
02701 4433      JMS I  PPUTCH
02702 2134      ISZ   NOINT      /SET FLAG TO PREVENT INTERUPTS AS OF NOW.
02703 1172      TAD   PLBEGIN /EPTR=BEGINNING OF STRING
02704 3056      DCA   EPTR      /FPTR=WHERE TRANSLATED SYMBOL GOES
02705 1037      TAD   PLINBUF /GPTR=CHAR IN STRING(,GE, EPTR)
02706 3057      DCA   FPTR      /HPTR=POSITION IN TABLE
02707 1377      SLOOP, TAD   PTABLE
02710 3061      DCA   HPTR
02711 1056      GLOOP, TAD   EPTR
02712 3060      DCA   GPTR
02713 1461      TAD I  HPTR
02714 7650      SNA CLA
    
```

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|-------|------|---------|---------|---------|
| 02715 | 5776 | | JMP I | POTHER |
| 02716 | 1261 | | TAD | HPTR |
| 02717 | 3050 | | DCA | WORD |
| 02722 | 2261 | | ISZ | HPTR |
| 02721 | 3024 | | DCA | ACS |
| 02722 | 1460 | HLOOP, | TAD I | GPTR |
| 02723 | 1054 | | TAD | 07740 |
| 02724 | 7640 | | SZA | CLA |
| 02725 | 5330 | | JMP | BSKIP |
| 02726 | 2260 | | ISZ | GPTR |
| 02727 | 5322 | | JMP | HLOOP |
| 02730 | 7330 | BSKIP, | CLA CLL | CML RAR |
| 02731 | 1024 | | TAD | ACS |
| 02732 | 3024 | | DCA | ACS |
| 02733 | 1461 | | TAD I | HPTR |
| 02734 | 7430 | | SZL | |
| 02735 | 2061 | | ISZ | HPTR |
| 02736 | 7430 | | SZL | |
| 02737 | 5343 | | JMP | .+4 |
| 02740 | 7012 | | RTR | |
| 02741 | 7012 | | RTR | |
| 02742 | 7012 | | RTR | |
| 02743 | 0070 | | AND | 077 |
| 02744 | 7450 | | SNA | |
| 02745 | 5766 | | JMP I | JMATCH |
| 02746 | 1054 | | TAD | 07740 |
| 02747 | 7450 | | SNA | |
| 02750 | 5330 | | JMP | BSKIP |
| 02751 | 0070 | | AND | 077 |
| 02752 | 1370 | | TAD | 040 |
| 02753 | 7041 | | CIA | |
| 02754 | 1460 | | TAD I | GPTR |
| 02755 | 2060 | | ISZ | GPTR |
| 02756 | 7650 | | SNA | CLA |
| 02757 | 5322 | | JMP | HLOOP |
| 02760 | 1461 | | TAD I | HPTR |
| 02761 | 0070 | | AND | 077 |
| 02762 | 2061 | | ISZ | HPTR |
| 02763 | 7640 | 07640B, | SZA | CLA |
| 02764 | 5360 | | JMP | .-4 |
| 02765 | 5311 | | JMP | GLOOP |
| 02766 | 6506 | JMATCH, | AMATCH | |
| 02767 | 0036 | 036, | 36 | |
| 02770 | 0040 | 040, | 40 | |
| 02771 | 0122 | 0122, | 122 | |
| 02772 | 0140 | 0140B, | 140 | |
| 02773 | 3737 | 03737B, | 3737 | |
| 02774 | 7603 | 07603, | 7603 | |
| 02775 | 7715 | 07715, | 7715 | |
| 02776 | 3000 | POTHER, | OTHER | |
| 02777 | 7023 | PTABLE, | XXPLUS | |

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|-------|------|----------|---------|----------|
| 03000 | 4310 | OTHER, | JMS | NONBLNK |
| 03001 | 1321 | | TAD | 07763B |
| 03002 | 7440 | | SZA | |
| 03003 | 5223 | | JMP | NOTCR |
| 03004 | 1325 | | TAD | PXXCRLF |
| 03005 | 3457 | | DCA I | FPTR |
| 03006 | 1257 | | TAD | FPTR |
| 03007 | 3013 | | DCA | INDEX1 |
| 03010 | 1326 | | TAD | PXXEXIT |
| 03011 | 3013 | | DCA I | INDEX1 |
| 03012 | 1013 | | TAD | INDEX1 |
| 03013 | 1041 | | TAD | MENDLIN |
| 03014 | 7450 | | SNA | |
| 03015 | 5622 | | JMP I | PGETLRET |
| 03016 | 7710 | | SPA CLA | |
| 03017 | 5210 | | JMP | .-7 |
| 03020 | 5621 | | JMP I | PTUBIG |
| 03021 | 2657 | PTUBIG, | TUBIG | |
| 03022 | 2600 | PGETLRE, | GETLRET | |
| 03023 | 1322 | NOTCR, | TAD | 07737 |
| 03024 | 7450 | | SNA | |
| 03025 | 5724 | | JMP I | JDIGIT |
| 03026 | 1302 | | TAD | 07764B |
| 03027 | 7100 | | CLL | |
| 03030 | 1065 | | TAD | 012 |
| 03031 | 7430 | | SZL | |
| 03032 | 5724 | | JMP I | JDIGIT |
| 03033 | 1300 | | TAD | 07725A |
| 03034 | 7100 | | CLL | |
| 03035 | 1321 | | TAD | 032 |
| 03036 | 7430 | | SZL | |
| 03037 | 5703 | | JMP I | PLETTER |
| 03040 | 7330 | | CLA CLL | CML RAR |
| 03041 | 1456 | | TAD I | EPTR |
| 03042 | 3456 | | DCA I | EPTR |
| 03043 | 1076 | REMPACK, | TAD | PTEXT |
| 03044 | 3457 | | DCA I | FPTR |
| 03045 | 2057 | | ISZ | FPTR |
| 03046 | 3307 | TXTPAK, | DCA | THISTXT |
| 03047 | 1456 | | TAD I | EPTR |
| 03050 | 1301 | | TAD | 07763B |
| 03051 | 7450 | | SNA | |
| 03052 | 5276 | | JMP | CRINTXT |
| 03053 | 1304 | | TAD | 07753 |
| 03054 | 7650 | | SNA CLA | |
| 03055 | 5370 | | JMP | DQINTXT |
| 03056 | 1456 | | TAD I | EPTR |
| 03057 | 0070 | | AND | 077 |

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|-------|------|-------------------|-----------|
| 03060 | 3456 | DCA I | EPTR |
| 03061 | 1307 | TAD | THISTXT |
| 03062 | 7450 | SNA | |
| 03063 | 5270 | JMP | LHALF |
| 03064 | 1456 | TAD I | EPTR |
| 03065 | 3457 | DCA I | FPTR |
| 03066 | 2057 | ISZ | FPTR |
| 03067 | 5274 | JMP | RHALF |
| 03070 | 1456 | LHALF, TAD I | EPTR |
| 03071 | 7106 | CLL | RTL |
| 03072 | 7006 | RTL | |
| 03073 | 7006 | RTL | |
| 03074 | 2056 | RHALF, ISZ | EPTR |
| 03075 | 5246 | JMP | TXTPAK |
| 03076 | 1307 | CRINTXT, TAD | THISTXT |
| 03077 | 5723 | JMP I | JTXXIT |
| | | | |
| 03100 | 7725 | 07725A, 7725 | |
| 03101 | 7763 | 07763B, 7763 | |
| 03102 | 7764 | 07764B, 7764 | |
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| 03103 | 3446 | PLETTER, LETTER | |
| 03104 | 7753 | 07753, 7753 | |
| 03105 | 4200 | 04200, 4200 | |
| 03106 | 0042 | 042, 42 | |
| 03107 | 0000 | THISTXT, 0 | |
| 03110 | 0000 | NONBLNK, 0 | |
| 03111 | 1456 | TAD I | EPTR |
| 03112 | 1054 | TAD | 07740 |
| 03113 | 7640 | SZA CLA | |
| 03114 | 5317 | JMP | ,+3 |
| 03115 | 2056 | ISZ | EPTR |
| 03116 | 5311 | JMP | NONBLNK+1 |
| 03117 | 1456 | TAD I | EPTR |
| 03120 | 5710 | JMP I | NONBLNK |
| 03121 | 0032 | 032, 32 | |
| 03122 | 7737 | 07737, 7737 | |
| 03123 | 3201 | JTXXIT, MTXXIT | |
| 03124 | 3204 | JDIGIT, DIGIT | |
| 03125 | 7226 | PXXCRLF, XXCRLF | |
| 03126 | 7505 | PXXEXIT, XXEXIT | |
| 03127 | 0072 | POPERA, OPERAND-1 | |
| 03130 | 7506 | PXXLIT0, XXLIT0 | |
| 03131 | 4435 | LITRAL, FENTER | |
| 03132 | 2073 | FST | OPERAND |
| 03133 | 0000 | FEXIT | |
| 03134 | 1075 | TAD | OPERAND+2 |
| 03135 | 7640 | SZA CLA | |
| 03136 | 5346 | JMP | ALL3 |
| 03137 | 1074 | TAD | OPERAND+1 |
| 03140 | 7640 | SZA CLA | |
| 03141 | 5347 | JMP | JUST2 |
| 03142 | 1073 | TAD | OPERAND |
| 03143 | 7650 | SNA CLA | |

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|-------|------|--------|---------|---------|
| 03144 | 5350 | | JMP | JUST0 |
| 03145 | 7344 | JUST1, | CLA CLL | CMA RAL |
| 03146 | 7001 | ALL3, | IAC | |
| 03147 | 1062 | JUST2, | TAD | 02 |
| 03150 | 7040 | JUST0, | CMA | |
| 03151 | 3031 | | DCA | TMP |

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|-------|------|---------------|----------|-------------------------|
| 03152 | 1327 | TAD | POPERA | |
| 03153 | 3013 | DCA | INDEX1 | |
| 03154 | 1231 | TAD | TMP | |
| 03155 | 7240 | CMA | | |
| 03156 | 1330 | TAD | PXXLIT0 | |
| 03157 | 5363 | JMP | JUSTOP | |
| 03160 | 6201 | JUSTOP, CDF | 0 | /***** 8 K INSERT. |
| 03161 | 1413 | TAD I | INDEX1 | |
| 03162 | 6211 | CDF | 10 | /***** 8 K INSERT. |
| 03163 | 3457 | JUSTOP, DCA I | FPTR | |
| 03164 | 2057 | ISZ | FPTR | |
| 03165 | 2031 | ISZ | TMP | |
| 03166 | 5360 | JMP | JUSTOP | |
| 03167 | 5516 | JMP I | PSLOOP | |
| | | | | |
| 03170 | 1307 | DQINTXT, TAD | THISTXT | |
| 03171 | 2056 | ISZ | EPTR | |
| 03172 | 7440 | SZA | | |
| 03173 | 5376 | JMP | ,+3 | |
| 03174 | 1305 | TAD | 04200 | |
| 03175 | 5723 | JMP I | JTXXIT | |
| 03176 | 1306 | TAD | 042 | |
| 03177 | 3457 | DCA I | FPTR | |
| 03200 | 2057 | ISZ | FPTR | |
| 03201 | 3457 | MTXXIT, DCA I | FPTR | |
| 03202 | 2057 | ISZ | FPTR | |
| 03203 | 5516 | JMP I | PSLOOP | |
| | | | | |
| 03204 | 7200 | DIGIT, CLA | | |
| 03205 | 1464 | TAD I | SNUMFLG | |
| 03206 | 1376 | TAD | 01774 | |
| 03207 | 7440 | SZA | | /IS IT 'GOTO' OR 'THEN' |
| 03210 | 7001 | IAC | | |
| 03211 | 7440 | SZA | | /OR 'GOSUB' |
| 03212 | 1375 | TAD | 01742 | |
| 03213 | 7650 | SNA CLA | | /OR 'LIST' |
| 03214 | 7240 | CLA CMA | | /YES |
| 03215 | 3064 | DCA | SNUMFLG | |
| 03216 | 4435 | FENTER | | |
| 03217 | 3152 | FLD | ZERO | |
| 03220 | 0000 | FEXIT | | |
| 03221 | 3365 | DCA | DPFLAG | |
| 03222 | 3366 | DCA | DECFRAC | |
| 03223 | 7410 | SKP | | |
| 03224 | 2056 | DIGIN, ISZ | EPTR | |
| 03225 | 4522 | JMS I | PNONBLNK | |
| 03226 | 1316 | TAD | 07673 | |
| 03227 | 7450 | SNA | | |
| 03230 | 5263 | JMP | ITSE | |
| 03231 | 1370 | TAD | 027 | |
| 03232 | 7450 | SNA | | |
| 03233 | 5256 | JMP | ITSDP | |

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|-------|------|---------|------------------|----------|
| 03234 | 1374 | | TAD | 07764C |
| 03235 | 7100 | | CLL | |
| 03236 | 1065 | | TAD | 012 |
| 03237 | 7420 | | SNL | |
| 03240 | 5331 | | JMP | ENDNUM |
| 03241 | 7110 | | CLL RAR | |
| 03242 | 1373 | | TAD | 02040A |
| 03243 | 3360 | | DCA | FDIGIT |
| 03244 | 7010 | | RAR | |
| 03245 | 3361 | | DCA | FDIGIT+1 |
| 03246 | 4435 | | FENTER | |
| 03247 | 6545 | | FMPI | PTEN |
| 03250 | 4310 | | FAD+FWD+FDIGIT=. | |
| 03251 | 0000 | | FEXIT | |
| 03252 | 1365 | | TAD | DPFLAG |
| 03253 | 7640 | | SZA CLA | |
| 03254 | 2366 | | ISZ | DECFRAC |
| 03255 | 5224 | | JMP | DIGIN |
| 03256 | 1365 | ITSDP, | TAD | DPFLAG |
| 03257 | 7640 | | SZA CLA | |
| 03260 | 5331 | | JMP | ENDNUM |
| 03261 | 2365 | | ISZ | DPFLAG |
| 03262 | 5224 | | JMP | DIGIN |
| 03263 | 3360 | ITSE, | DCA | FDIGIT |
| 03264 | 1064 | | TAD | SNUMFLG |
| 03265 | 7640 | | SZA CLA | |
| 03266 | 5331 | | JMP | ENDNUM |
| 03267 | 2056 | | ISZ | EPTR |
| 03270 | 4522 | | JMS I | PNONBLNK |
| 03271 | 1371 | | TAD | 077250 |
| 03272 | 7450 | | SNA | |
| 03273 | 5300 | | JMP | ITSP |
| 03274 | 1372 | | TAD | 07776 |
| 03275 | 7640 | | SZA CLA | |
| 03276 | 5301 | | JMP | NOTSGN |
| 03277 | 2360 | | ISZ | FDIGIT |
| 03300 | 2056 | ITSP, | ISZ | EPTR |
| 03301 | 4767 | NOTSGN, | JMS I | JISDIG |
| 03302 | 5331 | | JMP | ENDNUM |
| 03303 | 2056 | | ISZ | EPTR |
| 03304 | 3361 | | DCA | FDIGIT+1 |
| 03305 | 4767 | | JMS I | JISDIG |
| 03306 | 5322 | | JMP | ONLY1 |
| 03307 | 7200 | | CLA | |
| 03310 | 1361 | | TAD | FDIGIT+1 |
| 03311 | 7106 | | CLL RTL | |
| 03312 | 1361 | | TAD | FDIGIT+1 |
| 03313 | 7104 | | CLL RAL | |
| 03314 | 3361 | | DCA | FDIGIT+1 |
| 03315 | 4767 | | JMS I | JISDIG |
| 03316 | 7673 | 07673, | 7673 | |
| 03317 | 1361 | | TAD | FDIGIT+1 |
| 03320 | 3361 | | DCA | FDIGIT+1 |
| 03321 | 2056 | | ISZ | EPTR |
| 03322 | 1360 | ONLY1, | TAD | FDIGIT |

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|-------|------|------------------|----------|
| 03323 | 7110 | CLL RAR | |
| 03324 | 1361 | TAD | FOIGIT+1 |
| 03325 | 7422 | SNL | |
| 03326 | 7241 | CIA | |
| 03327 | 1366 | TAD | DECFRAC |
| 03330 | 3366 | DCA | DECFRAC |
| 03331 | 7200 | ENDNUM, CLA | |
| 03332 | 1366 | TAD | DECFRAC |
| 03333 | 7700 | SMA CLA | |
| 03334 | 1364 | TAD | DIVXTEN |
| 03335 | 1363 | TAD | MULXTEN |
| 03336 | 3346 | DCA | MULEXP |
| 03337 | 1366 | TAD | DECFRAC |
| 03340 | 7510 | SPA | |
| 03341 | 7041 | CIA | |
| 03342 | 7040 | CMA | |
| 03343 | 3366 | DCA | DECFRAC |
| 03344 | 5350 | JMP | .+4 |
| 03345 | 4435 | FENTER | |
| 03346 | 7402 | MULEXP, HLT | |
| 03347 | 0000 | EXIT | |
| 03350 | 2366 | ISZ | DECFRAC |
| 03351 | 5345 | JMP | .-4 |
| 03352 | 2064 | ISZ | SNIMFLG |
| 03353 | 5777 | JMP I | PLITRAL |
| 03354 | 4506 | JMS I | PFIX |
| 03355 | 7200 | CLA | |
| 03356 | 5757 | JMP I | PCOMMON |
| 03357 | 3400 | PCOMMON, COMMON | |
| 03360 | 0000 | FOIGIT, 01010 | |
| 03361 | 0000 | | |
| 03362 | 0000 | | |
| 03363 | 6545 | MULXTEN, FMPI | PTEN |
| 03364 | 1000 | DIVXTEN, FDV=FMP | |
| 03365 | 0000 | DPFLAG, 0 | |
| 03366 | 0000 | DECFRAC, 0 | |
| 03367 | 6532 | JISDIG, ISDIG | |
| 03370 | 0027 | 027, 27 | |
| 03371 | 7725 | 07725B, 7725 | |
| 03372 | 7776 | 07776, 7776 | |
| 03373 | 2040 | 02040A, 2040 | |
| 03374 | 7764 | 07764C, 7764 | |
| 03375 | 1742 | 01742, 1742 | |
| 03376 | 1774 | 01774, 1774 | |
| 03377 | 3131 | PLITRAL, LITRAL | |

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| 03400 | 1005 | COMMON, | TAD | PSYMTAB | |
| 03401 | 3060 | | DCA | GPTR | |
| 03402 | 1206 | | TAD | NSYMTAB | |
| 03403 | 3261 | | DCA | HPTR | |
| 03404 | 5231 | | JMP | IN | |
| 03405 | 1460 | LUP, | TAD I | GPTR | |
| 03406 | 2060 | | ISZ | GPTR | |
| 03407 | 2060 | | ISZ | GPTR | |
| 03410 | 7640 | | SZA CLA | | /IS IT A LINENO |
| 03411 | 5227 | | JMP | NOT | /NO |
| 03412 | 1460 | | TAD I | GPTR | |
| 03413 | 2060 | | ISZ | GPTR | |
| 03414 | 7041 | | CIA | | |
| 03415 | 1017 | | TAD | AC2 | |
| 03416 | 7640 | | SZA CLA | | |
| 03417 | 5230 | | JMP | NOT+1 | |
| 03420 | 1460 | | TAD I | GPTR | |
| 03421 | 7041 | | CIA | | |
| 03422 | 1016 | | TAD | AC3 | |
| 03423 | 7640 | | SZA CLA | | |
| 03424 | 5230 | | JMP | NOT+1 | |
| 03425 | 7346 | | CLA CLL | CMA RTL | |
| 03426 | 5312 | | JMP | ISOEP2 | |
| 03427 | 2060 | NOT, | ISZ | GPTR | |
| 03430 | 2060 | | ISZ | GPTR | |
| 03431 | 2061 | IN, | ISZ | HPTR | |
| 03432 | 5205 | | JMP | LUP | |
| 03433 | 4515 | | JMS I | PGETBLK | |
| 03434 | 3064 | | DCA | SNUMFLG | |
| 03435 | 3464 | | DCA I | SNUMFLG | |
| 03436 | 1064 | | TAD | SNUMFLG | |
| 03437 | 3013 | | DCA | INDEX1 | |
| 03440 | 3413 | | DCA I | INDEX1 | |
| 03441 | 1017 | | TAD | AC2 | |
| 03442 | 3413 | | DCA I | INDEX1 | |
| 03443 | 1016 | | TAD | AC3 | |
| 03444 | 3413 | | DCA I | INDEX1 | |
| 03445 | 5314 | | JMP | IT8DEF | |
| 03446 | 7001 | LETTER, | IAC | | |
| 03447 | 7106 | | CLL RTL | | |
| 03450 | 7006 | | RTL | | |
| 03451 | 7006 | | RTL | | |
| 03452 | 3031 | | DCA | TMP | |
| 03453 | 2056 | | ISZ | EPTR | |
| 03454 | 4522 | | JMS I | PNONBLNK | |
| 03455 | 1273 | | TAD | 07706C | |
| 03456 | 7100 | | CLL | | |
| 03457 | 1065 | | TAD | 012 | |
| 03460 | 7620 | | SNL CLA | | |
| 03461 | 5266 | | JMP | SIMPLY | |
| 03462 | 1456 | | TAD I | EPTR | |
| 03463 | 1031 | | TAD | TMP | |
| 03464 | 3031 | | DCA | TMP | |
| 03465 | 2056 | | ISZ | EPTR | |
| 03466 | 1005 | SIMPLV, | TAD | PSYMTAB | |

| | | | |
|-------|------|----------------|-----------|
| 03467 | 3060 | DCA | GPTR |
| 03470 | 1006 | TAD | NSYMTAB |
| 03471 | 3261 | DCA | HPTR |
| 03472 | 5324 | JMP | VSCHIN |
| 03473 | 7706 | 07706C, 7706 | |
| 03474 | 7000 | 07000B, 7000 | |
| 03475 | 1460 | VSCHLUP, TAD I | GPTR |
| 03476 | 1274 | TAD | 07000B |
| 03477 | 7640 | SZA CLA | |
| 03500 | 5320 | JMP | VSCHNOT |
| 03501 | 2060 | ISZ | GPTR |
| 03502 | 1460 | TAD I | GPTR |
| 03503 | 3064 | DCA | SNUMFLG |
| 03504 | 1464 | TAD I | SNUMFLG |
| 03505 | 7041 | CIA | |
| 03506 | 1031 | TAD | TMP |
| 03507 | 7640 | SZA CLA | |
| 03510 | 5321 | JMP | VSCHNOT+1 |
| 03511 | 7240 | CLA CMA | |
| 03512 | 1060 | ISDEF2, TAD | GPTR |
| 03513 | 3064 | DCA | SNUMFLG |
| 03514 | 1064 | ITSDEF, TAD | SNUMFLG |
| 03515 | 3457 | DCA I | FPTR |
| 03516 | 2057 | ISZ | FPTR |
| 03517 | 5516 | JMP I | PSLOOP |
| 03520 | 2060 | VSCHNOT, ISZ | GPTR |
| 03521 | 2060 | ISZ | GPTR |
| 03522 | 2060 | ISZ | GPTR |
| 03523 | 2060 | ISZ | GPTR |
| 03524 | 2061 | VSCHIN, ISZ | HPTR |
| 03525 | 5275 | JMP | VSCHLUP |
| 03526 | 4515 | JMS I | PGETBLK |
| 03527 | 3064 | DCA | SNUMFLG |
| 03530 | 7240 | CLA CMA | |
| 03531 | 1064 | TAD | SNUMFLG |
| 03532 | 3013 | DCA | INDEX1 |
| 03533 | 1350 | TAD | 01000 |
| 03534 | 3413 | DCA I | INDEX1 |
| 03535 | 1003 | TAD | ARRLOC |
| 03536 | 3413 | DCA I | INDEX1 |
| 03537 | 3413 | DCA I | INDEX1 |
| 03540 | 3413 | DCA I | INDEX1 |
| 03541 | 4563 | JMS I | PCHKFIT |
| 03542 | 1031 | TAD | TMP |
| 03543 | 4521 | JMS I | PSTICKIT |
| 03544 | 4521 | JMS I | PSTICKIT |
| 03545 | 4521 | JMS I | PSTICKIT |
| 03546 | 4521 | JMS I | PSTICKIT |
| 03547 | 5314 | JMP | ITSDEF |
| 03550 | 1000 | 01000, 1000 | |
| 03551 | 0000 | POP, 0 | |
| 03552 | 7240 | CLA CMA | |
| 03553 | 1036 | TAD | PDL |
| 03554 | 3036 | DCA | PDL |
| 03555 | 1436 | TAD I | PDL |

```

03556 5751          JMP I   POP
03557 3737    FOURLF, TEXT '####'
03560 3737
03561 0400
03562 3724    UGH1,   TEXT 'TOO BIG, LINE IGNORED.'
03563 1717
03564 4002
03565 1107
03566 5640
03567 1411
03570 1605
03571 4011
03572 0716
03573 1722
03574 0504
03575 3700
    
```

3600

PAGE

```

03600 1746    LIST,   YAD I   PXLINBUF
03601 3050          DCA     WORD
03602 4566          ISIT
03603 3476          3476          /CHECK FOR A "##"
03604 5210          JMP     .+4          /NOPE.
03605 7240          CLA CMA          /YEP. SET UP PUTXRA BY GIVING A PHOONEY
03606 4541          JMS I   PCOWT          /CALL TO THE WAIT ROUTINE.
03607 4177          JMS     GETWD          /AND GET ANOTHER WORD NOW.
03610 4566          ISIT          /LINENO
03611 0000          0000
03612 5216          JMP     LISTALL
03613 2050          ISZ     WORD
03614 1450          TAD I   WORD
03615 7450          SNA
03616 1004          LISTALL, TAD CODELOC
03617 3045          LISTSON, DCA LOCCTR
03620 4177          LISTLUP, JMS GETWD
03621 4566          ISIT          /(EOF)
03622 1755          1755
03623 5230          JMP     LNOEND          /NOT DUNE YET
03624 4541          JMS I   PCOWT          /WAIT FOR I/O TO FINISH AND CLEAN UP.
03625 4302          JMS     PRINTX
03626 3557          FOURLF
03627 5520          JMP I   PEDIT
03630 4566          LNOEND, ISIT          /A LINENO
03631 0000          0000
03632 5240          JMP     LIST2          /NO
    
```

| | | | | |
|-------|------|--------------|----------|----------------------|
| 03633 | 1250 | TAD | WORD | |
| 03634 | 4523 | JMS I | PPRINUM | |
| 03635 | 1251 | TAD | 0240 | |
| 03636 | 4433 | JMS I | PPUTCH | |
| 03637 | 5220 | JMP | LISTLUP | |
| 03640 | 4566 | LIST2, ISIT | | /A VARIABLE |
| 03641 | 7000 | 7000 | | |
| 03642 | 5255 | JMP | LIST3 | |
| 03643 | 2050 | ISZ | WORD | |
| 03644 | 1450 | TAD I | WORD | |
| 03645 | 3050 | DCA | WORD | |
| 03646 | 1450 | TAD I | WORD | |
| 03647 | 3253 | DCA | PRINVAR | |
| 03650 | 4302 | JMS | PRINTXT | |
| 03651 | 3653 | PRINVAR | | |
| 03652 | 5220 | JMP | LISTLUP | |
| 03653 | 0000 | PRINVAR, 0 | | |
| 03654 | 0000 | 0 | | |
| 03655 | 4575 | LIST3, JMS I | PISITLIT | /ISIT A LITERAL |
| 03656 | 5261 | JMP | LIST4 | /NO |
| 03657 | 4517 | JMS I | POUTNUM | /PRINT IT |
| 03660 | 5220 | JMP | LISTLUP | |
| 03661 | 4566 | LIST4, ISIT | | /(TEXT) |
| 03662 | 5000 | 5000 | | |
| 03663 | 5276 | JMP | LIST5 | |
| 03664 | 4177 | L4LUP, JMS | GETWD | |
| 03665 | 1050 | TAD | WORD | |
| 03666 | 3253 | DCA | PRINVAR | |
| 03667 | 4302 | JMS | PRINTXT | |
| 03670 | 3653 | PRINVAR | | |
| 03671 | 1050 | TAD | WORD | |
| 03672 | 0070 | AND | 077 | |
| 03673 | 7640 | SZA CLA | | |
| 03674 | 5264 | JMP | L4LUP | |
| 03675 | 5220 | JMP | LISTLUP | |
| 03676 | 1050 | LIST5, TAD | WORD | /ITS A SYSTEM SYMBOL |
| 03677 | 7001 | IAC | | |
| 03700 | 4302 | JMS | PRINTXT | |

```

03721 5220      JMP      LISTLUP
03722 2200      PRINTXT,0
03723 7443      SZA
03724 5310      JMP      JBPENT+1
03725 6201      COF      0
03726 1702      TAD I    PRINTXT
03727 2302      JBPENT, ISZ  PRINTXT
03728 3042      DCA      PRTEMP
03711 1442      PRLOOP, TAD I PRTEMP
03712 7012      RTR
03713 7012      RTR
03714 7012      RTR
03715 4324      JMS      PRSUBR
03716 1442      TAD I    PRTEMP
03717 4324      JMS      PRSUBR
03720 2042      ISZ      PRTEMP
03721 5311      JMP      PRLOOP
03722 6211      PRTXRET,COF 10
03723 5702      JMP I    PRINTXT
03724 0000      PRSUBR, 0
03725 0070      AND      077
03726 7450      SNA
03727 5322      JMP      PRTXRET
03730 1345      TAD      07741
03731 7450      SNA
03732 5340      JMP      CRLFPR
03733 1070      TAD      077
03734 0070      AND      077
03735 1051      TAD      0240
03736 4433      JMS I    PPUTCH
03737 5724      JMP I    PRSUBR
03740 1007      CRLFPR, TAD  0215
03741 4433      JMS I    PPUTCH
03742 1010      TAD      0212
03743 4433      JMS I    PPUTCH
03744 5724      JMP I    PRSUBR
03745 7741      07741, 7741
03746 7513      PXLINBU,LINBUF+1
03747 0000      PRINUM, 0
03750 7001      IAC
03751 3013      DCA      INDEX1
03752 4362      JMS      BEGFIX
03753 1413      TAD I    INDEX1
03754 3017      DCA      AC2
03755 1413      TAD I    INDEX1
03756 3016      DCA      AC3
03757 4546      JMS I    PANORM
03760 4517      JMS I    POUTNUM
03761 5747      JMP I    PRINUM
    
```

/***** 8 K INSERT.
 /***** 8 K INSERT.

/***** 8 K INSERT.

/SET UP FAC TO RECEIVE INTEGER DATA.

```

23762 0000      BEGFIX, 0
23763 3017      DCA      AC2
    
```

/SETS UP FOR INTEGER TO AC MODE.
 /CLEAR THEM ALL, EXCEPT FOR LOW WORD.

| | | | |
|-------|------|-------|--------|
| 03764 | 3020 | DCA | AC1 |
| 03765 | 3012 | DCA | DV |
| 03766 | 3024 | DCA | ACS |
| 03767 | 1372 | TAD | 0233 |
| 03770 | 3025 | DCA | ACE |
| 03771 | 5762 | JMP I | BEGFIX |

| | | | |
|-------|------|-------|-----|
| 03772 | 0233 | 0233, | 233 |
|-------|------|-------|-----|

| | | | |
|-------|------|--------------------|--------------|
| 03773 | 4571 | RESTORE,GET+MUSTBE | /(CR) OR '\' |
| 03774 | 2000 | 2000 | |
| 03775 | 1004 | TAD | CODELOC |
| 03776 | 3046 | DCA | READLOC |
| 03777 | 5503 | JMP I | PEXECUTE |

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| | | | |
|-------|------|----------------|---|
| 04000 | 4566 | MOREIN, ISIT | /(CR) OR '\' |
| 04001 | 2000 | 2000 | |
| 04002 | 5234 | JMP | INPLUP |
| 04003 | 1010 | TAD | 0212 |
| 04004 | 4433 | JMS I | PPUTCH |
| 04005 | 1130 | TAD | OUTD2 |
| 04006 | 3131 | DCA | OUTDEV |
| 04007 | 7240 | INPUT, CLA CMA | /GET THE OLD OUTPUT DEVICE, /AND RESET IT, /CHECK THE INPUT DEVICE NOW, /ARE WE INPUT FROM THE TELETYPE. |
| 04010 | 1127 | TAD | INDEV |
| 04011 | 7640 | SZA CLA | |
| 04012 | 5224 | JMP | IPNOPE |
| 04013 | 1131 | TAD | OUTDEV |
| 04014 | 4504 | JMS I | PPUSH |
| 04015 | 7201 | CLA IAC | /NOPE, /GET THE OUTPUT DEVICE, /SAVE IT FOR A SECOND, /SET OUTPUT DEVICE TO TTY FOR "?" |
| 04016 | 3131 | DCA | OUTDEV |
| 04017 | 4541 | JMS I | PCONT |
| | | | /WAIT FOR OUTPUT TO FINISH, THEN CONTINUE. |

```

24020 1070 TAD 077
24021 4433 JMS I PPUTCH
24022 4505 JMS I PPOP
24023 3131 DCA OUTDEV
04024 1045 IPNOPE, TAD LOCCTR
04025 3565 DCA I GSBPTR
04026 1076 TAD PTEXT
04027 4524 JMS I PGETLIN
04030 1565 TAD I GSBPTR
04031 3045 DCA LOCCTR
04032 1037 TAD PLINBUF
04033 3263 DCA INPPTR
04034 4513 INPLUP, JMS I PGETVAR
04035 1050 TAD WORD
04036 3264 DCA INWDTMP
04037 1045 TAD LOCCTR
04040 3265 DCA INLCTMP
04041 1263 TAD INPPTR
04042 3045 DCA LOCCTR
04043 4501 JMS I PEVAL
04044 1045 TAD LOCCTR
04045 3263 DCA INPPTR
04046 1265 TAD INLCTMP
04047 3045 DCA LOCCTR
04050 4512 JMS I P8TOVAR
04051 7332 CLA CLL CML RTR
04052 1664 TAD I INWDTMP
04053 7640 SZA CLA
04054 5200 JMP MOREIN
04055 1010 TAD 0212
04056 4433 JMS I PPUTCH
04057 1130 TAD OUTD2
04060 3131 DCA OUTDEV
04061 3126 DCA COLUMN
04062 5503 JMP I PEXECUTE
04063 0000 INPPTR, 0
04064 0000 INWDTMP, 0
04065 0000 INLCTMP, 0
04066 0000 XGISIT, 0
04067 4177 JMS GETWD
04070 1266 TAD XGISIT
04071 3273 DCA XISIT
04072 5274 JMP XISIT+1
04073 0000 XISIT, 0
04074 1450 TAD I WORD
04075 6201 CDF 0
04076 1673 TAD I XISIT
04077 6211 CDF 10
04100 2273 ISZ XISIT
04101 7650 SNA CLA
04102 2273 ISZ XISIT
04103 5673 JMP I XISIT
04104 0000 ISITLIT, 0
04105 1450 TAD I WORD
04106 7146 CLL CMA RTL

```

/RESET OUTPUT DEVICE NOW.

/RESET THE DEV, BABY

/***** 8 K INSERT.

/***** 8 K INSERT.

| | | | |
|-------|------|-----------------------|----------|
| 04107 | 7032 | CML RTR | |
| 04110 | 3024 | DCA | ACS |
| 04111 | 1024 | TAD | ACS |
| 04112 | 1160 | TAD | 04 |
| 04113 | 7620 | SNL CLA | |
| 04114 | 5704 | JMP I | ISITLIT |
| 04115 | 2304 | ISZ | ISITLIT |
| 04116 | 3020 | DCA | AC1 |
| 04117 | 3017 | DCA | AC2 |
| 04120 | 3016 | DCA | AC3 |
| 04121 | 4333 | JMS | ISLIT |
| 04122 | 3016 | DCA | AC3 |
| 04123 | 4333 | JMS | ISLIT |
| 04124 | 3017 | DCA | AC2 |
| 04125 | 4333 | JMS | ISLIT |
| 04126 | 3020 | DCA | AC1 |
| 04127 | 4435 | LOADED, FENTER | |
| 04130 | 3016 | FLD | AC3 |
| 04131 | 0000 | PEXIT | |
| 04132 | 5704 | JMP I | ISITLIT |
| 04133 | 0000 | ISLIT, 0 | |
| 04134 | 2024 | I JZ | ACS |
| 04135 | 7410 | SKP | |
| 04136 | 5327 | JMP | LOADED |
| 04137 | 4177 | JMS | GETWD |
| 04140 | 1050 | TAD | WORD |
| 04141 | 5733 | JMP I | ISLIT |
| 04142 | 0000 | ERROR, 0 | |
| 04143 | 4537 | JMS I | PRESET |
| 04144 | 4514 | JMS I | PPRINTXT |
| 04145 | 6531 | CRLF | |
| 04146 | 1342 | TAD | ERROR |
| 04147 | 3351 | DCA | .*2 |
| 04150 | 4514 | JMS I | PPRINTXT |
| 04151 | 7402 | HLT | |
| 04152 | 4514 | JMS I | PPRINTXT |
| 04153 | 4170 | QERROR | |
| 04154 | 1452 | TAD I | LINENO |
| 04155 | 7710 | SPA CLA | |
| 04156 | 5363 | JMP | .*5 |
| 04157 | 4514 | JMS I | PPRINTXT |
| 04160 | 6451 | ATLINE | |
| 04161 | 1052 | TAD | LINENO |
| 04162 | 4523 | JMS I | PPRINUM |
| 04163 | 4514 | JMS I | PPRINTXT |
| 04164 | 6531 | CRLF | |
| 04165 | 1125 | TAD | PPDLIST |
| 04166 | 3036 | DCA | PDL |
| 04167 | 5520 | JMP I | PEDIT |
| 04170 | 4005 | QERROR, TEXT ' ERROR' | |
| 04171 | 2222 | | |
| 04172 | 1722 | | |
| 04173 | 0000 | | |

/RESET ALL I/O DEVICES.

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PAGE

```

/      JMS      FPT      /ENTER FLOATING POINT PACK
/      0000     /FEXIT
/      0040     /FSNE
/      0050     /FSEQ
/      0100     /FSGE
/      0110     /FSLT
/      0140     /FSGT
/      0150     /FSLE
/
/      IF BIT 4 OFF THEN SAME AS PDP-8
/      IF BIT 4 ON THEN IF BIT 3 OFF THEN RELATIVE PLUS
/                      IF BIT 3 ON THEN RELATIVE MINUS
/
/      1XXX     /FJMP
/      2XXX     /FST
/      3XXX     /FLD
/      4XXX     /FAD
/      5XXX     /FSB
/      6XXX     /FMP
/      7XXX     /FDV
    
```

```

04200 0000  FPT,  0
04201 5204      JMP      ,+3
04202 4546  FPLOOP, JMS I  PANORM
04203 2200      ISZ      FPT
04204 6201      CDF      0
04205 1600      TAD I   FPT
04206 7006      RTL
04207 7006      RTL
04210 0072      AND      07
04211 7450      SNA
04212 5305      JMP      FPROPER
04213 3273      DCA      FPGOTO
04214 1600      TAD I   FPT
04215 0155      AND      0200
04216 7650      SNA  CLA
04217 5227      JMP      FPPGZ
04220 1600      TAD I   FPT
04221 0027      AND      0177
04222 7430      SZL
04223 7041      CIA
04224 1200      TAD      FPT
04225 3304      DCA      FPADDR
04226 5237      JMP      FPDOIT
04227 1600  FPPGZ, TAD I   FPT
04230 0027      AND      0177
04231 3304      DCA      FPADDR
04232 7420      SNL
04233 5237      JMP      FPDOIT
04234 1704      TAD I   FPADDR
    
```

***** 8 K INSERT.

| | | | | |
|-------|------|----------|---------|----------|
| 24235 | 3304 | | DCA | FPADDR |
| 24236 | 6211 | | COF | 10 |
| 24237 | 7346 | FPDDIT, | CLA CLL | CMA RTL |
| 24240 | 1273 | | TAD | FPGOTO |
| 24241 | 7710 | | SPA CLA | |
| 24242 | 5270 | | JMP | FPNOADR |
| 24243 | 7330 | | CLA CLL | CML RAR |
| 24244 | 0704 | | AND I | FPADDR |
| 24245 | 3026 | | DCA | OPS |
| 24246 | 1704 | | TAD I | FPADDR |
| 24247 | 7640 | | SZA CLA | |
| 24250 | 7040 | | CMA | |
| 24251 | 3156 | | DCA | FPFLAG |
| 24252 | 1704 | | TAD I | FPADDR |
| 24253 | 7012 | | RTR | |
| 24254 | 7010 | | RAR | |
| 24255 | 0071 | | AND | 0377 |
| 24256 | 3030 | | DCA | OPE |
| 24257 | 1704 | | TAD I | FPADDR |
| 24260 | 0072 | | AND | 07 |
| 24261 | 3023 | | DCA | OP1 |
| 24262 | 2304 | | ISZ | FPADDR |
| 24263 | 1704 | | TAD I | FPADDR |
| 24264 | 3022 | | DCA | OP2 |
| 24265 | 2304 | | ISZ | FPADDR |
| 24266 | 1704 | | TAD I | FPADDR |
| 24267 | 3021 | | DCA | OP3 |
| 24270 | 1273 | FPNOADR, | TAD | FPGOTO |
| 24271 | 1274 | | TAD | FPJUMP |
| 24272 | 3273 | | DCA | .+1 |
| 24273 | 7402 | FPGOTO, | HLT | |
| 24274 | 5674 | FPJUMP, | JMP I | . |
| 24275 | 4317 | | FPJMP | |
| 24276 | 4322 | | FPSTO | |
| 24277 | 4351 | | FPLAC | |
| 24300 | 4456 | | FPADD | |
| 24301 | 4453 | | FPSUB | |
| 24302 | 4530 | | FPMUL | |
| 24303 | 4667 | | FPDIV | |
| 24304 | 0000 | FPADDR, | 0 | |
| 24305 | 1600 | FPOPER, | TAD I | FPT |
| 24306 | 6211 | | COF | 10 |
| 24307 | 7450 | | SNA | |
| 24310 | 5600 | | JMP I | FPT |
| 24311 | 1345 | | TAD | 07600 |
| 24312 | 3314 | | DCA | FPSKIP |
| 24313 | 4333 | | JMS | HIGHNO |
| 24314 | 7402 | FPSKIP, | HLT | |
| 24315 | 2200 | | ISZ | FPT |
| 24316 | 5203 | | JMP | FPLOOP+1 |
| 24317 | 1304 | FPJMP, | TAD | FPADDR |
| 24320 | 3200 | | DCA | FPT |
| 24321 | 5204 | | JMP | FPLOOP+2 |
| 24322 | 4333 | FPSTO, | JMS | HIGHNO |
| 24323 | 3704 | | DCA I | FPADDR |

***** 8 K INSERT.

***** 8 K INSERT.

| | | | |
|-------|------|-----------|----------|
| 04324 | 2304 | ISZ | FPADDR |
| 04325 | 1017 | TAD | AC2 |
| 04326 | 3704 | DCA I | FPADDR |
| 04327 | 2304 | ISZ | FPADDR |
| 04330 | 1016 | TAD | AC3 |
| 04331 | 3704 | DCA I | FPADDR |
| 04332 | 5203 | JMP | FPLOOP+1 |
| 04333 | 0000 | HIGHWD, 0 | |
| 04334 | 1025 | TAD | ACE |
| 04335 | 7104 | CLL RAL | |
| 04336 | 7500 | SMA | |

| | | | | |
|-------|------|---------|--------|--------------------------|
| 04337 | 7106 | | CLL | RTL |
| 04340 | 7530 | | SPA | SZL |
| 04341 | 5345 | | JMP | 07600 |
| 04342 | 1024 | | TAD | ACS |
| 04343 | 1220 | | TAD | AC1 |
| 04344 | 5733 | | JMP I | HIGHWD |
| 04345 | 7600 | 07600, | | 7600 |
| 04346 | 1071 | | TAD | 0377 |
| 04347 | 3025 | | DCA | ACE |
| 04350 | 5334 | | JMP | HIGHWD+1 |
| 04351 | 1026 | FPLAC, | TAD | OPS |
| 04352 | 3024 | | DCA | ACS |
| 04353 | 1030 | | TAD | OPE |
| 04354 | 3025 | | DCA | ACE |
| 04355 | 1023 | | TAD | OP1 |
| 04356 | 3020 | | DCA | AC1 |
| 04357 | 1022 | | TAD | OP2 |
| 04360 | 3017 | | DCA | AC2 |
| 04361 | 1021 | | TAD | OP3 |
| 04362 | 3016 | | DCA | AC3 |
| 04363 | 3012 | | DC | OV |
| 04364 | 5202 | | JM/ | FPLOOP |
| 04365 | 7041 | UPARR2, | CIA | /(CMA) IF 1 ORG INDEXING |
| 04366 | 3013 | | DCA | INDEX1 |
| 04367 | 4435 | | FENTER | |
| 04370 | 3151 | | FLO | ONE |
| 04371 | 0000 | | PEXIT | |
| 04372 | 5376 | | JMP | .+4 |
| 04373 | 4435 | | FENTER | |
| 04374 | 6073 | | FMP | OPERAND |
| 04375 | 0000 | | PEXIT | |
| 04376 | 2013 | | ISZ | INDEX1 |
| 04377 | 5373 | | JMP | .+4 |
| 04400 | 5601 | | JMP I | .+1 |
| 04401 | 1203 | | OPDONE | |

| | | | | |
|-------|------|------|-------|------|
| 04402 | 0000 | AR1, | 0 | |
| 04403 | 1020 | | TAD | AC1 |
| 04404 | 7110 | | CLL | RAR |
| 04405 | 3020 | | DCA | AC1 |
| 04406 | 1017 | | TAD | AC2 |
| 04407 | 7010 | | RAR | |
| 04410 | 3017 | | DCA | AC2 |
| 04411 | 1016 | | TAD | AC3 |
| 04412 | 7010 | | RAR | |
| 04413 | 3016 | | DCA | AC3 |
| 04414 | 7010 | | RAR | |
| 04415 | 3012 | | DCA | OV |
| 04416 | 5602 | | JMP I | AR1 |
| 04417 | 0000 | ACN, | 0 | |
| 04420 | 1234 | | TAD | POP3 |

| | | | | |
|-------|------|---------|---------|---------|
| 24421 | 3235 | | DCA | OADD |
| 24422 | 7346 | | CLA CLL | CMA RTL |
| 24423 | 3202 | | DCA | AR1 |
| 24424 | 7024 | | CML RAL | |
| 24425 | 1635 | | TAD I | OADD |
| 24426 | 7041 | | CIA | |
| 24427 | 3635 | | OCA I | OADD |
| 24430 | 2235 | | ISZ | OADD |
| 24431 | 2202 | | ISZ | AR1 |
| 24432 | 5224 | | JMP | .-6 |
| 24433 | 5617 | | JMP I | ACN |
| 24434 | 0021 | POP3, | OP3 | |
| 24435 | 0000 | OADD, | 0 | |
| 24436 | 7100 | | CLL | |
| 24437 | 1016 | | TAD | AC3 |
| 24440 | 1021 | | TAD | OP3 |
| 24441 | 3016 | | DCA | AC3 |
| 24442 | 7004 | | RAL | |
| 24443 | 1017 | | TAD | AC2 |
| 24444 | 1022 | | TAD | OP2 |
| 24445 | 3017 | | DCA | AC2 |
| 24446 | 7004 | | RAL | |
| 24447 | 1020 | | TAD | AC1 |
| 24450 | 1023 | | TAD | OP1 |
| 24451 | 3020 | | DCA | AC1 |
| 24452 | 5635 | | JMP I | OADD |
| 24453 | 7330 | FPSUB, | CLA CLL | CML RAR |
| 24454 | 1026 | | TAD | OP8 |
| 24455 | 3026 | | DCA | OP8 |
| 24456 | 2156 | FPADD, | ISZ | FPFLAG |
| 24457 | 5326 | | JMP | EOFAD |
| 24460 | 1023 | | TAD | ACE |
| 24461 | 7141 | | CLL CIA | |
| 24462 | 1030 | | TAD | OPE |
| 24463 | 7430 | | SZL | |
| 24464 | 5302 | | JMP | BCKWDS |
| 24465 | 3235 | | DCA | OADD |
| 24466 | 1023 | ALGNLP, | TAD | OP1 |
| 24467 | 7110 | | CLL RAR | |
| 24470 | 3023 | | DCA | OP1 |
| 24471 | 1022 | | TAD | OP2 |
| 24472 | 7010 | | RAR | |
| 24473 | 3022 | | DCA | OP2 |
| 24474 | 1021 | | TAD | OP3 |
| 24475 | 7010 | | RAR | |
| 24476 | 3021 | | DCA | OP3 |
| 24477 | 2235 | | ISZ | OADD |
| 24500 | 5266 | | JMP | ALGNLP |
| 24501 | 5312 | | JMP | SETSGN |
| 24502 | 7040 | BCKWDS, | CMA | |
| 24503 | 3235 | | DCA | OADD |
| 24504 | 1030 | | TAD | OPE |
| 24505 | 3025 | | DCA | ACE |
| 24506 | 7410 | | SKP | |
| 24507 | 4202 | | JMS | AR1 |

| | | | | |
|-------|------|----------|--------|-------------|
| 04510 | 2235 | | ISZ | OADD |
| 04511 | 5387 | | JMP | =2 |
| 04512 | 1024 | SETSGN, | TAD | ACB |
| 04513 | 1026 | | TAD | OPS |
| 04514 | 7710 | | SPA | CLA |
| 04515 | 4217 | | JMS | ACN |
| 04516 | 4235 | | JMS | OADD |
| 04517 | 1020 | | TAD | AC1 |
| 04520 | 7700 | | SMA | CLA |
| 04521 | 5326 | | JMP | EOFAD |
| 04522 | 7346 | | CLA | CLL CMA RTL |
| 04523 | 4217 | | JMS | ACN |
| 04524 | 1026 | | TAD | OPS |
| 04525 | 3024 | | DCA | ACS |
| 04526 | 3012 | EOFAD, | DCA | OV |
| 04527 | 5775 | | JMP I | PPFLOOP |
| 04530 | 2156 | FPMUL, | ISZ | FPFLAG |
| 04531 | 5371 | | JMP | MULCLR |
| 04532 | 1024 | | TAD | ACB |
| 04533 | 1026 | | TAD | OPS |
| 04534 | 3024 | | DCA | ACS |
| 04535 | 1025 | | TAD | ACE |
| 04536 | 1030 | | TAD | OPE |
| 04537 | 1377 | | TAD | 07577 |
| 04540 | 3025 | | DCA | ACE |
| 04541 | 1020 | | TAD | AC1 |
| 04542 | 3026 | | DCA | OPS |
| 04543 | 1017 | | TAD | AC2 |
| 04544 | 3030 | | DCA | OPE |
| 04545 | 1016 | | TAD | AC3 |
| 04546 | 3031 | | DCA | TMP |
| 04547 | 3020 | | DCA | AC1 |
| 04550 | 1162 | | TAD | 07745 |
| 04551 | 3376 | | DCA | FPTEMP |
| 04552 | 4202 | MPYLUP, | JMS | AR1 |
| 04553 | 1026 | | TAD | OPS |
| 04554 | 7010 | | RAR | |
| 04555 | 3026 | | DCA | OPS |
| 04556 | 1030 | | TAD | OPE |
| 04557 | 7010 | | RAR | |
| 04560 | 3030 | | DCA | OPE |
| 04561 | 1031 | | TAD | TMP |
| 04562 | 7010 | | RAR | |
| 04563 | 3031 | | DCA | TMP |
| 04564 | 7430 | | SZL | |
| 04565 | 4235 | | JMS | OADD |
| 04566 | 2376 | | ISZ | FPTEMP |
| 04567 | 5352 | | JMP | MPYLUP |
| 04570 | 5775 | | JMP I | PPFLOOP |
| 04571 | 7346 | MULCLR, | CLA | CLL CMA RTL |
| 04572 | 3025 | | DCA | ACE |
| 04573 | 3020 | | DCA | AC1 |
| 04574 | 5775 | | JMP I | PPFLOOP |
| 04575 | 4202 | PPFLOOP, | FPLOOP | |
| 04576 | 0000 | FPTEMP, | 0 | |

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| | | | | | |
|-------|------|----------|-----|----------|----------------------------------|
| 04600 | 0000 | ANORM, | 0 | | |
| 04601 | 1020 | | TAD | AC1 | |
| 04602 | 7450 | | SNA | | /IS HIGH WORD ZERO? |
| 04603 | 5212 | | JMP | MAYZERO | /YEP, ENTIRE NUMBER MAY BE ZERO. |
| 04604 | 1055 | | TAD | 07770 | |
| 04605 | 7710 | | SPA | CLA | |
| 04606 | 5220 | | JMP | NOTBIG | |
| 04607 | 4547 | | JM3 | I | PAR1 |
| 04610 | 2025 | | IS | ACE | |
| 04611 | 5201 | | JMP | ANORM+1 | |
| | | | | | |
| 04612 | 1017 | MAYZERO, | TAD | AC2 | /IS SECOND WORD ZERO? |
| 04613 | 7640 | | SZA | CLA | |
| 04614 | 5220 | | JMP | NOTBIG | /NOPE, NORMAL NORMALIZE. |
| 04615 | 1016 | | TAD | AC3 | /1 & 2 ARE ZERO, IS THIRD WORD? |
| 04616 | 7650 | | SNA | CLA | |
| 04617 | 5245 | | JMP | UNDERF | /YEP, CLEAR AC, ALL ZERO. |
| | | | | | |
| 04620 | 1012 | NOTBIG, | TAD | OV | |
| 04621 | 7650 | | SNA | CLA | |
| 04622 | 5233 | | JMP | NOBUMP | |
| 04623 | 2016 | | ISZ | AC3 | |
| 04624 | 5233 | | JMP | NOBUMP | |
| 04625 | 2017 | | ISZ | AC2 | |
| 04626 | 5233 | | JMP | NOBUMP | |
| 04627 | 2020 | | ISZ | AC1 | |
| 04630 | 3012 | | DCA | OV | |
| 04631 | 5201 | | JMP | ANORM+1 | |
| 04632 | 7240 | | CLA | CMA | |
| 04633 | 1025 | NOBUMP, | TAD | ACE | |
| 04634 | 7510 | | SPA | | |
| 04635 | 5245 | | JMP | UNDERF | |
| 04636 | 3025 | | DCA | ACE | |
| 04637 | 7346 | | CLA | CLL | CMA RTL |
| 04640 | 1020 | | TAD | AC1 | |
| 04641 | 7740 | | SMA | SZA | CLA |
| 04642 | 5600 | | JMP | I | ANORM |
| 04643 | 4254 | | JMS | AL1 | |
| 04644 | 5232 | | JMP | NOBUMP-1 | |
| 04645 | 7200 | UNDERF, | CLA | | |
| 04646 | 3024 | | DCA | AC8 | |
| 04647 | 3025 | | DCA | ACE | |
| 04650 | 3020 | | DCA | AC1 | |

| | | | | |
|-------|------|---------|---------|---------|
| 04651 | 3017 | | DCA | AC2 |
| 04652 | 3016 | | DCA | AC3 |
| 04653 | 5620 | | JMP I | ANORM |
| 04654 | 2020 | ALI, | 0 | |
| 04655 | 1016 | | TAD | AC3 |
| 04656 | 7124 | | CLL RAL | |
| 04657 | 3016 | | DCA | AC3 |
| 04660 | 1017 | | TAD | AC2 |
| 04661 | 7004 | | RAL | |
| 04662 | 3017 | | DCA | AC2 |
| 04663 | 1020 | | TAD | AC1 |
| 04664 | 7004 | | RAL | |
| 04665 | 3020 | | DCA | AC1 |
| 04666 | 5654 | | JMP I | ALI |
| 04667 | 6201 | FPDIV, | CDF | 0 |
| 04670 | 2156 | | ISZ | FPFLAG |
| 04671 | 5336 | | JMP | FPZDIV |
| 04672 | 1024 | | TAD | ACS |
| 04673 | 1026 | | TAD | OPS |
| 04674 | 3024 | | DCA | ACS |
| 04675 | 1030 | | TAD | OPE |
| 04676 | 7041 | | CLA | |
| 04677 | 1025 | | TAD | ACE |
| 04700 | 1027 | | TAD | 0177 |
| 04701 | 3025 | | DCA | ACE |
| 04702 | 3031 | | DCA | TMP |
| 04703 | 1343 | | TAD | 07743 |
| 04704 | 3200 | | DCA | ANORM |
| 04705 | 7330 | DIVLP, | CLA CLL | CML RAR |
| 04706 | 0023 | | AND | OP1 |
| 04707 | 1020 | | TAD | AC1 |
| 04710 | 7700 | | SMA CLA | |
| 04711 | 4742 | | JMS I | PACN |
| 04712 | 4557 | | JMS I | POADD |
| 04713 | 1031 | | TAD | TMP |
| 04714 | 7004 | | RAL | |
| 04715 | 3031 | | DCA | TMP |
| 04716 | 1030 | | TAD | OPE |
| 04717 | 7004 | | RAL | |
| 04720 | 3030 | | DCA | OPE |
| 04721 | 1026 | | TAD | OPS |
| 04722 | 7004 | | RAL | |
| 04723 | 3026 | | DCA | OPS |
| 04724 | 4550 | | JMS I | PAL1 |
| 04725 | 2200 | | ISZ | ANORM |
| 04726 | 5305 | | JMP | DIVLP |
| 04727 | 1026 | | TAD | OPS |
| 04730 | 3020 | | DCA | AC1 |
| 04731 | 1030 | | TAD | OPE |
| 04732 | 3017 | | DCA | AC2 |
| 04733 | 1031 | | TAD | TMP |
| 04734 | 3016 | | DCA | AC3 |
| 04735 | 5741 | | JMP I | PPFLOOP |
| 04736 | 1071 | FPZDIV, | TAD | 0377 |
| 04737 | 3025 | | DCA | ACE |

////////////////////// 8 K INSERT,

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|-------|------|-----------------|---------|--------------------------|
| 04740 | 5741 | JMP I | PPFLOOP | |
| 04741 | 4202 | PPFLOOP, FPLOOP | | |
| 04742 | 4417 | PACN, | ACN | |
| 04743 | 7743 | 07743, | 7743 | |
| 04744 | 0000 | FIX, | 0 | |
| 04745 | 1020 | TAD | AC1 | |
| 04746 | 7650 | SNA | CLA | |
| 04747 | 5367 | JMP | ZFIXEX | |
| 04750 | 1025 | FIXLUP, TAD | ACE | |
| 04751 | 1377 | TAD | 07545 | |
| 04752 | 7700 | SMA | CLA | |
| 04753 | 5373 | JMP | FIXEXIT | |
| 04754 | 4547 | JMS I | PAR1 | |
| 04755 | 1024 | TAD | ACS | |
| 04756 | 0012 | AND | OV | |
| 04757 | 7640 | SZA | CLA | |
| 04760 | 2016 | ISZ | AC3 | |
| 04761 | 5365 | JMP | +.4 | |
| 04762 | 2017 | ISZ | AC2 | |
| 04763 | 5365 | JMP | +.2 | |
| 04764 | 2020 | ISZ | AC1 | |
| 04765 | 2025 | ISZ | ACE | |
| 04766 | 5350 | JMP | FIXLUP | |
| 04767 | 3025 | ZFIXEX, DCA | ACE | |
| 04770 | 3020 | DCA | AC1 | |
| 04771 | 3017 | DCA | AC2 | |
| 04772 | 3016 | DCA | AC3 | |
| 04773 | 3012 | FIXEXIT, DCA | OV | |
| 04774 | 1016 | TAD | AC3 | |
| 04775 | 7001 | SSFIX, IAC | | /(NOP) IF 1 ORG INDEXING |
| 04776 | 5744 | JMP I | FIX | |
| 04777 | 7545 | 07545, 7545 | | |

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| | | | | |
|-------|------|-----------|---------|------------------------|
| 05000 | 0000 | OUTNUM, 0 | | |
| 05001 | 6201 | COF | 0 | ////////// 8 K INSERT. |
| 05002 | 1024 | TAD | AC0 | |
| 05003 | 7700 | SMA | CLA | |
| 05004 | 5207 | JMP | +.3 | |
| 05005 | 1351 | TAD | 0255 | |
| 05006 | 4433 | JMS I | PPUTCH | |
| 05007 | 1020 | TAD | AC1 | |
| 05010 | 7640 | SZA | CLA | |
| 05011 | 5216 | JMP | NONZERO | |
| 05012 | 1011 | TAD | 0260 | |
| 05013 | 4433 | JMS I | PPUTCH | |

/***** 8 K INSERT.

| | | | | | |
|-------|------|----------|---------|---------|-------------------------|
| 05014 | 6211 | | CDF | 10 | |
| 05015 | 5600 | | JMP I | OUTNUM | |
| 05016 | 4746 | NONZERO, | JMS I | FIXUP | |
| 05017 | 1355 | | TAD | 07771 | |
| 05020 | 3042 | | DCA | PRTEMP | |
| 05021 | 1044 | | TAD | PNUMBUF | |
| 05022 | 3025 | | DCA | ACE | |
| 05023 | 5230 | | JMP | .*5 | |
| 05024 | 1020 | CVTLOOP, | TAD | AC1 | |
| 05025 | 0027 | | AND | 0177 | |
| 05026 | 3020 | | DCA | AC1 | |
| 05027 | 4760 | | JMS I | PMPY | |
| 05030 | 1020 | | TAD | AC1 | |
| 05031 | 7006 | | RTL | | |
| 05032 | 7006 | | RTL | | |
| 05033 | 7006 | | RTL | | |
| 05034 | 0347 | | AND | 017 | |
| 05035 | 1011 | | TAD | 0260 | |
| 05036 | 3425 | | DCA I | ACE | |
| 05037 | 2025 | | ISZ | ACE | |
| 05040 | 2042 | | ISZ | PRTEMP | |
| 05041 | 5224 | | JMP | CVTLOOP | |
| 05042 | 7326 | | CLA CLL | CML RTL | |
| 05043 | 1043 | | TAD | DECEXP | |
| 05044 | 7450 | | SNA | | |
| 05045 | 5325 | | JMP | FMT1 | /,0NNNNNNN |
| 05046 | 7510 | | SPA | | |
| 05047 | 5253 | | JMP | FMT2 | /N,NNNNNE=NN |
| 05050 | 1055 | | TAD | 07770 | |
| 05051 | 7710 | | SPA CLA | | |
| 05052 | 5330 | | JMP | FMT3 | /OTHER THAN N,NNNNNE+NN |
| 05053 | 7200 | FMT2, | CLA | | /N,NNNNNE+NN |
| 05054 | 1044 | | TAD | PNUMBUF | |
| 05055 | 3025 | | DCA | ACE | |
| 05056 | 1357 | | TAD | 07772 | |
| 05057 | 3042 | | DCA | PRTEMP | |
| 05060 | 1425 | | TAD I | ACE | |
| 05061 | 4433 | | JMS I | PPUTCH | |
| 05062 | 1356 | | TAD | 0256A | |
| 05063 | 4433 | | JMS I | PPUTCH | |
| 05064 | 2025 | | ISZ | ACE | |
| 05065 | 1425 | | TAD I | ACE | |
| 05066 | 4433 | | JMS I | PPUTCH | |
| 05067 | 2042 | | ISZ | PRTEMP | |
| 05070 | 5264 | | JMP | .-4 | |
| 05071 | 1352 | | TAD | 0305 | |
| 05072 | 4433 | | JMS I | PPUTCH | |
| 05073 | 1043 | | TAD | DECEXP | |
| 05074 | 7710 | | SPA CLA | | |
| 05075 | 7326 | | CLA CLL | CML RTL | |
| 05076 | 1350 | | TAD | 0253 | |
| 05077 | 4433 | | JMS I | PPUTCH | |
| 05100 | 3025 | | DCA | ACE | |
| 05101 | 1043 | | TAD | DECEXP | |
| 05102 | 7510 | | SPA | | |

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05103 7241
05104 3243
05105 1243

CIA
DCA DECEXP
TAD DECEXP

| | | | | |
|-------|------|---------------------------------|----------|--------------------|
| 05106 | 1354 | TAD | 07766 | |
| 05107 | 7510 | SPA | | |
| 05110 | 5314 | JMP | .+4 | |
| 05111 | 3043 | DCA | DECEXP | |
| 05112 | 2025 | ISZ | ACE | |
| 05113 | 5305 | JMP | .-6 | |
| 05114 | 7200 | CLA | | |
| 05115 | 1025 | TAD | ACE | |
| 05116 | 1011 | TAD | 0260 | |
| 05117 | 4433 | JMS I | PPUTCH | |
| 05120 | 1043 | TAD | DECEXP | |
| 05121 | 1011 | TAD | 0260 | |
| 05122 | 4433 | JMS I | PPUTCH | |
| 05123 | 6211 | FMTENF, CDF | 10 | /***** 8 K INSERT. |
| 05124 | 5600 | JMP I | OUTNUM | |
| 05125 | 4514 | FMT1, JMS I | PPRINTX | |
| 05126 | 7371 | | DOTZERO | |
| 05127 | 6201 | | 0 | /***** 8 K INSERT. |
| 05130 | 1355 | FMT3, TAD | 07771 | |
| 05131 | 3042 | DCA | PRTEMP | |
| 05132 | 1361 | TAD | PNBF6 | |
| 05133 | 3025 | TRYAGIN, DCA | ACE | |
| 05134 | 1425 | TAD I | ACE | |
| 05135 | 1353 | TAD | 07520 | |
| 05136 | 7640 | SZA CLA | | |
| 05137 | 5344 | JMP | ZERDONE | |
| 05140 | 2042 | ISZ | PRTEMP | |
| 05141 | 7240 | CLA CMA | | |
| 05142 | 1025 | TAD | ACE | |
| 05143 | 5333 | JMP | TRYAGIN | |
| 05144 | 5745 | ZERDONE, JMP I | .+1 | /***** 8 K INSERT. |
| 05145 | 6545 | | PZERDONE | /***** 8 K INSERT. |
| 05146 | 5200 | FIXUP, FIXITUP | | |
| 05147 | 0017 | 017, | 17 | |
| 05150 | 0253 | 0253, | 253 | |
| 05151 | 0255 | 0255, | 255 | |
| 05152 | 0305 | 0305, | 305 | |
| 05153 | 7520 | 07520, | 7520 | |
| 05154 | 7766 | 07766, | 7766 | |
| 05155 | 7771 | 07771, | 7771 | |
| 05156 | 0256 | 0256A, | 256 | |
| 05157 | 7772 | 07772, | 7772 | |
| 05160 | 5321 | PMPY, | MPY | |
| 05161 | 5343 | PNBF6, | NUMBUF+6 | |
| 05162 | 3714 | TOOLONG, TEXT '_LINE TOO LONG_' | | |
| 05163 | 1116 | | | |
| 05164 | 0540 | | | |
| 05165 | 2417 | | | |
| 05166 | 1740 | | | |
| 05167 | 1417 | | | |
| 05170 | 1607 | | | |
| 05171 | 3700 | | | |

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|-------|------|----------|-----------------|--------|
| 05200 | 0000 | | FIXITUP,0 | |
| 05201 | 1025 | | TAD | ACE |
| 05202 | 1345 | | TAD | 07610 |
| 05203 | 3025 | | DCA | ACE |
| 05204 | 7410 | | SKP | |
| 05205 | 1043 | OCC, | TAD | DECEXP |
| 05206 | 3043 | | DCA | DECEXP |
| 05207 | 1020 | NORMIT, | TAD | AC1 |
| 05210 | 7006 | | RTL | |
| 05211 | 7630 | | SZL CLA | |
| 05212 | 5220 | | JMP | NORMED |
| 05213 | 4550 | | JMS I | PAL1 |
| 05214 | 7240 | | CLA CMA | |
| 05215 | 1025 | | TAD | ACE |
| 05216 | 3025 | | DCA | ACE |
| 05217 | 5207 | | JMP | NORMIT |
| 05220 | 1025 | NORMED, | TAD | ACE |
| 05221 | 7540 | | SMA SZA | |
| 05222 | 5236 | | JMP | NOTX10 |
| 05223 | 7200 | | CLA | |
| 05224 | 4547 | | JMS I | PAR1 |
| 05225 | 4547 | | JMS I | PAR1 |
| 05226 | 4547 | | JMS I | PAR1 |
| 05227 | 4547 | | JMS I | PAR1 |
| 05230 | 4321 | | JMS | MPY |
| 05231 | 1025 | | TAD | ACE |
| 05232 | 1160 | | TAD | 04 |
| 05233 | 3025 | | DCA | ACE |
| 05234 | 7240 | | CLA CMA | |
| 05235 | 5205 | | JMP | OCC |
| 05236 | 1346 | NOTX10, | TAD | 07773 |
| 05237 | 7510 | | SPA | |
| 05240 | 5265 | | JMP | EXPOK |
| 05241 | 7200 | | CLA | |
| 05242 | 1054 | EXPGOOD, | TAD | 07740 |
| 05243 | 3321 | | DCA | MPY |
| 05244 | 7100 | | CLL | |
| 05245 | 1020 | DVLOOP, | TAD | AC1 |
| 05246 | 1347 | | TAD | 05400 |
| 05247 | 7500 | | SMA | |
| 05250 | 3020 | | DCA | AC1 |
| 05251 | 7204 | | CLA CML CMA RAL | |
| 05252 | 3023 | | DCA | OP1 |
| 05253 | 4550 | | JMS I | PAL1 |
| 05254 | 2023 | | ISZ | OP1 |
| 05255 | 2010 | | ISZ | AC3 |

| | | | |
|-------|------|---------------------|---------|
| 05256 | 2321 | ISZ | MPY |
| 05257 | 5245 | JMP | DVLOOP |
| 05260 | 1020 | TAD | AC1 |
| 05261 | 0071 | AND | 0377 |
| 05262 | 3020 | DCA | AC1 |
| 05263 | 7201 | CLA | IAC |
| 05264 | 5205 | JMP | OCC |
| 05265 | 3042 | EXPOK, DCA | PRTEMP |
| 05266 | 7410 | SKP | |
| 05267 | 4947 | JMS I | PAR1 |
| 05270 | 2042 | ISZ | PRTEMP |
| 05271 | 5267 | JMP | .-2 |
| 05272 | 1020 | TAD | AC1 |
| 05273 | 1347 | TAD | 05400 |
| 05274 | 7700 | SMA | CLA |
| 05275 | 5242 | JMP | EXPGOOD |
| 05276 | 7300 | CLA | CLL |
| 05277 | 1016 | TAD | AC3 |
| 05300 | 1344 | TAD | 02062 |
| 05301 | 3016 | DCA | AC3 |
| 05302 | 7430 | SIL | |
| 05303 | 2017 | ISZ | AC2 |
| 05304 | 7410 | SKP | |
| 05305 | 2020 | ISZ | AC1 |
| 05306 | 1020 | TAD | AC1 |
| 05307 | 1347 | TAD | 05400 |
| 05310 | 7640 | SZA | CLA |
| 05311 | 5600 | JMP I | FIXITUP |
| 05312 | 1155 | TAD | 0200 |
| 05313 | 3020 | DCA | AC1 |
| 05314 | 3017 | DCA | AC2 |
| 05315 | 3016 | DCA | AC3 |
| 05316 | 2043 | ISZ | DECEXP |
| 05317 | 7000 | NOP | |
| 05320 | 5600 | JMP I | FIXITUP |
| 05321 | 0000 | MPY, 0 | |
| 05322 | 4550 | JMS I | PAL1 |
| 05323 | 1020 | TAD | AC1 |
| 05324 | 3023 | DCA | OP1 |
| 05325 | 1017 | TAD | AC2 |
| 05326 | 3022 | DCA | OP2 |
| 05327 | 1016 | TAD | AC3 |
| 05330 | 3021 | DCA | OP3 |
| 05331 | 4550 | JMS I | PAL1 |
| 05332 | 4550 | JMS I | PAL1 |
| 05333 | 4557 | JMS I | POADD |
| 05334 | 5721 | JMP I | MPY |
| 05335 | 0000 | NUMBUF, 01010101010 | |
| 05336 | 0000 | | |
| 05337 | 0000 | | |
| 05340 | 0000 | | |
| 05341 | 0000 | | |
| 05342 | 0000 | | |
| 05343 | 0000 | | |
| 05344 | 2062 | 02062, 2062 | |

05345 7610 07610, 7610
 05346 7773 07773, 7773
 05347 5400 05400, 5400

05350 0000 RNDJMP, FEXIT
 05351 4546 JMS I PANORM
 05352 5753 JMP I RND

 05353 0000 RND, 0
 05354 4435 FENTER
 05355 3227 FLD+FWD+FRNDX=.
 05356 0000 FEXIT
 05357 1021 TAD OP3
 05360 7006 RTL
 05361 7006 RTL
 05362 7006 R'L
 05363 3020 DCA AC1
 05364 1020 TAD AC1
 05365 7010 RAR
 05366 0054 AND 07740
 05367 3017 DCA AC2
 05370 3016 DCA AC3
 05371 4557 JMS I POADD
 05372 4557 JMS I POADD
 05373 4557 JMS I POADD
 05374 1030 TAD OPE
 05375 3025 DCA ACE
 05376 1020 TAD AC1
 05377 0072 AND 07
 05400 3020 DCA AC1
 05401 4435 FENTER
 05402 2202 FST+FWD+FRNDX=.
 05403 1633 FJMP+BKWD+,-RNDJMP

05404 2004 FRNDX, 2004,4173,1231
 05405 4173
 05406 1231

05407 0000 FSQRX, 01010
 05410 0000
 05411 0000
 05412 0000 SQR, 0
 05413 4435 FENTER
 05414 2073 FST OPERAND
 05415 0040 FSNE
 05416 1232 FJMP+FWD+SQEXIT=.

| | | | |
|-------|------|------------------|--------------------|
| 25417 | 0000 | FEXIT | |
| 25420 | 1024 | TAD | ACS |
| 25421 | 7710 | SPA | CLA |
| 25422 | 5447 | JMP I | PARGERR |
| 25423 | 1025 | TAD | ACE |
| 25424 | 1252 | TAD | 007600 |
| 25425 | 7100 | CLL | |
| 25426 | 7510 | SPA | |
| 25427 | 7020 | CML | |
| 25430 | 7010 | RAR | |
| 25431 | 1155 | TAD | 0200 |
| 25432 | 3025 | DCA | ACE |
| 25433 | 1055 | TAD | 07770 |
| 25434 | 3013 | DCA | INDEX1 |
| 25435 | 4435 | SQLLOOP, FENTER | |
| 25436 | 2627 | FST+BKWD+,-FSQRX | |
| 25437 | 3073 | FLD | OPERAND |
| 25440 | 7631 | FDV+BKWD+,-FSQRX | |
| 25441 | 4632 | FAD+BKWD+,-FSQRX | |
| 25442 | 0000 | FEXIT | |
| 25443 | 7240 | CI | CMA |
| 25444 | 1025 | TAD | ACE |
| 25445 | 3025 | DCA | ACE |
| 25446 | 2013 | ISZ | INDEX1 |
| 25447 | 5235 | JMP | SQLLOOP |
| 25450 | 0000 | SGEXIT, FEXIT | |
| 25451 | 5612 | JMP I | SQR |
| 25452 | 7600 | 007600, 7600 | |
| 25453 | 0000 | FN, 0 | |
| 25454 | 1045 | TAD | LOCCTR |
| 25455 | 4504 | JMS I | PPUSH |
| 25456 | 1050 | TAD | WORD |
| 25457 | 4504 | JMS I | PPUSH |
| 25460 | 6201 | CDF | 0 |
| 25461 | 1745 | TAD I | PUSERFN |
| 25462 | 6211 | CDF | 10 |
| 25463 | 7001 | IAC | |
| 25464 | 3045 | DCA | LOCCTR |
| 25465 | 4567 | GET+ISIT | /'DEF' |
| 25466 | 1761 | 1761 | |
| 25467 | 5746 | JMP I | PFNERR /NO |
| 25470 | 4177 | JMS | GETWD /SKIP 'FN' |
| 25471 | 4177 | JMS | GETWD /SKIP LETTER |
| 25472 | 4177 | JMS | GETWD /SKIP '(' |
| 25473 | 4567 | GET+ISIT | /'A VARIABLE |
| 25474 | 7000 | 7000 | |
| 25475 | 5746 | JMP I | PFNERR /NO |
| 25476 | 2050 | ISZ | WORD |
| 25477 | 1450 | TAD I | WORD |
| 25500 | 3013 | DCA | INDEX1 |
| 25501 | 1413 | TAD I | INDEX1 |
| 25502 | 4504 | JMS I | PPUSH |
| 25503 | 1413 | TAD I | INDEX1 |
| 25504 | 4504 | JMS I | PPUSH |
| 25505 | 1413 | TAD I | INDEX1 |

////////// 8 K INSERT

////////// 8 K INSERT.

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|-------|------|-----------------|---------|------------|
| 05506 | 4504 | JMS I | PPUSH | |
| 05507 | 1013 | TAD | INDEX1 | |
| 05510 | 4504 | JMS I | PPUSH | |
| 05511 | 7304 | CLA CLL | CMA RAL | |
| 05512 | 1013 | TAD | INDEX1 | |
| 05513 | 3013 | DCA | INDEX1 | |
| 05514 | 4035 | FENTER | | |
| 05515 | 2413 | FSTI | INDEX1 | |
| 05516 | 0000 | FEXIT | | |
| 05517 | 4177 | JMS | GETWD | /SKIP ')' |
| 05520 | 4177 | JMS | GETWD | /SKIP ' #' |
| 05521 | 4501 | JMS I | PEVAL | |
| 05522 | 4505 | JMS I | PPOP | |
| 05523 | 3050 | DCA | WORD | |
| 05524 | 4505 | JMS I | PPOP | |
| 05525 | 3450 | DCA I | WORD | |
| 05526 | 7240 | CLA CMA | | |
| 05527 | 1050 | TAD | WORD | |
| 05530 | 3050 | DCA | WORD | |
| 05531 | 4505 | JMS I | PPOP | |
| 05532 | 3450 | DC \ I | WORD | |
| 05533 | 7240 | CLA CMA | | |
| 05534 | 1050 | TAD | WORD | |
| 05535 | 3050 | DCA | WORD | |
| 05536 | 4505 | JMS I | PPOP | |
| 05537 | 3450 | DCA I | WORD | |
| 05540 | 4505 | JMS I | PPOP | |
| 05541 | 3050 | DCA | WORD | |
| 05542 | 4505 | JMS I | PPOP | |
| 05543 | 3045 | DCA | LOCCTR | |
| 05544 | 5653 | JMP I | FN | |
| 05545 | 1620 | PUSERFN, USERFN | | |

05546 0352 PFNERR, FNERR

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|-------|------|---------|---------|---|
| 05547 | 0000 | TAB, | 0 | /FUNCTION "TAB" IN PRINT STATEMENT. |
| 05550 | 4506 | JMS I | PFIX | /FIX THE FAC NOW. |
| 05551 | 6201 | GDF | 0 | /SET DATA FIELD TO FIELD ZERO. |
| 05552 | 7201 | CLA IAC | | /SET FLAG TO INDICATE WE'VE DONE THIS FUNCTION. |
| 05553 | 3771 | DCA I | PTABFLG | /AND STORE AWAY. |
| 05554 | 1024 | TAD | ACS | /GET SIGN OF FAC |
| 05555 | 7650 | SNA CLA | | /WAS IT A POSITIVE NUMBER? |
| 05556 | 1016 | TAD | AC3 | /YEP, PICK UP DESIRED POSITION. |
| 05557 | 0071 | AND | 0377 | /MAXIMUM OF 256 COLUMNS. |
| 05560 | 3770 | DCA I | PTABDES | /SAVE AWAY FOR ACTUAL SPACER TO USE. |
| 05561 | 4772 | JMS I | TBEGFIX | /PREPARE TO RETURN PRESENT COLUMN NUMBER. |

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|-------|------|--|---------|--------|--|
| 05562 | 7201 | | CLA IAC | | |
| 05563 | 1126 | | TAD | COLUMN | /INCREMENT TO ACCOUNT FOR DIFFERENCES. |
| 05564 | 3016 | | DCA | AC3 | /AND STORE AWAY. |
| 05565 | 6211 | | COF | 10 | /RESET DATA FIELD NOW. |
| 05566 | 4546 | | JMS I | PANORM | /NORMALIZE AC NOW. |
| 05567 | 5747 | | JMP I | TAB | /AND RETURN NOW. |

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|-------|------|-----------------|--|--|---|
| 05570 | 6367 | PTABDES, TABDES | | | /POINTER TO DESIRED LOCATION OF PRINT HEAD. |
| 05571 | 2345 | PTABFLG, TABFLG | | | /POINTER TO TAB IN PRINT FLAG. |
| 05572 | 3762 | TBEGFIX, BEGFIX | | | /POINTER TO MINI-FIX-SET-UP ROUTINE. |

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|-------|------|---------|---------|--------|---------------------|
| 05573 | 7201 | RUBO, | CLA IAC | | /SET RUBOUT SWITCH. |
| 05574 | 3135 | NORUBO, | DC | RBSWCH | |
| 05575 | 5776 | | JMP I | .+1 | /AND CLEAN IT UP. |
| 05576 | 7175 | | DEVCOM | | /CLEAN-UP POINTER. |

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|-------|------|------|------------------|-----|--|
| 05600 | 0000 | TAN, | 0 | | |
| 05601 | 4435 | | FENTER | | |
| 05602 | 2275 | | FST+FWD+PTANT1=. | | |
| 05603 | 0000 | | FEXIT | | |
| 05604 | 4216 | | JMS | COS | |
| 05605 | 4435 | | FENTER | | |
| 05606 | 2274 | | FST+FWD+PTANT2=. | | |
| 05607 | 3270 | | FLD+FWD+PTANT1=. | | |
| 05610 | 0000 | | FEXIT | | |
| 05611 | 4224 | | JMS | SIN | |
| 05612 | 4435 | | FENTER | | |

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|-------|------|---------|-------------------|
| 05613 | 7267 | | FDV+FWD+FTANT2=. |
| 05614 | 2000 | | FEXIT |
| 05615 | 5600 | | JMP I TAN |
| 05616 | 2000 | COS, | 0 |
| 05617 | 4435 | | FENTER |
| 05620 | 4312 | | FAD+FWD+FSINC7=. |
| 05621 | 0000 | | FEXIT |
| 05622 | 4224 | | JMS SIN |
| 05623 | 5616 | | JMP I COS |
| 05624 | 0000 | SIN, | 0 |
| 05625 | 4435 | | FENTER |
| 05626 | 7265 | | FDV+FWD+FSINC1=. |
| 05627 | 2256 | | FST+FWD+FSINZ=. |
| 05630 | 0000 | | FEXIT |
| 05631 | 3024 | | DCA ACS |
| 05632 | 4676 | | JMS I PINT |
| 05633 | 7330 | | CLA CLL CML RAR |
| 05634 | 0305 | | AND FSINZ |
| 05635 | 3024 | | DCA ACS |
| 05636 | 4435 | | FENTER |
| 05637 | 5246 | | FS3+FWD+FSINZ=. |
| 05640 | 6275 | | FIP+FWD+FSINM4=. |
| 05641 | 2244 | FSIN10, | FST+FWD+FSINZ=. |
| 05642 | 0000 | | FEXIT |
| 05643 | 3024 | | DCA ACS |
| 05644 | 4435 | | FENTER |
| 05645 | 5151 | | FSB ONE |
| 05646 | 0140 | | FSGT |
| 05647 | 1210 | | FJMP+FWD+FSINOK=. |
| 05650 | 3235 | | FLD+FWD+FSINZ=. |
| 05651 | 0000 | | FEXIT |
| 05652 | 4675 | | JMS I PSGN |
| 05653 | 2025 | | ISZ ACE |
| 05654 | 4435 | | FENTER |
| 05655 | 5230 | | FSB+FWD+FSINZ=. |
| 05656 | 1615 | | FJMP+BKWD+FSIN10 |
| 05657 | 3226 | FSINOK, | FLD+FWD+FSINZ=. |
| 05660 | 6225 | | FMP+FWD+FSINZ=. |
| 05661 | 2227 | | FST+FWD+FSINZZ=. |
| 05662 | 6234 | | FMP+FWD+FSINC3=. |
| 05663 | 4236 | | FAD+FWD+FSINC4=. |
| 05664 | 6224 | | FMP+FWD+FSINZZ=. |
| 05665 | 4237 | | FAD+FWD+FSINC5=. |
| 05666 | 6222 | | FMP+FWD+FSINZZ=. |
| 05667 | 4240 | | FAD+FWD+FSINC6=. |
| 05670 | 6220 | | FMP+FWD+FSINZZ=. |
| 05671 | 4241 | | FAD+FWD+FSINC7=. |
| 05672 | 6213 | | FMP+FWD+FSINZ=. |
| 05673 | 0000 | | FEXIT |
| 05674 | 5624 | | JMP I SIN |
| 05675 | 0726 | PSGN, | SGN |
| 05676 | 6434 | PINT, | INT |
| 05677 | 0000 | FTANT1, | 01010 |
| 05700 | 0000 | | |
| 05701 | 0000 | | |

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| 05702 | 2200 | FTANT2, 01010 |
| 05703 | 2000 | |
| 05704 | 0000 | |
| 05705 | 2222 | FSINZ, 01010 |
| 05706 | 0000 | |
| 05707 | 0000 | |
| 05710 | 0000 | FSINZZ, 01010 |
| 05711 | 0000 | |
| 05712 | 0000 | |
| 05713 | 2036 | FSINC1, 20361220717325 |
| 05714 | 2207 | |
| 05715 | 7325 | |
| 05716 | 1644 | FSINC3, 16441755316722 |
| 05717 | 7553 | |
| 05720 | 6722 | |
| 05721 | 5714 | FSINC4, 57141622311432 |
| 05722 | 6223 | |
| 05723 | 1432 | |
| 05724 | 1755 | FSINC5, 17551063211276 |
| 05725 | 0632 | |
| 05726 | 1276 | |
| 05727 | 6005 | FSINC6, 61051125617406 |
| 05730 | 1256 | |
| 05731 | 7406 | |
| 05732 | 2016 | FSINC7, 20161220717325 |
| 05733 | 2207 | |
| 05734 | 7325 | |
| 05735 | 6034 | FSINM4, 60341000010000 |
| 05736 | 0000 | |
| 05737 | 0000 | |
| 05740 | 4435 | UPARRX, FENTER |
| 05741 | 2634 | FST+BKWD+.=FSINZ |
| 05742 | 0100 | FSGE |
| 05743 | 1221 | FJMP+FWD+EXPLONG=. |
| 05744 | 0000 | FEXIT |
| 05745 | 4676 | JMS I PINT |
| 05746 | 4435 | FENTER |
| 05747 | 5642 | FSB+BKWD+.=FSINZ |
| 05750 | 0050 | FSEQ |
| 05751 | 1213 | FJMP+FWD+EXPLONG=. |
| 05752 | 3645 | FLD+BKWD+.=FSINZ |
| 05753 | 5207 | FSB+FWD+FUPRC1=. |
| 05754 | 0150 | FSLE |
| 05755 | 1207 | FJMP+FWD+EXPLONG=. |
| 05756 | 3651 | FLD+BKWD+.=FSINZ |
| 05757 | 0000 | FEXIT |
| 05760 | 5761 | JMP I ,+1 |
| 05761 | 6457 | UPARROW |
| 05762 | 2077 | FUPRC1, 207717700 |
| 05763 | 7700 | |
| 05764 | 3073 | EXPLONG,FLD OPERAND |
| 05765 | 0000 | FEXIT |
| 05766 | 0775 | JMS I PLOG |
| 05767 | 4435 | FENTER |
| 05770 | 6663 | FMP+BKWD+.=FSINZ |

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|-------|------|------------|
| 05771 | 0000 | FEXIT |
| 05772 | 4776 | JMS I PEXP |
| 05773 | 5774 | JMP I .+1 |
| 05774 | 1203 | OPDNE |
| 05775 | 6114 | PLOG, LOG |
| 05776 | 6000 | PEXP, EXP |

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| 06000 | 0000 | EXP, | 0 |
| 06001 | 4435 | | FENTER |
| 06002 | 7270 | | FDV+FWD+FEXPC1=. |
| 06003 | 2261 | | FST+FWD+FEXPU=. |
| 06004 | 0000 | | FEXIT |
| 06005 | 4660 | | JMS I PPINT |
| 06006 | 7330 | | CLA CLL CML RAR |
| 06007 | 1024 | | TAD ACS |
| 06010 | 3024 | | DCA ACS |
| 06011 | 4435 | | FENTER |
| 06012 | 2247 | | FST+FWD+FEXPI=. |
| 06013 | 4251 | | FAD+FWD+FEXPU=. |
| 06014 | 2253 | | FST+FWD+FEXPF=. |
| 06015 | 6252 | | FMP+FWD+FEXPF=. |
| 06016 | 4257 | | FAD+FWD+FEXPC2=. |
| 06017 | 2245 | | FST+FWD+FEXPU=. |
| 06020 | 3241 | | FLD+FWD+FEXPI=. |
| 06021 | 0000 | | FEXIT |
| 06022 | 4506 | | JMS I PPIX |
| 06023 | 7000 | FXXPFX, | NOP / (IAC IF 1 ORG INDEXING) |
| 06024 | 3261 | | DCA FEXPI |
| 06025 | 1024 | | TAD ACS |
| 06026 | 7164 | | CMA CLL CML RAL |
| 06027 | 1261 | | TAD FEXPI |
| 06030 | 7420 | | SNL |
| 06031 | 7041 | | CIA |
| 06032 | 7001 | | IAC |
| 06033 | 3261 | | DCA FEXPI |
| 06034 | 4435 | | FENTER |
| 06035 | 3243 | | FLD+FWD+FEXPC3=. |
| 06036 | 7226 | | FDV+FWD+FEXPU=. |
| 06037 | 4244 | | FAD+FWD+FEXPC4=. |
| 06040 | 5227 | | FSS+FWD+FEXPF=. |
| 06041 | 2223 | | FST+FWD+FEXPU=. |
| 06042 | 3225 | | FLD+FWD+FEXPF=. |
| 06043 | 6224 | | FMP+FWD+FEXPF=. |
| 06044 | 6242 | | FMP+FWD+FEXPC5=. |
| 06045 | 4217 | | FAD+FWD+FEXPU=. |

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|-------|------|------------------|------------------|
| 06046 | 2216 | | FST+FWD+FEXPU=. |
| 06047 | 3220 | | FLD+FWD+FEXPF=. |
| 06050 | 7214 | | FDV+FWD+FEXPU=. |
| 06051 | 4240 | | FAD+FWD+FEXPC6=. |
| 06052 | 2215 | | FST+FWD+FEXPF=. |
| 06053 | 0000 | | FEXIT |
| 06054 | 1025 | | TAD ACE |
| 06055 | 1261 | | TAD FEXPI |
| 06056 | 3025 | | DCA ACE |
| 06057 | 5600 | | JMP I EXP |
| 06060 | 6434 | PPINT, | INT |
| 06061 | 0000 | FEXPI, | 01010 |
| 06062 | 0000 | | |
| 06063 | 0000 | | |
| 06064 | 0000 | FEXPU, | 01010 |
| 06065 | 0000 | | |
| 06066 | 0000 | | |
| 06067 | 0000 | FEXPF, | 01010 |
| 06070 | 0000 | | |
| 06071 | 0000 | | |
| 06072 | 2005 | FEXPC1, | 20051427110300 |
| 06073 | 4271 | | |
| 06074 | 0300 | | |
| 06075 | 2075 | FEXPC2, | 20751355217022 |
| 06076 | 3552 | | |
| 06077 | 7022 | | |
| 06100 | 6124 | FEXPC3, | 61241647710715 |
| 06101 | 6477 | | |
| 06102 | 0715 | | |
| 06103 | 2044 | FEXPC4, | 20441764310062 |
| 06104 | 7643 | | |
| 06105 | 0062 | | |
| 06106 | 1744 | FEXPC5, | 17441337213400 |
| 06107 | 3372 | | |
| 06110 | 3400 | | |
| 06111 | 2004 | FEXPC6, | 20041000010000 |
| 06112 | 0000 | | |
| 06113 | 0000 | | |
| 06114 | 0000 | LOG, | 0 |
| 06115 | 1024 | TAD | ACS |
| 06116 | 7710 | SPA | CLA |
| 06117 | 5447 | JMP I | PARGERR |
| 06120 | 1025 | TAD | ACE |
| 06121 | 3365 | DCA | LOGACE |
| 06122 | 1155 | TAD | 0200 |
| 06123 | 3025 | DCA | ACE |
| 06124 | 4435 | FENTER | |
| 06125 | 2641 | FST+BKWD+. | -FEXPU |
| 06126 | 4244 | FAD+FWD+FLOGC1=. | |
| 06127 | 2640 | FST+BKWD+. | -FEXPF |
| 06130 | 3644 | FLD+BKWD+. | -FEXPU |
| 06131 | 5241 | F8B+FWD+FLOGC1=. | |
| 06132 | 7643 | FDV+BKWD+. | -FEXPF |
| 06133 | 2644 | FST+BKWD+. | -FEXPF |
| 06134 | 6645 | FMP+BKWD+. | -FEXPF |

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|-------|------|------------------------|
| 06135 | 6216 | FMP+FWD+FLOGC2=. |
| 06136 | 4220 | FAD+FWD+FLOGC3=. |
| 06137 | 6650 | FMP+BKWD+.-FEXPF |
| 06142 | 6651 | FMP+BKWD+.-FEXPF |
| 06141 | 4220 | FAD+FWD+FLOGC4=. |
| 06142 | 6653 | FMP+BKWD+.-FEXPF |
| 06143 | 5632 | FSB+BKWD+.-FEXPC6 |
| 06144 | 2655 | FST+BKWD+.-FEXPF |
| 06145 | 3217 | FLD+FWD+LOGFWD=. |
| 06146 | 5221 | FSB+FWD+LOGOKW=. |
| 06147 | 4660 | FAD+BKWD+.-FEXPF |
| 06150 | 6656 | FMP+BKWD+.-FEXPC1 |
| 06151 | 0000 | FEXIT |
| 06152 | 5714 | JMP I LOG |
| 06153 | 2004 | FLOGC2, 2004/6253/2521 |
| 06154 | 6253 | |
| 06155 | 2521 | |
| 06156 | 2007 | FLOGC3, 2007/5421/3604 |
| 06157 | 5421 | |
| 06160 | 3604 | |
| 06161 | 2025 | FLOGC4, 2025/6125/1007 |
| 06162 | 6125 | |
| 06163 | 1007 | |
| 06164 | 2174 | LOGFWD, 2174 |
| 06165 | 0000 | LOGACE, 0 |
| 06166 | 0000 | 0 |
| 06167 | 2174 | LOGOKW, 2174/0200/0 |
| 06170 | 0200 | |
| 06171 | 0000 | |
| 06172 | 2005 | FLOGC1, 2005/5202/3632 |
| 06173 | 5202 | |
| 06174 | 3632 | |

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| 06200 | 0000 | ATN, 0 |
| 06201 | 1024 | TAD ACS |
| 06202 | 3272 | DCA FATNSX |
| 06203 | 3024 | DCA ACS |
| 06204 | 4435 | FENTER |
| 06205 | 2271 | FST+FWD+FATNT=. |
| 06206 | 2265 | FST+FWD+FATNAX=. |
| 06207 | 5275 | FSB+FWD+FATNC1=. |
| 06210 | 0140 | FSGT |
| 06211 | 1254 | FJMP+FWD+ATNBIG=. |

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| 06212 | 5275 | | FSB+FWD+FATNC2=. |
| 06213 | 0140 | | FSGT |
| 06214 | 1204 | | FJMP+FWD+ATNLOW=. |
| 06215 | 3151 | | FLD ONE |
| 06216 | 7260 | | FDV+FWD+FATNT=. |
| 06217 | 2257 | | FST+FWD+FATNT=. |
| 06220 | 3152 | ATNLOW, | FLD ZERO |
| 06221 | 2316 | | FST+FWD+FATNC=. |
| 06222 | 3254 | | FLD+FWD+FATNT=. |
| 06223 | 5267 | | FSB+FWD+FATNC3=. |
| 06224 | 0100 | | FSGE |
| 06225 | 1212 | | FJMP+FWD+ATNNOT=. |
| 06226 | 3250 | | FLD+FWD+FATNT=. |
| 06227 | 4266 | | FAD+FWD+FATNC4=. |
| 06230 | 2246 | | FST+FWD+FATNT=. |
| 06231 | 3314 | | FLD+FWD+FATNCJ=. |
| 06232 | 7244 | | FDV+FWD+FATNT=. |
| 06233 | 4262 | | FAD+FWD+FATNC4=. |
| 06234 | 2242 | | FST+FWD+FATNT=. |
| 06235 | 3263 | | FLD+FWD+FATNC5=. |
| 06236 | 2301 | | FST+FWD+FATNC=. |
| 06237 | 3237 | ATNNOT, | FLD+FWD+FATNT=. |
| 06240 | 6236 | | FMP+FWD+FATNT=. |
| 06241 | 2240 | | FST+FWD+FATNTT=. |
| 06242 | 3261 | | FLD+FWD+FATNC6=. |
| 06243 | 6236 | | FMP+FWD+FATNTT=. |
| 06244 | 4262 | | FAD+FWD+FATNC7=. |
| 06245 | 6234 | | FMP+FWD+FATNTT=. |
| 06246 | 4263 | | FAD+FWD+FATNC8=. |
| 06247 | 6232 | | FMP+FWD+FATNTT=. |
| 06250 | 4264 | | FAD+FWD+FATNC9=. |
| 06251 | 6230 | | FMP+FWD+FATNTT=. |
| 06252 | 4151 | | FAD ONE |
| 06253 | 6223 | | FMP+FWD+FATNT=. |
| 06254 | 4263 | | FAD+FWD+FATNC=. |
| 06255 | 2221 | | FST+FWD+FATNT=. |
| 06256 | 3215 | | FLD+FWD+FATNAX=. |
| 06257 | 5151 | | FSB ONE |
| 06260 | 0140 | | FSGT |
| 06261 | 1204 | | FJMP+FWD+ATNBIG=. |
| 06262 | 3260 | | FLD+FWD+FATNCH=. |
| 06263 | 5213 | | FSB+FWD+FATNT=. |
| 06264 | 2212 | | FST+FWD+FATNT=. |
| 06265 | 3211 | ATNBIG, | FLD+FWD+FATNT=. |
| 06266 | 0000 | | FEXIT |
| 06267 | 1272 | | TAD FATNSX |
| 06270 | 3024 | | DCA ACS |
| 06271 | 5600 | | JMP I ATN |
| 06272 | 0000 | FATNSX, | 0 |
| 06273 | 0000 | FATNAX, | 01010 |
| 06274 | 0000 | | |
| 06275 | 0000 | | |
| 06276 | 0000 | FATNT, | 01010 |
| 06277 | 0000 | | |
| 06300 | 0000 | | |

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| 06301 | 0000 | FATNTT, 01010 |
| 06302 | 0000 | |
| 06303 | 0000 | |
| 06304 | 1634 | FATNC1, 16341000010000 |
| 06305 | 0000 | |
| 06306 | 0000 | |
| 06307 | 2007 | FATNC2, 20071777610000 |
| 06310 | 7776 | |
| 06311 | 0000 | |
| 06312 | 1774 | FATNC3, 17741223012427 |
| 06313 | 2230 | |
| 06314 | 2427 | |
| 06315 | 2016 | FATNC4, 20161733117272 |
| 06316 | 7331 | |
| 06317 | 7272 | |
| 06320 | 2004 | FATNC5, 20041140512216 |
| 06321 | 1405 | |
| 06322 | 2216 | |
| 06323 | 1756 | FATNC6, 17561046214562 |
| 06324 | 0462 | |
| 06325 | 4562 | |
| 06326 | 5764 | FATNC7, 57641422113403 |
| 06327 | 4221 | |
| 06330 | 3403 | |
| 06331 | 1766 | FATNC8, 17661314116672 |
| 06332 | 3141 | |
| 06333 | 6672 | |
| 06334 | 5775 | FATNC9, 57751252512337 |
| 06335 | 2525 | |
| 06336 | 2337 | |
| 06337 | 0000 | FATNC, 01010 |
| 06340 | 0000 | |
| 06341 | 0000 | |
| 06342 | 2016 | FATNCM, 20161220717325 |
| 06343 | 2207 | |
| 06344 | 7325 | |
| 06345 | 6034 | FATNCJ, 60341000010000 |
| 06346 | 0000 | |
| 06347 | 0000 | |

| | | | | |
|-------|------|--------|---------|--------|
| 06350 | 1126 | TABDO, | TAD | COLUMN |
| 06351 | 7041 | | CIA | |
| 06352 | 1367 | | TAD | TABDES |
| 06353 | 7740 | | SMA SZA | CLA |
| 06354 | 5360 | | JMP | TABOK |

/GET WHERE WE ARE NOW.

/COMPARE AGAINST WHERE WE WANT TO BE.
/DO WE HAVE TO BACK UP?
/NOPE.

| | | | | | |
|-------|------|----------------|---------|---------|---|
| 06355 | 1007 | | TAD | 0215 | /YEP, GIVE C.R. |
| 06356 | 4433 | | JMS I | PPUTCH | /SEND IT |
| 06357 | 4433 | | JMS I | PPUTCH | /ALSO SEND A NULL CHARACTER TO ALL TTY TO RETURN. |
| 06360 | 1126 | TABOK, | TAD | COLUMN | /GET WHERE WE ARE. |
| 06361 | 7040 | | CMA | | /NEGATE-1 |
| 06362 | 1367 | | TAD | TABDES | /WHERE DO WE WANT TO BE? |
| 06363 | 7750 | | SNA SPA | CLA | /? |
| 06364 | 5770 | | JMP I | TPRINT | /HERE, EXIT. |
| 06365 | 1051 | | TAD | 0240 | /FARTHER UP. |
| 06366 | 5357 | | JMP | TABOK-1 | /GIVE SPACE AND LOOP AGAIN. |
| | | | | | |
| 06367 | 0000 | TABDES, 0 | | | |
| 06370 | 2207 | TPRINT, PRINTC | | | /NORMAL EXIT LOCATION. |

6400 PAGE

```

06400 0000  CHKFIT, 0
06401 1160      TAD      04
06402 4544      JMS I   SPLEFT
06403 5600      JMP I   CHKFIT
06404 4561      JMS I   PLINFX
06405 4537      JMS I   PRESET      /RESET ALL I/O DEVICES,
06406 4514      JMS I   PPRINTXT
06407 3562      UCHI
06410 3064      DCA      SNUMFLG      /RESET THIS FLAG NOW
06411 5612      JMP I   .+1
06412 2610      NEWLIN      /THIS MAY BE RIGHT.
    
```

```

06413 0000  RMLEFT, 0
06414 7100      CLL
06415 1003      TAD      ARRLOC
06416 7430      SZL
06417 5223      JMP      NORLFT
06420 7041      CIA
06421 1004      TAD      CODELOC
06422 7620      SNL  CLA
06423 2213  NORLFT, ISZ  RMLEFT
06424 5613      JMP I   RMLEFT
    
```

```

06425 0000  ABS, 0
06426 3024      DCA      ACS
06427 5625      JMP I   ABS
    
```

| | | | | |
|-------|------|-----------|-------|---------|
| 06430 | 0000 | STICKIT,0 | | |
| 06431 | 3403 | | DCA I | ARRLOC |
| 06432 | 2003 | | ISZ | ARRLOC |
| 06433 | 5630 | | JMP I | STICKIT |

| | | | | |
|-------|------|------|-------|--------|
| 06434 | 0000 | INT, | 0 | |
| 06435 | 4506 | | JMS I | PPIX |
| 06436 | 7200 | | CLA | |
| 06437 | 4546 | | JMS I | PANORM |
| 06440 | 5634 | | JMP I | INT |

| | | | | | |
|-------|------|---------|-------|-------------|---------------------------|
| 06441 | 0000 | 0XERR, | 0 | | /INCASE THIS IS JMS'D TO, |
| 06442 | 7200 | | C_A | | |
| 06443 | 3241 | | DCA | 0XERR | /AND REMAKE INTO AN "AND" |
| 06444 | 4477 | | JMS I | PERROR | |
| 06445 | 2331 | | TEXT | 'SYNTAX' | |
| 06446 | 1624 | | | | |
| 06447 | 0130 | | | | |
| 06450 | 0000 | | | | |
| 06451 | 4001 | ATLINE, | TEXT | ' AT LINE ' | |
| 06452 | 2440 | | | | |
| 06453 | 1411 | | | | |
| 06454 | 1605 | | | | |
| 06455 | 4000 | | | | |

| | | | | |
|-------|------|----------|---------|---------|
| 06456 | 7570 | 07570, | 7570 | |
| 06457 | 1024 | UPARROW, | TAD | ACS |
| 06460 | 7700 | | SMA CLA | |
| 06461 | 1256 | | TAD | 07570 |
| 06462 | 1025 | | TAD | ACE |
| 06463 | 7700 | | SMA CLA | |
| 06464 | 5447 | | JMP I | PARGERR |
| 06465 | 4506 | | JMS I | PPIX |
| 06466 | 5667 | | JMP I | .+1 |
| 06467 | 4365 | | UPARR2 | |

```

06472 4570 MOREDIM, MUSTBE      /', '
06471 3763                   3763
06472 7240 DIM,              CLA CMA
06473 3034                   DCA      DIMFLAG
06474 4501                   JMS I   PEVAL
06475 4566                   ISIT     / (CR) OR '\ '
06476 2000                   2000
06477 5270                   JMP     MOREDIM
06500 5503                   JMP I   PEXECUTE/YES

```

```

06501 4004 DELETED, TEXT ' DELETED_1 '
06502 0514
06503 0524
06504 0504
06505 3700

```

```

06506 1050 AMATCH, TAD      WORD
06507 3064                   DCA      SNUMFLG
06510 1064                   TAD      SNUMFLG
06511 3457                   DCA I   FPTR
06512 2037                   ISZ     FPTR
06513 1060                   TAD      GPTR
06514 3056                   DCA      EPTR
06515 4566                   ISIT     /'REM'
06516 1762                   1762
06517 5316                   JMP I   PSLOOP
06520 5721                   JMP I   .+1
06521 3043                   REMPACK

```

```

06522 3723 BREAK, 3723/2417/2056
06523 2417
06524 2056
06525 3722 READY, TEXT '_READY_...'
06526 0501
06527 0431
06530 5637
06531 3700

```

6531 CRLF=-1

```

06532 0000 ISDIG, 0
06533 4522 JMS I PNONBLNK
06534 1344 TAD 07706A
06535 7100 CLL
06536 1065 TAD 012
06537 7420 SNL
06540 7200 CLA
06541 7430 SZL
06542 2332 ISZ ISDIG
06543 5732 JMP I ISDIG
06544 7706 07706A, 7706
    
```

```

06545 1042 PZERDON, TAD PRTEMP
06546 1043 TAD DECEXP
06547 7710 SPA CLA
06550 5354 JMP .+4
06551 1043 TAD DECEXP
06552 7040 CMA
06553 3042 DCA PRTEMP
06554 1044 TAD PNUMBUF
06555 3025 DCA ACE
06556 7344 CLA CLL CMA RAL
06557 7040 DIGLUP, CMA
06560 1043 TAD DECEXP
06561 7440 SZA
06562 5365 JMP .+3
06563 1375 TAD 0256B
06564 4433 JMS I PPUTCH
06565 3043 DCA DECEXP
06566 1425 TAD I ACE
06567 4433 JMS I PPUTCH
06570 2025 ISZ ACE
06571 2042 ISZ PRTEMP
06572 5357 JMP DIGLUP
06573 5774 JMP I .+1
06574 5123 PMTENF
    
```

***** 8 K INSERT RETURN.

06575 0256 0256B, 256

6600 PAGE

6661 LSP=6661
6662 LCF=6662
6666 LLS=6666

| | | | | | |
|-------|------|--------|-----|--------|--|
| 06600 | 3334 | INTER, | DCA | INTAC | /SAVE ALL IMPORTANT STUFF ON INTERUPT. |
| 06601 | 7010 | | RAR | | |
| 06602 | 3335 | | DCA | INTL | |
| 06603 | 6234 | | RIB | | |
| 06604 | 0374 | | AND | 070 | |
| 06605 | 1375 | | TAD | 06202 | |
| 06606 | 3371 | | DCA | INTCIF | /SAVE INSTRUCTION FIELD |
| 06607 | 6234 | | RIB | | |
| 06610 | 0072 | | AND | 07 | |
| 06611 | 7106 | | CLL | RTL | /SHIFT IT OVER |

| | | | | | | |
|-------|------|---------|---------|----------|--|-------------------------------------|
| 26612 | 7004 | | RAL | | | |
| 26613 | 1215 | | TAD | 06201A | | /AND THE INSTUCTION FIELD |
| 26614 | 3370 | | DCA | INTCDF | | |
| 26615 | 6201 | 06201A, | CDP | 0 | | /JUST IN CASE. |
| | | | | | | |
| 06616 | 7000 | | IFZERO | MACHINE< | | |
| | | | NOP | | | /TO KEEP PAGE SAME SIZE. |
| | | | | | | |
| | | | IFNZRO | MACHINE< | | |
| | | | JMS I | SPECINT | | /CHECK FOR SPECIAL INTERUPT DEVICE. |
| | | | | | | |
| 06617 | 6041 | | TSF | | | /IS IT THE TELEPRINTER. |
| 06620 | 5223 | | JMP | .+3 | | /NO |
| 06621 | 6042 | | TCF | | | |
| 06622 | 5310 | | JMP | INODUN | | /YEP, CLEAN IT UP, |
| 06623 | 6661 | | LSF | | | /PRINTER? |
| 06624 | 5227 | | JMP | .+3 | | |
| 06625 | 6662 | | LCP | | | /YEP. |
| 06626 | 5310 | | JMP | INODUN | | |
| 06627 | 6021 | | PCF | | | /PUNCH? |
| 06630 | 5233 | | JMP | .+3 | | |
| 06631 | 6022 | | PCF | | | |
| 06632 | 5310 | | JMP | INODUN | | |
| 06633 | 6011 | | RSP | | | /READER? |
| 06634 | 5241 | | JMP | INOPPP | | /NOPE. |
| 06635 | 7330 | | CLA CLL | CML RAR | | /4000 TO AC |
| 06636 | 6012 | | RRB | | | /READ IN THE CHARACTER. |
| 06637 | 3740 | | DCA I | PHRCHAR | | |
| 06640 | 5344 | | JMP | INTEXT | | /EXIT FROM THE INTERUPT. |
| | | | | | | |
| 06641 | 6663 | INOPPP, | 6663 | | | /LINE PRINTER ERROR? |
| 06642 | 5245 | | JMP | INOTTT | | /NOPE. |
| 06643 | 6667 | | 6667 | | | /YEP, INGORE THE LINE PRINTER NOW. |
| 06644 | 5344 | | JMP | INTEXT | | /AND EXIT. |
| | | | | | | |
| 06645 | 6031 | INOTTT, | KSF | | | /IS IT THE KEYBOARD. |
| 06646 | 7402 | | HLT | | | /NOPE. A BADDY. WE'RE F--KED. |
| 06647 | 6036 | | KRB | | | /READ IN THE CHARACTER. |
| 06650 | 0027 | | AND | 0177 | | /CHOP OFF THE CRAP. |
| 06651 | 3336 | | DCA | INTEMP | | /SAVE IN THE INTERUPT TEMPORARY. |
| 06652 | 1336 | | TAD | INTEMP | | /RECALL IT NOW, BUBBY. |
| 06653 | 1376 | | TAD | 07775 | | /IS IT A "C |
| 06654 | 7450 | | SNA | | | /? |
| 06655 | 5265 | | JMP | FCNTLC | | /YES! |
| 06656 | 1377 | | TAD | 077640 | | /"0? |
| 06657 | 7650 | | SNA CLA | | | |
| 06660 | 5303 | | JMP | FCNTLO | | |
| 06661 | 7330 | | CLA CLL | CML RAR | | |
| 06662 | 1336 | | TAD | INTEMP | | /SET HIGH ORDER BIT ON FOR SAFETY. |
| 06663 | 3741 | | DCA I | PINCHAR | | /PUT IT AWAY |
| 06664 | 5344 | | JMP | INTEXT | | /AND EXIT FROM INTERUPT. |
| | | | | | | |
| 06665 | 1134 | FCNTLC, | TAD | NOINT | | /CHECK IF OK TO INTERUPT. |

| | | | | | | |
|-------|------|----------|--------|----------|--|---|
| 26666 | 7640 | | SZA | CLA | | |
| 26667 | 5300 | | JMP | CNTLCF | | /NOT OK. |
| 26670 | 6002 | CNTLCR, | IOF | | | /TURN OFF INTERRUPTS TO BE SURE. |
| 26671 | 4542 | | JMS I | DELOUT | | /DELETE OUTPUT BUFFERS. |
| 26672 | 4537 | | JMS I | PRESET | | /RESET ALL I/O DEVICES. |
| 26673 | 4514 | | JMS I | PPRINTXT | | /GIVE THE STOP MESSAGE |
| 26674 | 6522 | | BREAK | | | /I DON'T LIKE "THOSE PEOPLE" LOOKING OVER MY SHOULDER WHILE I TYPE. |
| 26675 | 1125 | | TAD | PPDLIST | | /RESET PUSH DOWN POINTER |
| 26676 | 3036 | | DCA | PDL | | |
| 26677 | 5520 | | JMP I | PEDIT | | /AND RESTART CISAB |
| 06700 | 7040 | CNTLCF, | CMA | | | /RESET "C FOUND SWITCH. |
| 06701 | 3134 | | DCA | NOINT | | |
| 06702 | 5344 | | JMP | INTEXT | | |
| 06703 | 4542 | FCNTLO, | JMS I | DELOUT | | /DELETE THE OUTPUT NOW, BABY. |
| 06704 | 1133 | | TAD | CNTLO | | /NEGATE CNTLO SWITCH. |
| 06705 | 7040 | | CMA | | | |
| 06706 | 3133 | | DCA | CNTLO | | |
| 06707 | 5344 | | JMP | INTEXT | | |
| 06710 | 3742 | INODUN, | DCA I | POFLAG | | /RESET OUTPUT FLAG. |
| 06711 | 4743 | | JMS I | POUIT | | /PERFORM THE NEXT OPERATION. |
| 06712 | 5344 | | JMP | INTEXT | | |
| 06713 | 0000 | BIDLE, | 0 | | | /THE IDLE ROUTINE |
| 06714 | 6002 | | IOF | | | |
| 06715 | 7201 | | CLA | IAC | | |
| 06716 | 3337 | | DCA | BUSY | | /RESET THE IDLE TASK FLAG. |
| 06717 | 6214 | | RDF | | | /SAVE THE DATA FIELD NOW. |
| 06720 | 1215 | | TAD | 06201A | | |
| 06721 | 3362 | | DCA | INTECDP | | /AND PLACE IN WHERE TO GO ON IDLE EXIT. |
| 06722 | 1331 | | TAD | IDLELK | | /RESTORE THE IDLE ROUTINES PARAMETERS. |
| 06723 | 7104 | | CLL | RAL | | |
| 06724 | 1332 | | TAD | IDLEAC | | |
| 06725 | 6211 | IDLECD, | CDP | 10 | | |
| 06726 | 6202 | IDLECI, | CIF | 0 | | |
| 06727 | 6001 | | ION | | | |
| 06730 | 5733 | | JMP I | IDLEPC | | /AND DO THE IDLE STUFF |
| 06731 | 0000 | IDLELK, | 0 | | | |
| 06732 | 0000 | IDLEAC, | 0 | | | |
| 06733 | 7415 | IDLEPC, | NULJOB | | | |
| 06734 | 0000 | INTAC, | 0 | | | |
| 06735 | 0000 | INTL, | 0 | | | |
| 06736 | 0000 | INTEMP, | 0 | | | |
| 06737 | 0000 | BUSY, | 0 | | | |
| 06740 | 7256 | PHRCHAR, | HRCHAR | | | |
| 06741 | 7255 | PINCHAR, | INCHAR | | | |

26742 7100 POFLAG, OFLAG
 26743 7043 POUTIT, OUTIT

06744 1337 INTEXT, TAD BUSY
 06745 7650 SNA CLA
 06746 5365 JMP INTOU
 06747 3337 DCA BUSY
 06750 1000 TAD 0
 06751 3333 DCA IDLEPC
 06752 1334 TAD INTAC
 06753 3332 DCA IDLEAC
 06754 1335 TAD INTL
 06755 3331 DCA IDLELK
 06756 1371 TAD INTCIF

/GET STATUS.
 /WE WERE NOT IDLE. EXIT NOW.
 /RESET BUSY FLAG,

/SAVE SH-T.

| | | | | | |
|-------|------|---------|-------|---------|-----------------------------|
| 06757 | 3326 | | DCA | IDLECIF | |
| 06760 | 1370 | | TAD | INTCDF | |
| 06761 | 3325 | | DCA | IDLECOF | |
| 06762 | 7402 | INTECO, | HLT | | /IDLE ROUTINES CALLING CDF. |
| 06763 | 6001 | | ION | | |
| 06764 | 5713 | | JMP I | BIDLE | /AND GO BACK NOW. |

| | | | | | |
|-------|------|---------|---------|-------|--|
| 06765 | 1335 | INTOU, | TAD | INTL | |
| 06766 | 7104 | | CLL RAL | | |
| 06767 | 1334 | | TAD | INTAC | |
| 06770 | 7402 | INTCDF, | HLT | | |
| 06771 | 7402 | INTCIF, | HLT | | |
| 06772 | 6001 | | ION | | |
| 06773 | 5400 | | JMP I | 0 | |

| | | | | | |
|-------|------|---------|------|--|--|
| 06774 | 0070 | 070, | 70 | | |
| 06775 | 6202 | 06202, | 6202 | | |
| 06776 | 7775 | 07775, | 7775 | | |
| 06777 | 7764 | 077640, | 7764 | | |

7000

PAGE

| | | | | | |
|-------|------|--------|-----|-------|--|
| 07000 | 0000 | PUTER, | 0 | | |
| 07001 | 3241 | | DCA | OPUTC | |

/THE CHARACTER PUTTER.
/SAVE THE CHARACTER NOW.

| | | | | | |
|-------|------|---------|-------|--------|---|
| 27202 | 6214 | | RDF | | /READ THE DATA FIELD NOW. |
| 27203 | 1205 | | TAD | 062018 | /CREATE PROPER CDF INSTRUCTION. |
| 27224 | 3237 | | DCA | PUTCDF | /SAVE CDF INSTRUCTION. |
| 27225 | 6201 | 062018, | COF | 0 | /RESET CDF TO THIS DATA FIELD. |
| 27206 | 7410 | | SKP | | |
| 27227 | 4761 | PUTLP, | JMS I | PBIDLE | /CALL IN THE IDLE ROUTINE NOW. |
| 27210 | 1242 | | TAD | OCOUNT | /GET NUMBER OF CHARACTERS IN THE BUFFER. |
| 27211 | 7450 | | SNA | | |
| 27212 | 5223 | | JMP | PUTCIN | /PUT IT IN NOW, BABY. |
| 27213 | 1315 | | TAD | OCMLIM | /TEST FOR TOO MANY IN BUFFER. |
| 27214 | 7650 | | SNA | CLA | |
| 27215 | 5207 | | JMP | PUTLP | /YEP, WAIT AWHILE. |
| 27216 | 1131 | | TAD | OUTDEV | |
| 27217 | 7041 | | CIA | | |
| 27220 | 1132 | | TAD | ODEV | /CHECK FOR A MATCH. |
| 27221 | 7640 | | SZA | CLA | |
| 27222 | 5207 | | JMP | PUTLP | /NOPE, WAIT FOR BUFFER TO BECOME EMTPY. |
| 27223 | 6002 | PUTCIN, | IOF | | /TURN THEM OFF, BABY. |
| 27224 | 1133 | | TAD | CNTLO | /CHECK FOR CONTROL "O" ACTIVE. |
| 27225 | 7650 | | SNA | CLA | |
| 27226 | 1131 | | TAD | OUTDEV | /MOVE OVER OUTPUT DEVICE. |
| 27227 | 3132 | | DCA | ODEV | |
| 27230 | 2242 | | ISZ | OCOUNT | |
| 27231 | 1241 | | TAD | OPUTC | /STICK A CHARACTER IN THE BUFFER. |
| 27232 | 3634 | | DCA I | IPOINT | |
| 27233 | 4301 | | JMS | OBOP | /BOP UP THE POINTER NOW. |
| 27234 | 1165 | IPOINT, | OBLW | | |
| 27235 | 4243 | | JMS | OUTIT | /SEND IT OUT |
| 27236 | 6001 | | ION | | /RESTORE INTERRUPTS. |
| 27237 | 7402 | PUTCDF, | HLT | | /USER'S CORRECT CDF |
| 27240 | 5600 | | JMP I | PUTER | |
| 27241 | 0000 | OPUTC, | 0 | | |
| 27242 | 0000 | OCOUNT, | 0 | | |
| 27243 | 0000 | OUTIT, | 0 | | |
| 27244 | 1300 | | TAD | OFLAG | |
| 27245 | 7640 | | SZA | CLA | |
| 27246 | 5643 | | JMP I | OUTIT | /FLAG STILL UP, EXIT. |
| 27247 | 1242 | | TAD | OCOUNT | |
| 27250 | 7450 | | SNA | | |
| 27251 | 5643 | | JMP I | OUTIT | /NO CHARS TO GO, SO WE WILL. |
| 27252 | 1314 | | TAD | 07777 | /PLEASE IGNORE THE COMMENTS OF A DERANGED MIND. |
| 27253 | 3242 | | DCA | OCOUNT | |
| 27254 | 1132 | | TAD | ODEV | |
| 27255 | 1273 | | TAD | OPOTAB | /MAP DEVICE INTO TABEL TOO ET WHAT TO DO. |
| 27256 | 3300 | | DCA | OFLAG | /AND ALSO RESET FLAG AT THE SAME TIME. |
| 27257 | 1700 | | TAD I | OFLAG | /GET THE MAGIC INSTUCTION. |
| 27260 | 3262 | | DCA | .+2 | /AND PLACE IT HERE. |
| 27261 | 1665 | | TAD I | OPOINT | /GET THE CHARACTER. |
| 27262 | 7402 | | HLT | | /AND HALT. |
| 27263 | 7200 | | CLA | | /AFTER PRINTING THE CHARACTER, |

| | | | | |
|-------|------|---------|-----------------|---|
| 27264 | 4321 | JMS | OBOP | /WE SHALL INCREMENT THE POINTER. |
| 27265 | 1165 | OPOINT, | OBLOW | |
| 27266 | 5643 | JMP I | OUTIT | /AND EXIT. |
| 27267 | 7220 | OPNUL, | CLA | /RESET OFLAG |
| 27270 | 3300 | | DCA | /SO DEVICES INACTIVE. |
| 27271 | 4542 | JMS I | OFLAG | /DELETE ANY STRAY CHARACTERS IN THE BUFFER. |
| 27272 | 5643 | JMP I | OUTIT | /AND RETURN NOW. |
| 27273 | 7074 | OPOTAB, | ,+1 | |
| 27274 | 5267 | JMP | OPNUL | /NUL DEVICE (NO ECHOING) |
| 27275 | 6046 | | TLS | |
| 27276 | 6026 | | PLS | |
| 27277 | 6666 | | LLS | |
| 27100 | 0000 | OFLAG, | 0 | |
| 07101 | 0000 | OBOP, | 0 | |
| 07102 | 1701 | TAD I | OBOP | |
| 07103 | 1312 | TAD | OTST1 | |
| 07104 | 7450 | | SNA | |
| 07105 | 1315 | TAD | OFLOW | |
| 07106 | 1313 | TAD | OCOR | |
| 07107 | 3701 | DCA I | OBOP | |
| 07110 | 2301 | ISZ | OBOP | |
| 07111 | 5701 | JMP I | OBOP | |
| 07112 | 6601 | OTST1, | =OBHIGH | |
| 07113 | 1200 | OCOR, | OBHIGH+1 | |
| 07114 | 7777 | 07777, | 7777 | |
| 07115 | 7765 | OFLOW, | =OBHIGH-1+OBLOW | |
| | 7115 | OCMLIM= | OFLOW | |
| 07116 | 0000 | RESET1, | 0 | |
| 07117 | 7201 | CLA | IAC | |
| 07120 | 3131 | DCA | OUTDEV | |
| 07121 | 7201 | CLA | IAC | |
| 07122 | 3130 | DCA | OUTD2 | |
| 07123 | 7201 | CLA | IAC | |
| 07124 | 3127 | DCA | INDEV | |
| 07125 | 3133 | DCA | CNTLO | |
| 07126 | 3134 | DCA | NOINT | /CLEAR NO-INTERUPT FLAG. |
| 07127 | 6201 | ODF | 0 | /RESET DATA FIELD TO HERE. |
| 07130 | 3756 | DCA I | QHRCHAR | /CLEAR ALL INPUT FLAGS. |
| 07131 | 3762 | DCA I | SINCHAR | |
| 07132 | 3757 | DCA I | PBUSY | /AND ALSO THE BUSY FLAG. |
| 07133 | 3760 | DCA I | PPXRA | /RESET NULL AFTER C.R. FLAG. |

IFNZRO MACHINE<
CIF CDF 10
JMS I LLLUUU
>

/PREPARE TO RESET CLOCK,
/RESET CLOCK NOW (OR RATHER A-D BUFFER).

27134 6211 IFZERO MACHINE<
27135 6221 CDF 10
ION
>

27136 6665 6665
27137 5716 JMP I RESET1

/TELL LPT IT'S OK TO INTERUPT NOW.

27140 2352 LLLUUU, UUULLL

/POINTER TO UPPER CORE RESETER.

27141 0000 RESET2, 0
27142 4537 JMS I PRESET
27143 4542 JMS I DELOUT
27144 3300 DCA OFLAG
27145 5741 JMP I RESET2

27146 0000 OUTOEL, 0
27147 3242 DCA OCOUNT
27150 1355 TAD OPRST
27151 3263 DCA OPOINT
27152 1355 TAD OPRST
27153 3234 DCA IPOINT
27154 5746 JMP I OUTOEL

27155 1165 OPRST, OBLOW
27156 7256 QHRCHAR, HRCHAR
27157 6737 PBUSY, BUSY
27160 2776 PPXRA, PUTXRA
27161 6713 PBIDLE, BIDLX
27162 7255 SINCHAR, INCHAR

| | | | | | |
|-------|------|---------|--------|----------|--------------------------------------|
| 07163 | 7201 | LPTOUT, | CLA | IAC | /LINE PRINTER OUTPUT |
| 07164 | 7001 | PTPOUT, | IAC | | /PUNCH OUT |
| 07165 | 7001 | TTYOUT, | IAC | | /TTY OUT |
| 07166 | 3131 | | DCA | OUTDEV | /AND SET IT UP |
| 07167 | 1131 | | TAD | OUTDEV | /ALSO MOVE OVER TO SECONDARY DEVICE. |
| 07170 | 3130 | | DCA | OUTD2 | |
| 07171 | 5375 | | JMP | DEVCOM | /AND CHECK FOR END. |
| | | | | | |
| 07172 | 7201 | PTRIN, | CLA | IAC | |
| 07173 | 7001 | TTYIN, | IAC | | |
| 07174 | 3127 | | DCA | INDEV | |
| | | | | | |
| 07175 | 4177 | DEVCOM, | JMS | GETWD | |
| 07176 | 4570 | DEVCON, | MUSTEE | | |
| 07177 | 2000 | | 2000 | | /C.R. OR \ |
| 07200 | 5503 | | JMP I | PEXECUTE | |

| | | | | | |
|-------|------|--------|-------|--------|--|
| 07221 | 0000 | GETCH, | 0 | | |
| 07222 | 4270 | | JMS | GWHERE | |
| 07223 | 4657 | | JMS I | QBIDLE | |
| 07224 | 1255 | | TAD | INCHAR | |

| | | | | |
|-------|------|---------|-------|---------|
| 07205 | 7450 | | SNA | |
| 07206 | 5203 | | JMP | GETCH+2 |
| 07207 | 2227 | | AND | 0177 |
| 07210 | 3254 | | DCA | GTEMP |
| 07211 | 3255 | | DCA | INCHAR |
| 07212 | 3256 | | DCA | HRCHAR |
| 07213 | 1135 | | TAD | RBSWCH |
| 07214 | 7650 | | SNA | CLA |
| 07215 | 5224 | | JMP | GRB |
| 07216 | 1254 | | TAD | GTEMP |
| 07217 | 1260 | | TAD | 07601 |
| 07220 | 7640 | | SZA | CLA |
| 07221 | 5224 | | JMP | GRB |
| 07222 | 1261 | GRDELA, | TAD | 0137 |
| 07223 | 5601 | | JMP I | GETCH |
| 07224 | 1254 | GRB, | TAD | GTEMP |
| 07225 | 1055 | | TAD | 07770 |
| 07226 | 7450 | | SNA | |
| 07227 | 5222 | | JMP | GRDELA |
| 07230 | 1262 | | TAD | 07612 |
| 07231 | 7450 | | SNA | |
| 07232 | 5247 | | JMP | GALT |
| 07233 | 1266 | | TAD | 0143 |
| 07234 | 7650 | | SNA | CLA |
| 07235 | 5247 | | JMP | GALT |
| 07236 | 1254 | | TAD | GTEMP |
| 07237 | 1263 | | TAD | 07640C |
| 07240 | 7510 | | SPA | |
| 07241 | 5251 | | JMP | GOUT |
| 07242 | 1264 | | TAD | 07746 |
| 07243 | 7500 | | SMA | |
| 07244 | 5251 | | JMP | GOUT |
| 07245 | 1265 | | TAD | 0132 |
| 07246 | 5601 | | JMP I | GETCH |
| 07247 | 1267 | GALT, | TAD | 0175 |
| 07250 | 5601 | | JMP I | GETCH |
| 07251 | 7200 | GOUT, | CLA | |
| 07252 | 1254 | | TAD | GTEMP |
| 07253 | 5601 | | JMP I | GETCH |
| 07254 | 0000 | GTEMP, | 0 | |
| 07255 | 0000 | INCHAR, | 0 | |
| 07256 | 0000 | HRCHAR, | 0 | |
| 07257 | 6713 | QBIDLE, | BIDLE | |
| 07260 | 7601 | 07601, | 7601 | |
| 07261 | 0137 | 0137, | 137 | |
| 07262 | 7612 | 07612, | 7612 | |
| 07263 | 7640 | 07640C, | 7640 | |
| 07264 | 7746 | 07746, | 7746 | |

| | | | |
|-------|------|-------|-----|
| 07265 | 0132 | 0132, | 132 |
| 07266 | 0143 | 0143, | 143 |
| 07267 | 0175 | 0175, | 175 |

| | | | | |
|-------|------|---------|-----|-------------------------------------|
| 07270 | 0000 | GWHERE, | 0 | |
| 07271 | 7240 | | CLA | CMA |
| 07272 | 1127 | | TAD | INDEV |
| 07273 | 2270 | | ISZ | GWHERE |
| 07274 | 7750 | | SPA | SNA CLA |
| 07275 | 5670 | | JMP | I GWHERE |
| | | | | /INPUT=TTY |
| 07276 | 1264 | | TAD | 07746 |
| 07277 | 3254 | | DCA | GTEMP |
| 07300 | 3256 | | DCA | HRCHAR |
| 07301 | 6014 | | RFC | |
| 07302 | 1256 | HRLOP, | TAD | HRCHAR |
| 07303 | 7440 | | SZA | |
| 07304 | 5321 | | JMP | HFOUND |
| 07305 | 2255 | | ISZ | INCHAR |
| 07306 | 5302 | | JMP | HRLOP |
| 07307 | 2254 | | ISZ | GTEMP |
| 07310 | 5302 | | JMP | HRLOP |
| 07311 | 7201 | | CLA | IAC |
| 07312 | 3131 | | DCA | OUTDEV |
| 07313 | 3133 | | DCA | CNTLO |
| 07314 | 4514 | | JMS | I PPRINTXT |
| | | | | /RESET OUTPUT DEVICE FOR A SECOND. |
| | | | | /RESET THE CONTROL "O" SWITCH ALSO. |
| | | | | /GIVE THE MESSAGE. |

```

07315 7323 HRMES
07316 7281 CLA IAC
07317 3127 DCA INDEV
07320 5670 JMP I GWHERE

```

```

07321 2270 MFOUND, ISZ GWHERE
07322 5670 JMP I GWHERE

```

```

07323 3724 HRMES, TEXT '_TTY_'
07324 2431
07325 3700

```

```

07326 0000 COWT, 0 /THIS ROUTINE WAITS FOR OUTPUT TO STOP.
07327 6201 CDF 0 /SET D.F. TO THIS FIELD.
07330 3742 DCA I CCXRA /SET OR RESET NULL AFTER C.R. FLAG.
07331 1743 COWTLP, TAD I COWTFP /GET OUTPUT FLAG STATUS.
07332 6211 CDF 10 /RESET D.F.
07333 7650 SNA CLA /IS OUTPUT DONE?
07334 5340 JMP COWTO /YEP, EXIT.
07335 4744 JMS I COWTW /NOPE, IDLE LOOP TILL INTERRUPT.
07336 6201 CDF 0 /RESET D.F. TO ZERO.
07337 5331 JMP COWTLP /AND LOOP.
07340 3133 COWTO, DCA CNTLO /CLEAR CONTROL 0 STATE.
07341 5726 JMP I COWT

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07342 0776 CCXRA, PUTXRA
07343 7100 COWTFP, OFLAG
07344 6713 COWTW, BIDLE

```

| | | | | | |
|-------|------|---------|-------|---------|--------------------|
| 07345 | 0000 | XGMUST, | 0 | | |
| 07346 | 4177 | | JMS | GETWD | |
| 07347 | 1345 | | TAD | XGMUST | |
| 07350 | 3352 | | OCA | XMUST | |
| 07351 | 5353 | | JMP | XMUST+1 | |
| 07352 | 0000 | XMUST, | 0 | | |
| 07353 | 1450 | | TAD I | WORD | |
| 07354 | 6201 | | COF | 0 | /***** 8 K INSERT. |
| 07355 | 1752 | | TAD I | XMUST | |
| 07356 | 6211 | | COF | 10 | /***** 8 K INSERT. |
| 07357 | 2352 | | ISZ | XMUST | |
| 07360 | 7650 | | SNA | CLA | |
| 07361 | 5752 | | JMP I | XMUST | |
| 07362 | 5500 | | JMP I | PSXERR | |

| | | | | | |
|-------|------|----------|-------|------------|--|
| 07363 | 4477 | ARGERR, | JMS I | PERROR | |
| 07364 | 0122 | | TEXT | 'ARGUMENT' | |
| 07365 | 0725 | | | | |
| 07366 | 1505 | | | | |
| 07367 | 1624 | | | | |
| 07370 | 0000 | | | | |
| 07371 | 5660 | DOTZERO, | TEXT | '0' | |
| 07372 | 0000 | | | | |

| | | | | | |
|-------|------|--------|-------|--------|-----------------------------|
| 07373 | 4477 | RTERR, | JMS I | PERROR | /GIVE RATE ERROR FOR CLOCK. |
| 07374 | 2201 | | TEXT | 'RATE' | |
| 07375 | 2405 | | | | |
| 07376 | 0000 | | | | |

7400

PAGE

IFZERO MACHINE<
NOPUNCH>

| | | | | | |
|-------|------|--------|------------------|---------|--|
| 07400 | 1136 | PLOT, | TAD | DISB | /GET BUFFER ADDRESS. |
| 07401 | 7640 | | SZA | CLA | /IS THERE ONE? |
| 07402 | 5220 | | JMP | DBGOT | |
| 07403 | 1240 | | TAD | PASSUME | /GET ASSUMED LENGTH. |
| 07404 | 4544 | | JMS I | SPLEFT | /ROOM LEFT TO FIT IT IN. |
| 07405 | 7410 | | SKP | | |
| 07406 | 5755 | | JMP I | NPSERR | /NO. |
| 07407 | 1003 | | TAD | ARRLOC | /GET A USABLE ADDRESS. |
| 07410 | 3311 | | DCA | DLAST | /SAVE AWAY. |
| 07411 | 1003 | | TAD | ARRLOC | /NOW UPDATE OUR ARRAY. |
| 07412 | 1240 | | TAD | PASSUME | |
| 07413 | 3003 | | DCA | ARRLOC | |
| 07414 | 7240 | | CLA | CMA | |
| 07415 | 1003 | | TAD | ARRLOC | /GET LAST WORD OF OUR BUFFER NOW. |
| 07416 | 3312 | | DCA | DDLAST | /AND GO. |
| 07417 | 4314 | | JMS | PLOTB | /FIGURE OUT OUR CRAP NOW. |
| 07420 | 3313 | DBGOT, | DCA | DBAD | /TELL IT POINT IS ON SCREEN |
| 07421 | 4177 | | JMS | GETWD | /GET NEXT SYNTATICAL ELEMENT. |
| 07422 | 4641 | | JMS I | PMEVAL | /EVALUATE OUR EXPRESSION. |
| 07423 | 4435 | | FENTER | | |
| 07424 | 6217 | | FMP+FSHIFT+FWD=. | | /CORRECT NUMBER FOR SYMETRICAL SCREEN. |

```

07425 0000 FEXIT
07426 4326 JMS DBLIT /PUT IT IN THE BUFFER,
07427 4641 JMS I PMEVAL /GET Y COORDINATE,
07430 4326 JMS DBLIT /PUT IT IN THE BUFFER,
07431 1313 TAD DBAD /IS IT A BAD ONE? <OFF SCREEN?>
07432 7041 CIA
07433 1311 TAD DINP
07434 3311 DCA DINP
07435 7330 CLA CLL CML RAR /4000=END OF BUFFER CHARACTER.
07436 3711 DCA I DINP
07437 5642 JMP I PDEVCON

```

```

07440 1750 PASSUME,1750
07441 7415 PMEVAL, MEVAL
07442 7176 PDEVCON,DEVCON
07443 2007 FSHIFT, 2007/1600/0000 /MAGIC CONSTANT FOR SYMETRICAL SCREEN.
07444 1600
07445 0000

```

```

07446 1136 USE, TAD DISB /IS DISPLAY BUFFER ASSIGNED.
07447 7640 SZA CLA
07450 5661 JMP I USKIPIT /YES, EXIT.
07451 4262 JMS GETARY /GET THE ARRAY DATA
07452 1020 TAD AC1 /GET FIRST FREE LOCATION
07453 3311 DCA DLAST
07454 1017 TAD AC2 /GET SECOND FREE LOCATION
07455 3312 DCA DDLAST /SAVE AWAY.
07456 4314 JMS PLOTB /SET UP STUFF.
07457 4177 JMS GETWD /GET NEXT ELIMAENT AFTER VARIABLE.
07460 5642 JMP I PDEVCON
07461 0467 USKIPIT,SKIPIT

```

```

07462 0000 GETARY, 0 /THIS ROUTINE GETS THE FIRST AND LAST LOCATIONS OF AN ARRAY.
07463 4571 GET+MUSTBE /MUST BE A VARIABLE.
07464 7000 7000
07465 1050 TAD WORD /GET POINTER TO VARIABLE.
07466 3302 DCA UVP
07467 2050 ISZ WORD
07470 1450 TAD I WORD /GET POINTER NOW.
07471 7001 IAC
07472 3020 DCA AC1 /SAVE AWAY.
07473 2050 ISZ WORD
07474 1450 TAD I WORD
07475 3303 DCA UIP
07476 2050 ISZ WORD
07477 1450 TAD I WORD
07500 3304 DCA UZF
07501 4502 JMS I PGETADD
07502 0000 UVP, 0
07503 0000 UIP, 0

```

| | | | | | | |
|-------|------|------|-----|-----|---------|-----|
| 07504 | 0000 | U2P, | 0 | | | |
| 07505 | 7326 | | CLA | CLL | CML | RTL |
| 07526 | 1067 | | TAD | | ADDRESS | |
| 07527 | 3017 | | DCA | | AC2 | |
| 07510 | 5662 | | JMP | I | GETARY | |

| | | | | | | |
|-------|------|------------|---|--|--|--|
| 07511 | 0000 | DLAST, | 0 | | | |
| | 7511 | DINP=DLAST | | | | |
| 07512 | 0000 | DDLAST, | 0 | | | |
| 07513 | 0000 | DBAD, | 0 | | | |

| | | | | | | |
|-------|------|--------|-----|-----|--------|-----|
| 07514 | 0000 | PLOTB, | 0 | | | |
| 07515 | 7240 | | CLA | CMA | | |
| 07516 | 1311 | | TAD | | DLAST | |
| 07517 | 3136 | | DCA | | DISB | |
| 07520 | 1325 | | TAD | | 04001 | |
| 07521 | 3712 | | DCA | I | DDLAST | |
| 07522 | 7330 | | CLA | CLL | CML | RAR |
| 07523 | 3711 | | DCA | I | DLAST | |
| 07524 | 5714 | | JMP | I | PLOTB | |

07525 4001 04001, 4001

| | | | | | | |
|-------|------|--------|-----|-----|--------|-----|
| 07526 | 0000 | DBLIT, | 0 | | | |
| 07527 | 1024 | | TAD | | AC8 | |
| 07530 | 7700 | | SMA | CLA | | |
| 07531 | 5335 | | JMP | | ,+4 | |
| 07532 | 7326 | DBBAD, | CLA | CLL | CML | RTL |
| 07533 | 3313 | | DCA | | DBAD | |
| 07534 | 5347 | | JMP | | DBISRT | |

| | | | |
|-------|------|-------------|---------|
| 27535 | 1025 | TAD | ACE |
| 27536 | 1354 | TAD | 07577B |
| 27537 | 7700 | SMA CLA | |
| 27540 | 5332 | JMP | 0BBAD |
| 27541 | 1225 | TAD | ACE |
| 27542 | 1065 | TAD | 012 |
| 27543 | 3025 | DCA | ACE |
| 27544 | 4506 | JMS I | PPIX |
| 27545 | 7200 | CLA | |
| 27546 | 1016 | TAD | AC3 |
| 27547 | 4356 | DBISRT, JMS | DBPUT |
| 27550 | 7330 | CLA CLL | CML RAR |
| 27551 | 2311 | ISZ | DINP |
| 27552 | 4356 | JMS | DBPUT |
| 27553 | 5726 | JMP I | OBLIT |

| | | | |
|-------|------|------------------|--|
| 27554 | 7577 | 07577B, 7577 | |
| 27555 | 0370 | NPSPERR, SPACERR | |

| | | | |
|-------|------|----------|---------|
| 27556 | 2000 | DBPUT, 0 | |
| 27557 | 3017 | DCA | AC2 |
| 27560 | 7350 | CLA CLL | CMA RAR |
| 27561 | 1711 | TAD I | DINP |
| 27562 | 7650 | SNA CLA | |
| 27563 | 5755 | JMP I | NPSPERR |
| 27564 | 1017 | TAD | AC2 |
| 27565 | 3711 | DCA I | DINP |
| 27566 | 5756 | JMP I | DBPUT |

/=4001=3777

/NO ROOM IN BUFFER, BOMB HIM.

| | | | |
|-------|------|---------------|------------|
| 27567 | 4477 | UUDATA, JMS I | PERROR |
| 27570 | 0155 | TEXT | 'A-D FULL' |
| 27571 | 0440 | | |
| 27572 | 0625 | | |
| 27573 | 1014 | | |
| 27574 | 0000 | | |

ENPUNCH

IFNZRO MACHINE4

PAGE
>

7400

IFZERO MACHINE<
+PLOT>

| | | | | |
|-------|------|--------|---------|--|
| 07400 | 0000 | SETUP, | 0 | |
| 07401 | 1005 | TAD | PSYMTAB | |
| 07402 | 3056 | DCA | EPTR | |
| 07403 | 1006 | TAD | NSYMTAB | |
| 07404 | 3057 | DCA | FPTR | |
| 07405 | 3136 | DCA | DISB | |
| 07406 | 5600 | JMP I | SETUP | |

IFNZRO MACHINE<
CDEVCOM,DEVCOM
>

0000

IFZERO MACHINE<
CDEVCOM=0
>

| | | | | |
|-------|------|-------|------|--|
| 07407 | 0000 | ISET, | 0 | |
| 07410 | 6050 | | DILC | |
| 07411 | 6055 | | DIXY | |

| | | | |
|-------|------|-------|--------|
| 27412 | 4614 | JMS I | IIXR |
| 27413 | 5627 | JMP I | ISET |
| 27414 | 7141 | IIXR, | RESET2 |

IFZERO MACHINE<

NOPUNCH>

| | | | | |
|-------|------|----------|--------|---------------|
| 27415 | 0000 | MEVAL, | 0 | |
| 27416 | 4566 | | ISIT | /IS IT A C.R. |
| 27417 | 2000 | | 2000 | |
| 27420 | 7410 | | SKP | |
| 27421 | 5500 | | JMP I | PSXERR |
| 27422 | 4566 | | ISIT | |
| 27423 | 3763 | | 3763 | /, |
| 27424 | 5227 | | JMP | .+3 |
| 27425 | 4177 | | JMS | GETND |
| 27426 | 5216 | | JMP | MEVAL+1 |
| 27427 | 1215 | | TAD | MEVAL |
| 27430 | 5631 | | JMP I | MEVALGO |
| 27431 | 1007 | MEVALGO, | EVALGO | |

| | | | | | |
|-------|------|--------|---------|---------|----------------------------|
| 27432 | 1136 | CLEAR, | TAD | DISB | |
| 27433 | 7450 | | SNA | | /IS IT THERE? |
| 27434 | 5400 | | JMP I | CDEVCOM | /NOPE. |
| 27435 | 3013 | | DCA | INDEX1 | |
| 27436 | 7330 | | CLA CLL | CML RAR | /4000 |
| 27437 | 3413 | | DCA I | INDEX1 | |
| 27440 | 6201 | | CDP | 0 | /RESET INPUT POINTER ALSO. |
| 27441 | 1013 | | TAD | INDEX1 | |
| 27442 | 3645 | | DCA I | COINP | |
| 27443 | 6211 | | CDP | 10 | |
| 27444 | 5400 | | JMP I | CDEVCOM | |

/E IC.LOE

PALB-V7

PALB-14-8

07445 7511 CDINP, DINP

| | | | |
|-------|------|-----------|--------|
| 07446 | 2220 | LLLJMS, 0 | |
| 07447 | 1946 | TAD I | LLLJMS |
| 07450 | 2246 | ISZ | LLLJMS |
| 07451 | 3257 | DCA | LLLJMP |
| 07452 | 4657 | JMS I | LLLJMP |
| 07453 | 7410 | SKP | |

/IN CASE OF SKIPPING RETURN.

| | | | | | |
|-------|------|--|---------|--------|--|
| 07454 | 2246 | | ISZ | LLLJMS | |
| 07455 | 6213 | | CIF CDF | 10 | |
| 07456 | 5646 | | JMP I | LLLJMS | |

| | | | | | |
|-------|------|---------|-------|--------|--|
| 07457 | 0800 | LLLJMP, | 0 | | |
| 07460 | 1657 | | TAD I | LLLJMP | |
| 07461 | 3257 | | DCA | LLLJMP | |
| 07462 | 5657 | | JMP I | LLLJMP | |

| | | | | | |
|-------|------|--------|---------|---------|--|
| 07463 | 7326 | DELAY, | CL\ CLL | CML RTL | /+2 |
| 07464 | 3220 | | DCA | NDELAY | /SET UP DEALY TIME (ONE TIME THROUGH). |

| | | | | | |
|--|--|---------|--------|----------|----------------------------------|
| | | | IFNZRO | MACHINE< | |
| | | NULJOB, | TAD | DISB | /SET UP AUTO INDEX REGISTER NOW. |

| | | | | | |
|--|------|--|---------|----------|--|
| | | | IFZERO | MACHINE< | |
| | | | ENPUNCH | | |
| | 7415 | | *MEVAL | | |

| | | | | | |
|-------|------|---------|-----|--------|--|
| 07415 | 7001 | NULJOB, | IAC | | |
| 07416 | 5215 | | JMP | NULJOB | |

NOPUNCH>

| | | | | | |
|-------|------|--|---------|---------|--------------------------------------|
| 07417 | 3015 | | DCA | DISAUTO | /WITH POINTER TO OUR BUFFER. |
| 07420 | 1220 | | TAD | NDELAY | /UPDATE DELAY WORD. |
| 07421 | 7110 | | CLL RAR | | |
| 07422 | 3220 | | DCA | NDELAY | |
| 07423 | 7430 | | SZL | | /ARE WE FINISHED WITH DELAY COMMAND? |
| 07424 | 5400 | | JMP I | COEVCOM | /YEP, EXIT NOW. |
| 07425 | 1136 | | TAD | DISB | /GET OUR WORD NOW. |
| 07426 | 7650 | | SNA CLA | | /ZERO? |
| 07427 | 5215 | | JMP | NULJOB | /YEP. WAIT AWHILE. |

| | | | | | |
|-------|------|---------|-------|---------|-----------------------------------|
| 07430 | 1415 | NULLOP, | TAD I | DISAUTO | |
| 07431 | 7510 | | SPA | | |
| 07432 | 5254 | | JMP | NULCMD | |
| 07433 | 1256 | | TAD | 07000C | /BRING DOWN INTO RANGE OF SCREEN. |
| 07434 | 6052 | | DISD | | |
| 07435 | 5234 | | JMP | ,=1 | |

| | | | |
|-------|------|-------------------|---------|
| 07436 | 6053 | DILX | |
| 07437 | 7200 | CLA | |
| 07440 | 1415 | YAD I | DISAUTO |
| 07441 | 7510 | SPA | |
| 07442 | 5254 | JMP | NULCMD |
| 07443 | 1256 | TAO | 07000C |
| 07444 | 6052 | DISD | |
| 07445 | 5244 | JMP | .-1 |
| 07446 | 6054 | DILY | |
| 07447 | 7200 | CLA | |
| 07450 | 6052 | DISD | |
| 07451 | 5250 | JMP | .-1 |
| 07452 | 6055 | DIXY | |
| 07453 | 5230 | JMP | NULLOP |
| 07454 | 7200 | NULCMD, CLA | |
| 07455 | 5215 | JMP | NULJOB |
| 07456 | 7000 | 07000C, 7000 | |
| 07457 | 6762 | NINTECDF, INTECOP | |

/CENTER AGAIN,

| | | | |
|-------|------|---------------|----------|
| 07460 | 4477 | UUNOAD, JMS I | PERROR |
| 07461 | 1617 | TEXT | 'NO A=D' |
| 07462 | 4001 | | |
| 07463 | 5504 | | |
| 07464 | 0000 | | |

| | | | |
|-------|------|-----------|--------|
| 07465 | 0000 | CCINTK, 0 | |
| 07466 | 6131 | 6131 | |
| 07467 | 5665 | JMP I | CCINTK |
| 07470 | 6213 | CIF CDF | 10 |
| 07471 | 5672 | JMP I | .+1 |
| 07472 | 0175 | CLOCKI | |

7473
7473REALTI=,
SETRAT=,

| | |
|------|----------|
| 7473 | SETCLO=. |
| 7473 | WAITC=. |
| 7473 | WAIT=. |
| 7473 | REJECT=. |
| 7473 | ACCEPT=. |

| | | | |
|-------|------|---------|------|
| 07473 | 1450 | TAD I | WORD |
| 07474 | 6213 | COF CIF | 10 |
| 07475 | 5676 | JMP I | .+1 |
| 07476 | 0731 | UPCOM00 | |

| | |
|------|-------|
| 7477 | TIM=. |
| 7477 | CLC=. |
| 7477 | CLD=. |
| 7477 | ADC=. |
| 7477 | ADB=. |

| | | | |
|-------|------|---------|-----|
| 07477 | 0000 | 0 | |
| 07500 | 1436 | TAD I | PDL |
| 07501 | 6213 | CIF COF | 10 |
| 07502 | 4704 | JMS I | .+2 |
| 07503 | 5677 | JMP I | ADB |
| 07504 | 0747 | UPFUN | |

/RECALL CORRECT FUNCTION NUMBER (IT'S ON THE STACK)

ENPUNCH
IFZERO MACHINE<

7417 *NULJOB+2>

07417 3762 T8TFX, BEGFIX

07420 0000 NDELAY, 0

| | | | | |
|-------|------|-------|--------|--------|
| 07421 | 0000 | TST, | 0 | |
| 07422 | 4617 | | JMS I | TSTFX |
| 07423 | 6201 | | ODF | 0 |
| 07424 | 1631 | | TAD I | TSTP |
| 07425 | 6211 | | ODF | 10 |
| 07426 | 3016 | | OCA | AC3 |
| 07427 | 4546 | | JMS I | PANORM |
| 07430 | 5621 | | JMP I | TST |
| 07431 | 7255 | TSTP, | INCHAR | |

0001

FIELD 1

0000 *0

12000 2045 TEN, 2045;0000;0000
 12001 0000
 12002 0000

/INSERTED IN UPPER CORE BECAUSE OF FEEBILITY.

10003 0000 CLKSTS, 0
 10004 0000 TIM1, 0
 10005 0000 TIM2, 0
 10006 0000 ABDGET, 0
 10007 0000 ADACPT, 0
 10010 0000 ADCUNT, 0
 10011 0000 CLTEMP, 0
 10012 0000 ADCX, 0
 10013 0100 U100, 100
 10014 0000 CT3, 0
 10015 0000 CT2, 0
 10016 0000 CT1, 0
 10017 0177 U177, 177
 10020 4707 U4707, 4707
 10021 7775 U7775, 7775
 10022 0000 ACOUNT, 0
 10023 0000 APUT1, 0
 10024 0000 APUT2, 0
 10025 0000 ADA1, 0
 10026 0000 ADA2, 0
 10027 0000 ADA3, 0
 10030 0550 UUSETF, USETF
 10031 0673 UMEVAL, UUMEVAL
 10032 0677 UPPFIX, UUPFIX
 10033 0007 U7, 7
 10034 5010 U5010, 5010
 10035 7767 U7767, 7767
 10036 0010 U10, 10
 10037 0654 UAC1, UUAC1
 10040 0661 UAC2, UUAC2
 10041 0666 UAC3, UUAC3
 10042 0020 PPAC1, AC1
 10043 0017 PPAC2, AC2
 10044 0016 PPAC3, AC3
 10045 0025 PPACE, ACE
 10046 0024 PPAC8, ACS
 10047 0017 U17, 17
 12250 7777 U7777, 7777
 12051 0362 U00AD, D0AD
 12052 7760 U7760, 7760
 12053 0000 UTEMP, 0

| | | | | |
|-------|------|----------|----------|--------|
| 10054 | 0722 | UJMP, | UUJMP | |
| 10055 | 0707 | UJMS, | UUJMS | |
| 10056 | 0705 | UDEVCON, | UUDEVCON | |
| 10057 | 6000 | UGETWD, | 6000 | |
| 10060 | 0455 | | JMS I | UJMS |
| 10061 | 0177 | | GETWD | |
| 10062 | 5457 | | JMP I | UGETWD |
| 10063 | 0000 | AUTEMP, | 0 | |
| 10064 | 7767 | ADCCOR, | -11 | |

/ABOUT 512 FOR FUDGE.

0200 PAGE

0175 +,-3

| | | | | |
|-------|------|---------|---------|--------|
| 10175 | 6135 | CLOCKI, | 6135 | |
| 10176 | 3003 | | OCA | CLKSTS |
| 10177 | 2005 | | ISZ | TIM2 |
| 10200 | 5203 | | JMP | ,+3 |
| 10201 | 2004 | | ISZ | TIM1 |
| 10202 | 7000 | | NOP | |
| 10203 | 1006 | | TAD | ABDGET |
| 10204 | 7750 | | SPA SNA | CLA |

/CLEAR CLOCK FLAG.
/AND SAVE STATUS.
/INCREMENT CLOCK.

/IS REAL TIME OPTION RUNNING?

| | | | | | |
|-------|------|---------|--------|--|--|
| 10205 | 5234 | JMP | UIEXT | /NOPE. | |
| 10206 | 1007 | TAD | ADACPT | /IT SO, ARE WE NOW ACCEPTING DATA? | |
| 10207 | 7650 | SNA | CLA | | |
| 10210 | 5234 | JMP | UIEXT | /NOPE. | |
| 10211 | 1010 | TAD | ADCUNT | /YEP, GET NUMBER OF CHANNELS TO DO. | |
| 10212 | 3011 | DCA | CLTEMP | /SET UP OUR COUNTER. | |
| 10213 | 1012 | TAD | ADCX | /GET STARTING CHANNEL NUMBER. | |
| 10214 | 6531 | 6531 | | /SEND TO TO CONTROLLER. | |
| 10215 | 1013 | TAD | U100 | /TELL IT TO INCREMENT MULTIPLEXOR WHEN DONE. | |
| 10216 | 6536 | 6536 | | | |
| 10217 | 4451 | UCLOOP, | JMS I | UDDAD | /PERFORM A=D INSTRUCTION. |
| 10220 | 4263 | | JMS | APUT | /STORE IN USERS BUFFER. |
| 10221 | 2011 | | ISZ | CLTEMP | /ALL DONE? |
| 10222 | 5217 | | JMP | UCLOOP | /NOPE. WAIT. |
| 10223 | 2014 | | ISZ | CT3 | /DONE, INCREMENT TOTAL NUMBER OF SAMPLES. |
| 10224 | 5234 | | JMP | UIEXT | |
| 10225 | 2015 | | ISZ | CT2 | |
| 10226 | 5234 | | JMP | UIEXT | |
| 10227 | 2016 | | ISZ | CT1 | |
| 10230 | 5234 | | JMP | UIEXT | |
| 10231 | 7240 | | CLA | CMA | /ALL DONE, STOP SAMPLING. |
| 10232 | 3006 | | DCA | ABDGET | |
| 10233 | 3007 | | DCA | ADACPT | /AND GO INTO "REJECT" MODE. |
| 10234 | 6031 | UIEXT, | 6031 | | /HAS HE TYPED A CONTROL CT? |
| 10235 | 5243 | | JMP | UIEXT2 | /NO. |
| 10236 | 6034 | | 6034 | | |
| 10237 | 0017 | | AND | U177 | |
| 10240 | 1021 | | TAD | U775 | /^CT? |
| 10241 | 7650 | | SNA | CLA | |
| 10242 | 5245 | | JMP | UIEXT3 | /YES! BOMB HIM. |
| 10243 | 6131 | UIEXT2, | 6131 | | |
| 10244 | 5260 | | JMP | UIEXT4 | /CLOCK HAS NOT COME UP AGAIN, ALL IS WELL. |
| 10245 | 1020 | UIEXT3, | TAD | U4707 | /STOP CLOCK IMMEDIATELY. |
| 10246 | 6132 | | 6132 | | |
| 10247 | 6135 | | 6135 | | |
| 10250 | 6130 | | 6130 | | |
| 10251 | 7240 | | CLA | CMA | |
| 10252 | 6130 | | 6130 | | /CLEAR ALL AFTER PARTIAL ENABLE. |
| 10253 | 6032 | | 6032 | | /CLEAT TTY FLAG. |
| 10254 | 3006 | | DCA | ABDGET | /FREE BUFFER AND ACCEPT MODE. |
| 10255 | 3007 | | DCA | ADACPT | |
| 10256 | 4454 | | JMS I | UJMP | |
| 10257 | 7373 | | RTERR | | |
| 10260 | 6203 | UIEXT4, | CIF | CDP 0 | /INTERUPT EXIT. |
| 10261 | 5662 | | JMP I | .+1 | |
| 10262 | 6744 | | INTEXT | | /AND DO WHATEVER GOD INTENDED. |

| | | | | | |
|-------|------|-------|---------|--------|--|
| 10263 | 0000 | APUT, | 0 | | /THIS ROUTINE PUTS A SAMPLE IN THE BUFFER. |
| 10264 | 3423 | | DCA I | APUT1 | /PLACE IN BUFFER. |
| 10265 | 2022 | | ISZ | ACOUNT | /INCREMENT COUNTER. |
| 10266 | 4325 | | JMS | ABOP | /BOP UP POINTER. |
| 10267 | 0023 | | | APUT1 | |
| 10270 | 1023 | | TAD | APUT1 | /GET INPUT POINTER. |
| 10271 | 7041 | | CIA | | |
| 10272 | 1024 | | TAD | APUT2 | /DOES IT MATCH OUTPUT POINTER? |
| 10273 | 7640 | | SZA CLA | | |
| 10274 | 5663 | | JMP I | APUT | /NOPE, ALL IS WELL. |
| 10275 | 3006 | | DCA | ABOGET | /FREE BUFFER. |
| 10276 | 3007 | | DCA | ADACPT | /AND ACCEPT. |
| 10277 | 4454 | | JMS I | UJMP | /GIVE ERROR. |
| 10300 | 7567 | | UUDATA | | /A-D ERROR. |
| | | | | | |
| 10301 | 0000 | AGET, | 0 | | /THIS GETS A DATA ITEM FROM BUFFER. |
| 10302 | 7240 | | CLA CMA | | /DECREMENT COUNTER. |
| 10303 | 1022 | | TAD | ACOUNT | |
| 10304 | 7500 | | SIX | | /OR SHOULD WE? |
| 10305 | 5312 | | JIP | .+5 | /YEP, STILL ITEMS LEFT. |
| 10306 | 7200 | | CLA | | |
| 10307 | 4455 | | JMS I | UJMS | /PUT TO SLEEP |
| 10310 | 6713 | | BIDLE | | |
| 10311 | 5302 | | JMP | AGET+1 | /AND CHECK AGAIN WHEN AWAKE. |
| | | | | | |
| 10312 | 3022 | | DCA | ACOUNT | /SAVE COUNTER. |
| 10313 | 1424 | | TAD I | APUT2 | /GET THE SAMPLE. |
| 10314 | 3323 | | DCA | ATEMP | /SAVE WHILE UPDATE TAKES PLACE. |
| 10315 | 6002 | | IOF | | |

| | | | | | |
|-------|------|---------|-------|--------|--|
| 10316 | 4325 | | JMS | ABOP | |
| 10317 | 2024 | | APUT2 | | |
| 10320 | 6001 | | ION | | /ABOP WILL F--K YOU UP IF CALLED RE-ENTRENTLY. |
| 10321 | 1323 | | TAD | ATEMP | |
| 10322 | 5701 | | JMP I | AGET | |
| 10323 | 0000 | ATEMP, | 0 | | |
| 10324 | 0000 | ATEMP2, | 0 | | |
| 10325 | 0000 | ABOP, | 0 | | |
| 10326 | 1725 | | TAD I | ABOP | |
| 10327 | 3324 | | DCA | ATEMP2 | /SAVE POINTER NOW. |
| 10330 | 1724 | | TAD I | ATEMP2 | |
| 10331 | 2325 | | ISZ | ABOP | /GET VALUE AND SKIP PAST POINTER #1. |
| 10332 | 1025 | | TAD | ADA1 | /TEST AGAINST UPPER. |
| 10333 | 7450 | | SNA | | |
| 10334 | 1026 | | TAD | ADA2 | /CORRECT TO LOWER. |
| 10335 | 1027 | | TAD | ADA3 | /AND ADD IN UPPER. |
| 10336 | 3724 | | DCA I | ATEMP2 | /AND THEN SAVE AWAY. |
| 10337 | 5725 | | JMP I | ABOP | /AND THEN EXIT. |
| 10340 | 0000 | UCLS, | 0 | | /GETS STATUS AFTER LAST CLOCK INTERRUPT. |
| 10341 | 1003 | | TAD | CLKSTS | |
| 10342 | 4430 | | JMS I | UUSETF | |
| 10343 | 0000 | | 0 | | |
| 10344 | 5740 | | JMP I | UCLS | /RETURN WHEN DONE. |
| 10345 | 0000 | UCLC, | 0 | | /READS IN AS A CLCA |
| 10346 | 6137 | | 6137 | | /GET COUNT REGISTER. |
| 10347 | 4430 | | JMS I | UUSETF | |
| 10350 | 0000 | | 0 | | /FIX IT UP. |
| 10351 | 5745 | | JMP I | UCLC | /AND RETURN NOW. |
| 10352 | 0000 | UUULLL, | 0 | | |
| 10353 | 7200 | | CLA | | |

| | | | | | |
|-------|------|---------|-------|--------|-------------------------------------|
| 10354 | 3022 | | DCA | ACOUNT | |
| 10355 | 3006 | | DCA | ABOGET | |
| 10356 | 3007 | | DCA | ADACPT | |
| 10357 | 6001 | | ION | | |
| 10360 | 6202 | | CIF | 0 | |
| 10361 | 5752 | | JMP I | UUULLL | |
| | | | | | |
| 10362 | 0000 | DOAD, | 0 | | |
| 10363 | 1052 | | TAD | U7760 | /PLENTY OF DELAY |
| 10364 | 3375 | | DCA | DSCREW | /SAVE IN A COUNTER WORD. |
| 10365 | 6532 | | 6532 | | /START CONVERSION. |
| 10366 | 6534 | DOADLP, | 6534 | | /WAIT UNTIL DONE. |
| 10367 | 7410 | | SKP | | /IF NOT DONE, WAIT SOME. |
| 10370 | 5373 | | JMP | .+3 | /IF DONE, READ IT IN. |
| 10371 | 2375 | | ISZ | DSCREW | |
| 10372 | 5366 | | JMP | DOADLP | /WAIT UNTIL DONE OR TOO LONG. |
| 10373 | 6533 | | 6533 | | /THEN READ IN THE CONVERTED NUMBER. |
| 10374 | 5762 | | JMP I | DOAD | /AND RETURN. |
| | | | | | |
| 10375 | 0000 | DSCREW, | 0 | | |

| | | | | | |
|-------|------|---------|---------|----------|---|
| 10400 | 4057 | USETR, | JMS | UGETWD | /BOP PAST CHAR, |
| 10401 | 4431 | | JMS I | UMEVAL | /THIS ROUTINE SETS UP CLOCK TO A GIVEN TIME, |
| 10402 | 4432 | | JMS I | UPFIX | /FIX UP AC, |
| 10403 | 0033 | | AND | U7 | /JUST GET SIGNIFICANT BITS (0-7), |
| 10404 | 7106 | | CLL RTL | | /NOW MOVE TO TIME PORTION (3-5) |
| 10405 | 7006 | | RTL | | |
| 10406 | 7006 | | RTL | | |
| 10407 | 1034 | | TAD | U5010 | /SET OTHER CORRECT BITS NOW, |
| 10410 | 5216 | | JMP | USETM | |
| | | | | | |
| 10411 | 4057 | USETC, | JMS | UGETWD | /BOP PAST BAD POINTER, |
| 10412 | 4431 | | JMS I | UMEVAL | /THIS ROUTINE LOADS CLOCK WITH USERS COMMAND REGISTER, |
| 10413 | 4432 | | JMS I | UPFIX | |
| 10414 | 0035 | | AND | U7767 | /MAKE SURE TO TURN INTERRUPTS ON, |
| 10415 | 1036 | | T.D | U10 | |
| | | | | | |
| 10416 | 3053 | USETM, | DCA | UTEMP | /SAVE ENABLE REGISTER FOR A SECOND, |
| 10417 | 7240 | | CLA CMA | | /CLEAR CLOCK NOW, |
| 10420 | 6130 | | 6130 | | |
| 10421 | 7200 | | CLA | | /SO WE CAN LOAD IN CORRECT STUFF, |
| 10422 | 4431 | | JMS I | UMEVAL | /EVALUATE HIS TIME SETTING, |
| 10423 | 4432 | | JMS I | UPFIX | |
| 10424 | 7041 | | CIA | | |
| 10425 | 6002 | | IOF | | /MAKE SURE INTERRUPTS ARE OFF, |
| 10426 | 6133 | | 6133 | | |
| 10427 | 7200 | | CLA | | |
| 10430 | 3004 | | DCA | TIM1 | /CLEAR OUT THE TIM NOW, |
| 10431 | 3005 | | DCA | TIM2 | |
| 10432 | 1053 | | TAD | UTEMP | /RECALL DESIRED ENABLE REGISTER, |
| 10433 | 6132 | | 6132 | | /SEND IT OUT, |
| 10434 | 6001 | | ION | | /TURN ON INTERRUPTS NOW, |
| 10435 | 7200 | | CLA | | |
| 10436 | 5456 | | JMP I | UDEVCON | /AND EXIT NOW, |
| | | | | | |
| 10437 | 7240 | UWAIT, | CLA CMA | | /WAITS FOR AN INTERRUPT, SET TO LOOK LIKE CLOCK DID IT, |
| | | | | | |
| 10440 | 1005 | UWAITC, | TAD | TIM2 | /GET LOW ORDER WORD, |
| 10441 | 3053 | | DCA | UTEMP | /SAVE FOR AWHILE, |
| 10442 | 4455 | | JMS I | UJMS | |
| 10443 | 6713 | | BIDLE | | /PUT TO SLEEP, |
| 10444 | 1053 | | TAD | UTEMP | /WAS IT CLOCK (OR OTHER IF CLOCK FUDGED?) |
| 10445 | 7041 | | CIA | | |
| 10446 | 1005 | | TAD | TIM2 | /COMPARE AGAINST PRESENT CLOCK, |
| 10447 | 7050 | | SNA CLA | | |
| 10450 | 5242 | | JMP | UWAITC+2 | /NOT CORRECT, WAIT SOME MORE, |
| 10451 | 4454 | RANDAE, | JMS I | UJMP | |

12452 7175

DEVCOM

12453 1026 UACCPT, TAD ABDGET
 12454 7740 SZA SMA CLA
 12455 7201 CLA IAC

12456 3007 UREJT, DCA ADACPT
 12457 5251 JMP RANDAE

/IS BUFFER ASSIGNED?

/YEP, WE CAN ACCEPT NOW.

/OR REJECT,

/AND THEN EXIT.

/REAL TIME DECODING FUNCTION.

12460 1007 UREAL, TAD ADACPT
 12461 7650 SNA CLA
 12462 5265 JMP ,+3
 12463 4454 JMS I UJMP
 12464 0467 SYTPT
 12465 4455 J I I UJMS
 12466 7462 GETARY
 12467 4437 JMS I UAC1
 12470 3023 DCA APUT1
 12471 1023 TAD APUT1
 12472 3024 DCA APUT2
 12473 4440 JMS I UAC2
 12474 7041 CIA
 12475 3025 DCA ADA1
 12476 4440 JMS I UAC2
 12477 7001 IAC
 12500 3027 DCA ADA3
 12501 1027 TAD ADA3
 12502 7041 CIA
 12503 1023 TAD APUT1
 12504 3026 DCA ADA2
 12505 4057 JMS UGETWD
 12506 4431 JMS I UMEVAL
 12507 4432 JMS I UPPFIX
 12510 0047 AND U17
 12511 3012 DCA ADCX
 12512 4431 JMS I UMEVAL
 12513 4432 JMS I UPPFIX
 12514 7440 SZA
 12515 1050 TAD U7777
 12516 0047 AND U17
 12517 7040 CMA
 12520 3010 DCA ADCUNT
 12521 4431 JMS I UMEVAL
 12522 4432 JMS I UPPFIX
 12523 7161 CLL CML CIA
 12524 3014 DCA CT3
 12525 7004 RAL
 12526 4440 JMS I UAC2

/ARE WE ACCEPTING NOW?

/PICK UP BUFFER ITEMS.

/GET WE FIRST WORD OF ARRAY.

/SAVE AWAY NOW.

/ALSO SET UP OUTPUT POINTER.

/GET LAST WORD OF ARRAY.

/SAVE IN UPPER LIMIT TESTER.

/GET AGAIN.

/ADD ONE.

/AND SAVE AWAY IN BOPPER WORD.

/FINALLY GET THE RESET WORD.

/AND SAVE AWAY FOR WRAP AROUND CONDITION.

/BYPASS REAL TIME STATEMENT.

/EVALUATE AN EXPRESSION

/FIX THE AC NOW.

/JUST GET CHANNEL NUMBER.

/SAVE AWAY.

/EVALUATE ANOTHER ITEM.

/FIX IT UP.

/IF ZERO, DO NOT SUBTRACT ONE.

/SUBTRACT ONE TO BRING INTO 0-17 RANGE.

/MAKE INTO 0-17.

/NOW NEGATE AND SUBTRACT ONE.

/AND SAVE AWAY CORRECT ISZ COUNTER.

/NOW GET NUMBER OF SAMPLES (CLOCK TICKS)

/SET UP LOW ORDER WORD OF COUNTER.

/AND PRESERVE CARRY.

| | | | |
|-------|------|-------------|---------|
| 10527 | 7161 | CLL CML CIA | |
| 10530 | 3015 | DCA | CT2 |
| 10531 | 7004 | RAL | |
| 10532 | 4437 | JMS I | UAC1 |
| 10533 | 7161 | CLL CML CIA | |
| 10534 | 3016 | DCA | CT1 |
| 10535 | 3022 | DCA | ACOUNT |
| 10536 | 7201 | CLA IAC | |
| 10537 | 3006 | DCA | ABDGET |
| 10540 | 5456 | JMP I | UDEVCON |

/CLEAR PRESENT BUFFER COUNTER.

/SET UP BUFFER.

| | | | | | |
|-------|------|-------|-------|--|----------------------|
| 10541 | 0000 | UTIM, | 0 | | /RETURNS CLOCK TICK. |
| 10542 | 1004 | TAD | TIM1 | | |
| 10543 | 3346 | DCA | .+3 | | |
| 10544 | 1005 | TAD | TIM2 | | |
| 10545 | 4430 | JMS I | USETF | | |
| 10546 | 0000 | 0 | | | |
| 10547 | 5741 | JMF I | UTIM | | |

| | | | | | |
|-------|------|--------|-------|--|------------------------------|
| 10550 | 0000 | USETF, | 0 | | |
| 10551 | 3053 | DCA | UTEMP | | /SAVE LOW ORDER WORD OF FAC. |
| 10552 | 4455 | JMS I | UJMS | | |
| 10553 | 3762 | BEGFIX | | | /PREPARE TO INTERGIZE IT. |
| 10554 | 1750 | TAD I | USETF | | /GET MIDDLE WORD. |
| 10555 | 6201 | 0 | | | |
| 10556 | 3443 | DCA I | PPAC2 | | /PLACE IN FAC. |
| 10557 | 1053 | TAD | UTEMP | | /GET LOW WORD. |
| 10560 | 3444 | DCA I | PPAC3 | | /PLACE IN FAC. |
| 10561 | 6211 | 0 | | | |
| 10562 | 4455 | JMS I | UJMS | | |
| 10563 | 4600 | ANORM | | | |
| 10564 | 2350 | ISZ | USETF | | /BYPASS VALUE |
| 10565 | 5750 | JMP I | USETF | | /RETURN NOW. |

| | | | | | |
|-------|------|--------|-----|--------|--|
| 10600 | 0000 | UADCB, | 0 | | /THIS RETURNS A VALUE FROM THE A-D. |
| 10601 | 7710 | | SPA | CLA | /BUFFERED OR DIRECT? |
| 10602 | 5222 | | JMP | UADCN | /DIRECT, |
| 10603 | 1006 | | TAD | ABDGET | /CHECK TO SEE WHETHER BUFFER ASSIGNED. |
| 10604 | 7450 | | SNA | | |
| 10605 | 5220 | | JMP | UABAD | /NO BUFFER ASSIGNED. |
| 10606 | 7710 | | SPA | CLA | /IS BUFFER ACTIVE? |
| 10607 | 5215 | | JMP | UADCMY | /NO, GET COUNT. |
| 10610 | 1007 | | TAD | ADACPT | /ACTIVE, ARE WE ACCEPTING DATA? |

| | | | | | | |
|-------|------|---------|---------|---------|--|--|
| 10611 | 7650 | | SNA CLA | | | |
| 10612 | 5215 | | JMP | UADCMY | | /NO. CHECK COUNT IN BUFFER. |
| 10613 | 4653 | UADCIN, | JMS I | UPAGET | | /GET VALUE FROM A-D BUFFER. |
| 10614 | 5231 | | JMP | UINAC | | /AND FIX IT UP. |
| 10615 | 1022 | UADCMY, | TAD | ACOUNT | | /GET BUFFER COUNTER NOW. |
| 10616 | 7640 | | SZA CLA | | | /#0? |
| 10617 | 5213 | | JMP | UADCIN | | /NOPE. WE CAN RETURN SOME DATA. |
| 10620 | 4454 | UABAD, | JMS I | UJMP | | |
| 10621 | 7460 | | UUNOAD | | | /NO A-D DATA IN BUFFER. HE'S F--KED. |
| 10622 | 4432 | UADCN, | JMS I | UPFIX | | /NON-REAL TIME. |
| 10623 | 0047 | | AND | UI7 | | /JUST GET CHANNEL NUMBER. |
| 10624 | 6002 | | IOF | | | /WE CANNOT BE INTERRUPTED HERE. |
| 10625 | 6531 | | 6531 | | | |
| 10626 | 6536 | | 6536 | | | |
| 10627 | 4451 | | JMS I | UOAO | | /PERFORM THE CONVERSION NOW. |
| 10630 | 6001 | | ION | | | /RESTORE INTERRUPTS. |
| 10631 | 3063 | UINAC, | DLA | AUTEMP | | /SAVE FOR A SECOND. |
| 10632 | 1063 | | TAD | AUTEMP | | /PLACE ABSOLUTE VALUE IN FAC. |
| 10633 | 7510 | | SPA | | | |
| 10634 | 7041 | | CIA | | | |
| 10635 | 4430 | | JMS I | UUSETF | | |
| 10636 | 0000 | | 0 | | | |
| 10637 | 1063 | | TAD | AUTEMP | | /NOW SET SIGN OF FAC. |
| 10640 | 6201 | | CDF | 0 | | /SET TO PICK UP FIELD 0, NO COOLNESS LEFT, DESPITE COMMENTS. |
| 10641 | 7710 | | SPA CLA | | | /IF POSITIVE LEAVE ALONE. |
| 10642 | 7330 | | CLA CLL | CML RAR | | /SET LEFT MOST BIT ON TO INDICATE NEGATIVE. |
| 10643 | 3446 | | DCA I | PPAC3 | | |
| 10644 | 1445 | | TAD I | PPACE | | /GET EXPONENT NOW. |
| 10645 | 1064 | | TAD | ADCCOR | | /BRING INTO CORRECT RANGE NOW. |
| 10646 | 7500 | | SMA | | | /IF TOO FAR, |
| 10647 | 3445 | | DCA I | PPACE | | /DON'T CORRECT. |
| 10650 | 7200 | | CLA | | | |
| 10651 | 6211 | | CDF | 10 | | /RESET CDF. |
| 10652 | 5600 | | JMP I | UADCB | | /RETURN TO FIELD ONE (COOL ,UGH!) |
| 10653 | 0301 | UPAGET, | AGET | | | |
| 10654 | 0000 | UUAC1, | 0 | | | |
| 10655 | 6201 | | CDF | 0 | | |
| 10656 | 1442 | | TAD I | PPAC1 | | |
| 10657 | 6211 | | CDF | 10 | | |
| 10660 | 5654 | | JMP I | UUAC1 | | |
| 10661 | 0000 | UUAC2, | 0 | | | |
| 10662 | 6201 | | CDF | 0 | | |

| | | | | |
|-------|------|----------|--------|---------|
| 10663 | 1443 | | TAD I | PPAC2 |
| 10664 | 6211 | | CDP | 10 |
| 10665 | 5661 | | JMP I | UUAC2 |
| 10666 | 0000 | UUAC3, | 0 | |
| 10667 | 6201 | | CDP | 0 |
| 10670 | 1444 | | TAD I | PPAC3 |
| 10671 | 6211 | | CDP | 10 |
| 10672 | 5666 | | JMP I | UUAC3 |
| 10673 | 0000 | UUMEVAL, | 0 | |
| 10674 | 4455 | | JMS I | UJMS |
| 10675 | 7415 | | MEVAL | |
| 10676 | 5673 | | JMP I | UUMEVAL |
| 10677 | 0000 | UUPFIX, | 0 | |
| 10700 | 4455 | | JMS I | UJMS |
| 10701 | 4744 | | FIX | |
| 10702 | 7200 | | CLA | |
| 10703 | 4441 | | JMS I | UAC3 |
| 10704 | 5677 | | JMP I | UUPFIX |
| 10705 | 4454 | UUDEVY, | JMS I | UJMP |
| 10706 | 7176 | | DEVCON | |
| 10707 | 0000 | UUJMS, | 0 | |
| 10710 | 6202 | | CIF | 0 |
| 10711 | 1707 | | TAD I | UUJMS |
| 10712 | 3314 | | DCA | .+2 |
| 10713 | 4721 | | JMS I | UUUJMS |
| 10714 | 0000 | | 0 | |
| 10715 | 7410 | | SKP | |
| 10716 | 2307 | | ISZ | UUJMS |
| 10717 | 2307 | | ISZ | UUJMS |
| 10720 | 5707 | | JMP I | UUJMS |
| 10721 | 7446 | UUUJMS, | LLLJMS | |

/IN CASE OF SKIPPING RETURN

| | | | | |
|-------|------|--------|-------|--------|
| 10722 | 0000 | UUJMP, | 0 | |
| 10723 | 6202 | | CIF | 0 |
| 10724 | 1722 | | TAD I | UUJMP |
| 10725 | 3327 | | OCA | .+2 |
| 10726 | 4730 | | JMS I | UUUJMP |
| 10727 | 0000 | | 0 | |

| | | | | |
|-------|------|---------|--------|--|
| 10730 | 7457 | UUUJMP, | LLLJMP | |
|-------|------|---------|--------|--|

| | | | | |
|-------|------|----------|--------|---------|
| 10731 | 1335 | UPCOMDO, | TAD | UUFUDGE |
| 10732 | 1336 | | TAD | UPJMP |
| 10733 | 3334 | | DCA | .+1 |
| 10734 | 7402 | | HLT | |
| 10735 | 1740 | UUFUDGE, | -6040 | |
| 10736 | 5737 | UPJMP, | JMP I | .+1 |
| 10737 | 0460 | | UREAL | |
| 10740 | 0400 | | USETR | |
| 10741 | 0411 | | USETC | |
| 10742 | 0440 | | UWAITC | |
| 10743 | 0437 | | UWAIT | |
| 10744 | 0000 | | 0000 | |
| 10745 | 0453 | | UACCPT | |
| 10746 | 0456 | | UREJT | |

/NOT USED NOW.

| | | | | |
|-------|------|--------|-------|-------|
| 10747 | 0000 | UPFUN, | 0 | |
| 10750 | 1356 | | TAD | UFFUD |
| 10751 | 1357 | | TAD | UFJMP |
| 10752 | 3353 | | OCA | .+1 |
| 10753 | 7402 | | HLT | |
| 10754 | 6202 | | CIF | 0 |
| 10755 | 5747 | | JMP I | UPFUN |

| | | | | |
|-------|------|--------|-------|-----|
| 10756 | 7757 | UFFUD, | -21 | |
| 10757 | 4760 | UFJMP, | JMS I | .+1 |
| 10760 | 0770 | | ZZADC | |
| 10761 | 0000 | | 0000 | |
| 10762 | 0541 | | UTIM | |

| | | | |
|------|------|--|-------|
| 2763 | 2200 | | 0000 |
| 2764 | 2200 | | 0000 |
| 2765 | 2340 | | UCL8 |
| 2766 | 2345 | | UCLC |
| 2767 | 2775 | | ZZADB |

| | | | |
|------|------|--------|-------------|
| 2770 | 0000 | ZZADC, | 0 |
| 2771 | 7240 | | CLA CMA |
| 2772 | 4774 | | JMS I .+2 |
| 2773 | 5770 | | JMP I ZZADC |
| 2774 | 2600 | | UADCB |

| | | | |
|------|------|--------|---------------|
| 2775 | 0000 | ZZADB, | 0 |
| 2776 | 4774 | | JMS I ZZADB-1 |
| 2777 | 5775 | | JMP I ZZADB |

```

IFZERO MACHINE<
0003   LIMIT=TEN+3
      >
IFNZRO MACHINE<
LIMIT, 0
      >

```

7022 *7022

```

17022 0000 PERMSYM,0
17023 4200 XXPLUS, 4200)TEXT '+0'
17024 5300
17025 4201 XXMINUS,4201)TEXT '-0'
17026 5500
17027 4302 XXSTAR, 4302)TEXT '*0'
17030 5200
17031 4303 XXSLASH,4303)TEXT '/0'
17032 5700
17033 4404 XXUPARR,4404)TEXT '^0'
17034 3600
17035 4110 XXLE, 4110)TEXT '<00'
17036 7475
17037 0000
17040 4111 XXGE, 4111)TEXT '>00'
17041 7675
17042 0000
17043 4112 XXNE, 4112)TEXT '<>0'
17044 7476
17045 0000
17046 4111 XXEG, 4111)TEXT '>>0'

```

| | | | |
|-------|------|----------|--------------------|
| 17047 | 7576 | | |
| 17050 | 0000 | | |
| 17251 | 4110 | XXEL, | 4110)TEXT 'e' |
| 17252 | 7574 | | |
| 17253 | 0000 | | |
| 17254 | 4105 | XXEQ, | 4105)TEXT 'e' |
| 17255 | 7500 | | |
| 17256 | 4106 | XXLT, | 4106)TEXT 'e' |
| 17257 | 7400 | | |
| 17260 | 4107 | XXGT, | 4107)TEXT 'e' |
| 17261 | 7600 | | |
| 17262 | 4015 | XXCOMMA, | 4015)TEXT ',' |
| 17263 | 5400 | | |
| 17264 | 4016 | XXSEMI, | 4016)TEXT ';' |
| 17265 | 7300 | | |
| 17266 | 4017 | XXCLOSE, | 4017)TEXT ')' |
| 17267 | 5100 | | |
| 17270 | 4017 | XXRBRAK, | 4017)TEXT ']' |
| 17271 | 3500 | | |
| 17272 | 4021 | XXTO, | 4021)TEXT ' TO ' |
| 17273 | 4024 | | |
| 17274 | 1740 | | |
| 17275 | 0000 | | |
| 17276 | 4022 | XXSTEP, | 4022)TEXT ' STEP ' |
| 17277 | 4023 | | |
| 17100 | 2405 | | |
| 17101 | 2040 | | |
| 17102 | 0000 | | |
| 17103 | 4023 | XXOPEN, | 4023)TEXT '(' |
| 17104 | 5000 | | |
| 17105 | 4023 | XXLBRAK, | 4023)TEXT '[' |
| 17106 | 3300 | | |
| 17107 | 4024 | XXFN, | 4024)TEXT 'FN' |
| 17110 | 0616 | | |
| 17111 | 0000 | | |
| 17112 | 4025 | XXCOS, | 4025)TEXT 'COS' |
| 17113 | 0317 | | |
| 17114 | 2300 | | |
| 17115 | 4026 | XXTAN, | 4026)TEXT 'TAN' |
| 17116 | 2401 | | |
| 17117 | 1600 | | |
| 17120 | 4027 | XXATN, | 4027)TEXT 'ATN' |
| 17121 | 0124 | | |
| 17122 | 1600 | | |
| 17123 | 4030 | XXLOG, | 4030)TEXT 'LOG' |
| 17124 | 1417 | | |
| 17125 | 0700 | | |
| 17126 | 4031 | XXEXP, | 4031)TEXT 'EXP' |
| 17127 | 0530 | | |
| 17130 | 2000 | | |
| 17131 | 4032 | XXSQR, | 4032)TEXT 'SQR' |
| 17132 | 2321 | | |
| 17133 | 2200 | | |
| 17134 | 4033 | XXABS, | 4033)TEXT 'ABS' |
| 17135 | 0102 | | |

| | | | |
|-------|------|---------|------------------|
| 17136 | 2300 | | |
| 17137 | 4034 | XXSGN, | 4034)TEXT 'SGN' |
| 17140 | 2307 | | |
| 17141 | 1620 | | |
| 17142 | 4035 | XXINT, | 4035)TEXT 'INT' |
| 17143 | 1116 | | |
| 17144 | 2400 | | |
| 17145 | 4036 | XXRND, | 4036)TEXT 'RND' |
| 17146 | 2216 | | |
| 17147 | 0400 | | |
| 17150 | 4037 | XXSIN, | 4037)TEXT 'SIN' |
| 17151 | 2311 | | |
| 17152 | 1600 | | |
| 17153 | 4040 | XXPUT, | 4040)TEXT 'PUT' |
| 17154 | 2025 | | |
| 17155 | 2400 | | |
| 17156 | 4041 | XXLIST, | 4041)TEXT 'LIST' |
| 17157 | 1411 | | |
| 17160 | 2324 | | |
| 17161 | 0000 | | |
| 17162 | 4041 | XXLIS, | 4041)TEXT 'LIS' |
| 17163 | 1411 | | |
| 17164 | 2300 | | |
| 17165 | 4042 | XXRUN, | 4042)TEXT 'RUN' |
| 17166 | 2225 | | |
| 17167 | 1600 | | |
| 17170 | 4043 | XXSCR, | 4043)TEXT 'SCR' |
| 17171 | 2303 | | |
| 17172 | 2200 | | |
| 17173 | 4044 | XXGET, | 4044)TEXT 'GET' |
| 17174 | 0705 | | |
| 17175 | 2400 | | |
| 17176 | 4045 | XXADC, | 4045)TEXT 'ADC' |
| 17177 | 0104 | | |
| 17200 | 0300 | | |
| 17201 | 4046 | XXTTY, | 4046)TEXT 'TST' |
| 17202 | 2423 | | |
| 17203 | 2400 | | |
| 17204 | 4047 | XXTIME, | 4047)TEXT 'TIM' |
| 17205 | 2411 | | |
| 17206 | 1500 | | |
| 17207 | 4050 | XXTAB, | 4050)TEXT 'TAB' |
| 17210 | 2401 | | |
| 17211 | 0200 | | |
| 17212 | 4051 | XXUUF, | 4051)TEXT 'UUF' |
| 17213 | 2525 | | |
| 17214 | 0600 | | |
| 17215 | 4052 | XXCLS, | 4052)TEXT 'CLS' |
| 17216 | 0314 | | |
| 17217 | 2300 | | |
| 17220 | 4053 | XXCLC, | 4053)TEXT 'CLC' |
| 17221 | 0314 | | |
| 17222 | 0300 | | |
| 17223 | 4054 | XXADB, | 4054)TEXT 'ADB' |
| 17224 | 0104 | | |

| | | |
|-------|------|----------------------------|
| 17225 | 0200 | |
| 17226 | 6000 | XXCRLF, 6000;TEXT '␣' |
| 17227 | 3700 | |
| 17230 | 6000 | XXBSLSM,6000;TEXT '\' |
| 17231 | 3400 | |
| 17232 | 6001 | XXEND, 6001;TEXT 'END' |
| 17233 | 0516 | |
| 17234 | 0400 | |
| 17235 | 6002 | XXFOR, 6002;TEXT 'FOR ' |
| 17236 | 0617 | |
| 17237 | 2240 | |
| 17240 | 0000 | |
| 17241 | 6003 | XXGOSUB,6003;TEXT 'GOSUB ' |
| 17242 | 0717 | |
| 17243 | 2325 | |
| 17244 | 0240 | |
| 17245 | 0000 | |
| 17246 | 6004 | XXGOTO, 6004;TEXT 'GO TO ' |
| 17247 | 0717 | |
| 17250 | 4024 | |
| 17251 | 1740 | |
| 17252 | 0000 | |
| 17253 | 6004 | XXTHEN, 6004;TEXT ' THEN ' |
| 17254 | 4024 | |
| 17255 | 1005 | |
| 17256 | 1640 | |
| 17257 | 0000 | |
| 17260 | 6005 | XXIF, 6005;TEXT 'IF ' |
| 17261 | 1106 | |
| 17262 | 4000 | |
| 17263 | 6006 | XXINPUT,6006;TEXT 'INPUT ' |
| 17264 | 1116 | |
| 17265 | 2025 | |
| 17266 | 2440 | |
| 17267 | 0000 | |
| 17270 | 6007 | XXLET, 6007;TEXT 'LET ' |
| 17271 | 1405 | |
| 17272 | 2440 | |
| 17273 | 0000 | |
| 17274 | 6010 | XXNEXT, 6010;TEXT 'NEXT ' |
| 17275 | 1605 | |
| 17276 | 3024 | |
| 17277 | 4000 | |
| 17300 | 6011 | XXPRINT,6011;TEXT 'PRINT ' |
| 17301 | 2022 | |
| 17302 | 1116 | |
| 17303 | 2440 | |
| 17304 | 0000 | |
| 17305 | 6012 | XXRETRN,6012;TEXT 'RETURN' |
| 17306 | 2205 | |
| 17307 | 2425 | |
| 17310 | 2216 | |
| 17311 | 0000 | |
| 17312 | 6013 | XXSTOP, 6013;TEXT 'STOP' |
| 17313 | 2324 | |

| | | |
|-------|------|--------------------------------|
| 17314 | 1720 | |
| 17315 | 2020 | |
| 17316 | 6214 | XXDIM, 6014)TEXT 'DIM ' |
| 17317 | 2411 | |
| 17322 | 1540 | |
| 17321 | 0200 | |
| 17322 | 6015 | XXRSTOR,6015)TEXT 'RESTORE' |
| 17323 | 2205 | |
| 17324 | 2324 | |
| 17325 | 1722 | |
| 17326 | 0500 | |
| 17327 | 6016 | XXREM, 6016)TEXT 'REM ' |
| 17330 | 2205 | |
| 17331 | 1540 | |
| 17332 | 0000 | |
| 17333 | 6017 | XXDEF, 6017)TEXT 'DEF ' |
| 17334 | 0405 | |
| 17335 | 0640 | |
| 17336 | 0000 | |
| 17337 | 6020 | XXREAD, 6020)TEXT 'READ ' |
| 17340 | 2205 | |
| 17341 | 0104 | |
| 17342 | 4000 | |
| 17343 | 6021 | XXDATA, 6021)TEXT 'DATA ' |
| 17344 | 0401 | |
| 17345 | 2401 | |
| 17346 | 4000 | |
| 17347 | 6024 | XTTYI, 6024)TEXT 'TTY IN' |
| 17350 | 2424 | |
| 17351 | 3140 | |
| 17352 | 1116 | |
| 17353 | 0000 | |
| 17354 | 6025 | XTTYO, 6025)TEXT 'TTY OUT' |
| 17355 | 2424 | |
| 17356 | 3140 | |
| 17357 | 1725 | |
| 17360 | 2400 | |
| 17361 | 6026 | XXLPT, 6026)TEXT 'LPT' |
| 17362 | 1420 | |
| 17363 | 2400 | |
| 17364 | 6027 | XXPTP, 6027)TEXT 'PTP' |
| 17365 | 2024 | |
| 17366 | 2000 | |
| 17367 | 6030 | XXPTR, 6030)TEXT 'PTR' |
| 17370 | 2024 | |
| 17371 | 2200 | |
| 17372 | 6032 | XXRUB, 6032)TEXT 'RUBOUTS' |
| 17373 | 2225 | |
| 17374 | 0217 | |
| 17375 | 2524 | |
| 17376 | 2300 | |
| 17377 | 6033 | XXNRUB, 6033)TEXT 'NO RUBOUTS' |
| 17400 | 1617 | |

/6031 HAS BEEN REMOVED.

| | | |
|-------|------|--------------------------------|
| 17401 | 4022 | |
| 17402 | 2502 | |
| 17403 | 1725 | |
| 17404 | 2423 | |
| 17405 | 0000 | |
| 17406 | 6034 | XXCLEAR,6034)TEXT 'CLEAR' |
| 17407 | 0314 | |
| 17410 | 0501 | |
| 17411 | 2200 | |
| 17412 | 6035 | XXDELAY,6035)TEXT 'DELAY' |
| 17413 | 0405 | |
| 17414 | 1401 | |
| 17415 | 3100 | |
| 17416 | 6036 | XXUSE, 6036)TEXT 'USE ' |
| 17417 | 2523 | |
| 17420 | 0540 | |
| 17421 | 0000 | |
| 17422 | 6037 | XXPLOT, 6037)TEXT 'PLOT ' |
| 17423 | 2014 | |
| 17424 | 1724 | |
| 17425 | 4000 | |
| 17426 | 6040 | XXREAL, 6040)TEXT 'REAL TIME ' |
| 17427 | 2205 | |
| 17430 | 0114 | |
| 17431 | 4024 | |
| 17432 | 1115 | |
| 17433 | 0540 | |
| 17434 | 0000 | |
| 17435 | 6041 | XXSETR, 6041)TEXT 'SET RATE ' |
| 17436 | 2305 | |
| 17437 | 2440 | |
| 17440 | 2201 | |
| 17441 | 2405 | |
| 17442 | 4000 | |
| 17443 | 6042 | XXSETC, 6042)TEXT 'SET CLOCK ' |
| 17444 | 2305 | |
| 17445 | 2440 | |
| 17446 | 0314 | |
| 17447 | 1703 | |
| 17450 | 1340 | |
| 17451 | 0000 | |
| 17452 | 6043 | XXWAITC,6043)TEXT 'WAITC' |
| 17453 | 2701 | |
| 17454 | 1124 | |
| 17455 | 0300 | |
| 17456 | 6044 | YYWAIT, 6044)TEXT 'WAIT' |
| 17457 | 2701 | |
| 17460 | 1124 | |
| 17461 | 0000 | |
| 17462 | 6045 | XXUCOM, 6045)TEXT 'UCOM ' |
| 17463 | 2503 | |
| 17464 | 1715 | |
| 17465 | 4000 | |
| 17466 | 6046 | XXACPT, 6046)TEXT 'ACCEPT' |
| 17467 | 0103 | |

17470 0305
17471 2024
17472 0P00
17473 6247 XXREJT, 6047;TEXT 'REJECT'
17474 2205
17475 1205
17476 0324
17477 0000

17500 0000 0

17501 3000 XXTEXT, 3000
17502 6023 XXEOF, 6023
17503 4113 XXUNARY, 4113
17504 4014 XXFINI, 4014
17505 6022 XXEXIT, 6022
17506 2000 XXLIT0, 2000;2001;2002;2003
17507 2001
17510 2002
17511 2003

NOPUNCH

17512 0000 LINBUF, ZBLOCK 51
17563 0000 LBEGIN, ZBLOCK 60
17643 0000 ENDLIN, 0
17644 0000 PDLIST, ZBLOCK 40
17704 0000 ENOPDL, 0
17705 0000 FORLIST, ZBLOCK 20
17725 0000 GOLIST, ZBLOCK 30
17755 0000 GSBEND, 0

ENPUNCH

S

| | | | | | | | |
|---------|------|--------|------|--------|------|--------|------|
| ABCDEF | 1756 | BEGFIX | 3762 | DBISRT | 7547 | EXPOK | 5265 |
| ABDGET | 8886 | BIDLE | 6713 | DBLIT | 7526 | FAD | 4000 |
| ABOP | 8325 | BKWD | 0600 | DBPUT | 7556 | FADEXT | 1314 |
| ABS | 6425 | BREAK | 6522 | DDLAST | 7512 | FADI | 4400 |
| ACCEPT | 7473 | BSKIP | 2730 | DECEXP | 0043 | FATNAX | 6273 |
| ACE | 2825 | BUSY | 6737 | DECFRA | 3366 | FATNC | 6337 |
| ACN | 4417 | CARRET | 2700 | DEEPR | 0526 | FATNCH | 6342 |
| ACCOUNT | 8822 | CCINTK | 7465 | DEF | 1576 | FATNCJ | 6345 |
| ACS | 8824 | CCXRA | 7342 | DELAY | 7463 | FATNC1 | 6304 |
| AC1 | 0820 | COEVCO | 0000 | DELETE | 6501 | FATNC2 | 6307 |
| AC2 | 2817 | CDINP | 7445 | DELOUT | 0142 | FATNC3 | 6312 |
| AC3 | 8816 | CHECKW | 2346 | DEVCOM | 7175 | FATNC4 | 6315 |
| ADACPT | 2887 | CHKFIT | 6400 | DEVCON | 7176 | FATNC5 | 6320 |
| ADA1 | 8825 | CLAB | 6133 | DICO | 6051 | FATNC6 | 6323 |
| ADA2 | 2826 | CLBA | 6136 | DIGIN | 3224 | FATNC7 | 6326 |
| ADA3 | 8827 | CLC | 7477 | DIGIT | 3204 | FATNC8 | 6331 |
| ADB | 7477 | CLCA | 6137 | DIGLUP | 6557 | FATNC9 | 6334 |
| ADC | 7477 | CLEAR | 7432 | DILC | 6050 | FATNSX | 6272 |
| ADCCOR | 8864 | CLEARV | 2462 | DILE | 6056 | FATNT | 6276 |
| ADCL | 6538 | CLEN | 6134 | DILX | 6053 | FATNTT | 6301 |
| ADCUNT | 8818 | CLKSTF | 0003 | DILY | 6054 | FCNTLC | 6665 |
| ADCX | 8812 | CLOCK | 0175 | DIM | 6472 | FCNTLO | 6703 |
| ADDRES | 8867 | CLOE | 6132 | DIMFLA | 8034 | FDIGIT | 3360 |
| ADLE | 6536 | CLRCNT | 0360 | DINP | 7511 | FDV | 7000 |
| ADLM | 6531 | CLS | 7477 | DIRE | 6057 | FDVI | 7400 |
| ADRB | 6533 | CLSA | 6135 | DISAUT | 8815 | FENTER | 4435 |
| ADRS | 6537 | CLSK | 6131 | DISB | 0136 | FEXIT | 0000 |
| ADSE | 6535 | CLTEMP | 0011 | DISD | 6052 | FEXPC1 | 6072 |
| ADSK | 6534 | CLZE | 6130 | DIVLP | 4705 | FEXPC2 | 6075 |
| ADST | 6532 | CNCLR | 0143 | DIVXTE | 3364 | FEXPC3 | 6100 |
| AGET | 0381 | CNTLCP | 6700 | DIXY | 6055 | FEXPC4 | 6103 |
| ALGNLP | 4466 | CNTLCR | 6670 | DLAST | 7511 | FEXPC5 | 6106 |
| ALLC | 1461 | CNTLO | 0133 | DOAD | 8362 | FEXPC6 | 6111 |
| ALLS | 3146 | CODELO | 0004 | DOADLP | 8366 | FEXPF | 6067 |
| ALTMOD | 2663 | COLUMN | 0126 | DOITNO | 1247 | FEXPI | 6061 |
| ALI | 4654 | COMMON | 3400 | DOTZER | 7371 | FEXPU | 6064 |
| AMATCH | 6586 | COMPAR | 2136 | DPFLAG | 3365 | FINDIT | 8557 |
| ANORM | 4600 | CONST | 1367 | DQINTX | 3170 | FINDLU | 8565 |
| APUT | 8263 | COS | 5616 | DSCREW | 8375 | FIX | 4744 |
| APUT1 | 8823 | COWT | 7326 | OVLOOP | 5245 | FIXEXI | 4773 |
| APUT2 | 8824 | COWTFP | 7343 | EDIT | 2485 | FIXITU | 5200 |
| ARGERR | 7363 | COWTLP | 7331 | END | 2567 | FIXLIN | 2113 |
| ARRLOC | 8803 | COWTO | 7340 | ENDLIN | 7643 | FIXLUP | 4750 |
| ARI | 4482 | COWTW | 7344 | ENDNUM | 3331 | FIXUP | 5146 |
| ATEMP | 8323 | CRINTX | 3876 | ENDPDL | 7704 | FJMP | 1000 |
| ATEMP2 | 8324 | CRLF | 6531 | EOFAD | 4526 | FJMPI | 1400 |
| ATLINE | 6451 | CRLFPR | 3740 | EPTR | 8856 | FJUMP | 1130 |
| ATN | 6208 | CT1 | 8816 | ERROR | 4142 | FLD | 3000 |
| ATNBIG | 6265 | CT2 | 8815 | EVAL | 1804 | FLOI | 3400 |
| ATNLOW | 6220 | CT3 | 8814 | EVALGO | 1807 | FLOGC1 | 6172 |
| ATNNOT | 6237 | CVTL00 | 5824 | EXECUT | 8213 | FLOGC2 | 6153 |
| AUTEMP | 8863 | DATAER | 1667 | EXIT | 2482 | FLOGC3 | 6156 |
| BARROW | 2666 | DBAD | 7513 | EXP | 6000 | FLOGC4 | 6161 |
| BCDEF6 | 1757 | DBBAD | 7532 | EXPG00 | 5242 | FMP | 6000 |
| BCKWDS | 4382 | DBGOT | 7420 | EXPLON | 5764 | FMPI | 6400 |

FMTENF 5123
 FMT1 5125
 FMT2 5053
 FMT3 5130
 FN 5453
 FNERR 0352
 FNEXIT 1200
 FOR 0413
 FORCT 0063
 FORDON 0663
 FORERR 0501
 FORLIM 0721
 FORLIS 7705
 FORSTE 0724
 FORVAR 0452
 FOUND 0575
 FOURLF 3557
 FPADD 4456
 FPADDR 4304
 FPDIV 4667
 FPDOIT 4237
 FPFLAG 0156
 FPGOTO 4273
 FPJMP 4317
 FPJUMP 4274
 FPLAC 4351
 FPLOOP 4202
 FPHUL 4530
 FPNOD 4270
 FPPER 4305
 FPPGZ 4227
 FPSKIP 4314
 FPSTO 4322
 FPSUB 4453
 FPT 4200
 FPTEMP 4576
 FPTR 0057
 FPZDIV 4736
 FRNDX 5404
 FRSTNE 2155
 FSB 5000
 FSDI 5400
 FSEQ 0050
 FSGE 0100
 FSGT 0140
 FSHIFT 7443
 FSINC1 5713
 FSINC3 5716
 FSINC4 5721
 FSINC5 5724
 FSINC6 5727
 FSINC7 5732
 FSINM4 5735
 FSINOK 5657
 FSINZ 5705

FSINZZ 5710
 FSIN10 5641
 FSLE 0150
 FSLT 0110
 FSNE 0040
 FSQRX 5407
 FST 2000
 FSTI 2400
 FTANT1 5677
 FTANT2 5702
 FUNTAB 1131
 FUPRC1 5762
 FWD 0200
 FXXPFX 6023
 GALT 7247
 GDIM2 1564
 GET 0001
 GETADD 1400
 GETARY 7462
 GETBLK 1674
 GETCH 7201
 GETJ 1770
 GETLIN 2603
 GETLRE 2600
 GETOPR 1015
 GETVAR 0311
 GETWD 0177
 GLOOP 2711
 GOBOTH 0532
 GOLIST 7725
 GOSUB 0505
 GOTEMP 0053
 GOTO 0517
 GOTOPR 1202
 GOTSS 1074
 GOTSTE 0634
 GOUT 7251
 GPTR 0060
 GRB 7224
 GROELA 7222
 GSBEND 7755
 GSBPTR 0165
 GSS1 1562
 GSS2 1563
 GTOKLP 1710
 GTEMP 7254
 GWHERE 7270
 HFOUND 7321
 HIGHWD 4333
 HLOOP 2722
 HPTR 0061
 HRCHAR 7256
 HRLOP 7302
 HRMES 7323
 IAMLES 2156

IOLEAC 6732
 IOLECO 6725
 IOLECI 6726
 IOLELK 6731
 IOLEPC 6733
 IP 0375
 IGNORE 2115
 IXR 7414
 IMMED 2454
 IN 3431
 INCHAR 7255
 INDEV 0127
 INDEX1 0013
 INDEX2 0014
 INLCTM 4065
 INLOOP 0572
 INLUPP 0432
 INODUN 6710
 INOPPP 6641
 INOYTT 6645
 INPLUP 4034
 INPPTR 4063
 INPUT 4007
 INSERT 2032
 INSRTS 2030
 INT 6434
 INTAC 6734
 INTCDF 6770
 INTCIF 6771
 INTECO 6762
 INTEMP 6736
 INTER 6600
 INTEXT 6744
 INTL 6735
 INTOU 6765
 INWDTM 4064
 IPNOPE 4024
 IPOINT 7034
 ISDEF2 3512
 ISDIG 6532
 ISDIM 1473
 ISET 7407
 ISIT 4566
 ISITDF 0550
 ISITFU 1110
 ISITLI 4104
 ISLIT 4133
 ISSOME 1644
 ISUMIN 1013
 ITSDEF 3514
 ITSDP 3256
 ITSE 3263
 ITSOP 1220
 ITSP 3300
 JBPENT 3707

JDIGIT 3124
 JISDIG 3367
 JMATCH 2766
 JPUTCH 0777
 JTXXIT 3123
 JUST0 3150
 JUSTOF 3160
 JUSTOP 3163
 JUST1 3145
 JUST2 3147
 KEYWD 0231
 LBEGIN 7563
 LCF 6662
 LET 0312
 LETDO 0205
 LETTER 3446
 LFXLUP 2333
 LHALF 3070
 LIMIT 0003
 LINBUF 7512
 LINENO 0052
 LINFIX 2330
 LIST 3600
 LISTAL 3616
 LISTLU 3620
 LISTSO 3617
 LIST2 3640
 LIST3 3655
 LIST4 3661
 LIST5 3676
 LITRAL 3131
 LLLJMP 7457
 LLLJMS 7446
 LLLUUU 7140
 LLS 6666
 LNOEND 3630
 LOADED 4127
 LOCTR 0045
 LOCTEM 0671
 LOCTMP 1673
 LOG 6114
 LOGACE 6165
 LOGFWD 6164
 LOGOKW 6167
 LOWLOC 2171
 LPTOUT 7163
 LSF 6661
 LSTLOC 2160
 LUP 3405
 LUPP 0426
 L4LUP 3664
 MACHIN 0000
 MAYZER 4612
 MENDLI 0041
 MENOPD 2363

| | | | |
|-------------|-------------|-------------|-------------|
| MEVAL 7415 | NULCMD 7454 | 0143 7266 | 07612 7262 |
| MEVALG 7431 | NULJOB 7415 | 017 5147 | 07640A 0765 |
| MGOLIS 0720 | NULLOP 7430 | 01742 3375 | 07640B 2763 |
| MGSEEN 0525 | NUMBUF 5335 | 0175 7267 | 07640C 7263 |
| MINUS 1316 | OADD 4435 | 0177 0027 | 07673 3316 |
| MLBEGI 0173 | OBHIGH 1177 | 01774 3376 | 077 0070 |
| MLEND 0174 | OBLOW 1165 | 02 0062 | 07706A 6544 |
| MLINBU 0040 | OBOP 7101 | 0200 0155 | 07706C 3473 |
| MNSONE 0736 | OCC 5205 | 02040A 3373 | 07715 2775 |
| MOREDI 6470 | OCMLIM 7115 | 02062 5344 | 07725A 3100 |
| MOREIN 4000 | OCOR 7113 | 0212 0010 | 07725B 3371 |
| MORERD 1621 | OCOUNT 7042 | 0215 0007 | 07737 3122 |
| MOVE 2012 | ODEV 0132 | 023 1366 | 07740 0054 |
| MOVLUP 2072 | OFLAG 7100 | 0233 3772 | 07741 3745 |
| MPY 5321 | OFLOW 7115 | 0240 0051 | 07743 4743 |
| MPYLUP 4552 | OJUMP 1276 | 0253 5150 | 07745 0162 |
| MTXXIT 3201 | OLOOP 0066 | 0255 5151 | 07746 7264 |
| MULCLR 4571 | ONE 0151 | 0256A 5156 | 07753 3104 |
| MULEXP 3346 | ONEDIM 1064 | 0256B 6575 | 07762 2327 |
| MULXTE 3363 | ONESS 1076 | 0260 0011 | 07763A 0774 |
| MUSTBE 4570 | ONLY1 3322 | 027 3370 | 07763B 3101 |
| NDELAY 7420 | 007600 5452 | 0305 5152 | 07764A 1274 |
| NEWCHA 2615 | 007736 2326 | 032 3121 | 07764B 3102 |
| NEWLIN 2610 | OPDONE 1203 | 036 2767 | 07764C 3374 |
| NEXT 0600 | OPE 0030 | 03737B 2773 | 07764D 6777 |
| NEXTER 0673 | OPERAN 0073 | 03754 1162 | 07766 5154 |
| NEXTVA 0637 | OPNUL 7067 | 03755 1273 | 07770 0055 |
| NINTEC 7457 | OPOINT 7065 | 0377 0071 | 07771 5155 |
| NOBUMP 4633 | OPOTAB 7073 | 04 0160 | 07772 5157 |
| NOCOMM 0335 | OPRST 7155 | 040 2770 | 07773 5346 |
| NOINT 0134 | OPS 0026 | 04001 7525 | 07774 1566 |
| NONBLN 3110 | OPUTC 7041 | 04014 1163 | 07775 6776 |
| NONZER 5016 | OP1 0023 | 042 3106 | 07776 3372 |
| NOPARE 1035 | OP2 0022 | 04200 3105 | 07777 7114 |
| NOPCR 2216 | OP3 0021 | 04213 1164 | PACN 4742 |
| NORLFT 6423 | OTEMP 1271 | 05400 5347 | PAL1 0150 |
| NORMED 5220 | OTHER 3000 | 06201A 6615 | PANORM 0146 |
| NORMIT 5207 | OTST1 7112 | 06201B 7005 | PARGER 0047 |
| NORUBO 5574 | OUTDEL 7146 | 06202 6775 | PAR1 0147 |
| NOSS1 1460 | OUTDEV 0131 | 07 0072 | PASSCR 0472 |
| NOSS2 1453 | OUTO2 0130 | 070 6774 | PASSUM 7440 |
| NOT 3427 | OUTIT 7043 | 0700 1272 | PBEGFI 1776 |
| NOTBAD 2127 | OUTNUM 5000 | 07000A 2560 | PBIDLE 7161 |
| NOTBIG 4620 | OV 0012 | 07000B 3474 | PBOMB 0367 |
| NOTCR 3023 | 01000 3550 | 07000C 7456 | PBUSY 7157 |
| NOTFRS 2061 | 011 0504 | 07077 1275 | PCCUNT 0744 |
| NOTHER 0435 | 0110 2361 | 07520 5153 | PCHKFI 0163 |
| NOTKWD 0313 | 012 0065 | 07545 4777 | PCOMMO 3357 |
| NOTNOW 2000 | 0122 2771 | 07570 6456 | PCOWT 0141 |
| NOTSGN 3301 | 013 1567 | 07577 4577 | PDEVCO 7442 |
| NOTTXT 2236 | 0132 7265 | 07577B 7554 | PDL 0036 |
| NOTVAR 1105 | 0137 7261 | 07600 4345 | POLIST 7644 |
| NOTX10 5236 | 014 2360 | 07601 7260 | PEDIT 0120 |
| NPSPER 7555 | 0140A 0775 | 07603 2774 | PERMSY 7022 |
| NSYMTA 0006 | 0140B 2772 | 07610 5345 | PERROR 0077 |

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|--------|------|--------|------|--------|------|--------|------|
| PEVAL | 0101 | PPASSC | 0110 | PUTLOC | 2172 | SLOOP | 2707 |
| PEVALG | 2240 | PPOLIS | 0125 | PUTLP | 7007 | SLSHTM | 1337 |
| PEXECU | 0103 | PPERMS | 2565 | PUTXRA | 0776 | SNUMFL | 0064 |
| PEXP | 5776 | PPFLOO | 4741 | PXFORL | 0556 | SPACER | 0370 |
| PFINDI | 0672 | PPFORL | 1760 | PXLINB | 3746 | SPECIN | 0140 |
| PPFIX | 0106 | PPINT | 6060 | PXXCRL | 3125 | SPLEFT | 0144 |
| PPNERR | 5546 | PPOP | 0105 | PXXEOF | 2564 | SQEXIT | 5450 |
| PPFLOO | 4575 | PPRINR | 2241 | PXXEXI | 3126 | SQLOOP | 5435 |
| PGETAD | 0102 | PPRINT | 0114 | PXXLIT | 3130 | SQR | 5412 |
| PGETBL | 0115 | PPRINU | 0123 | PXXTHE | 2562 | SSERR | 1570 |
| PGETCH | 0032 | PPUSH | 0104 | PZERDO | 6545 | SSFIX | 4775 |
| PGETLI | 0124 | PPUTCH | 0033 | QBIDLE | 7257 | SSONE | 0344 |
| PGETLR | 3022 | PPXRA | 7160 | QERROR | 4170 | SSTWO | 0345 |
| PGETOP | 0111 | PRENT | 2316 | QHRCHA | 7156 | STAR | 1327 |
| PGETVA | 0113 | PRESET | 0137 | RANDAE | 0451 | START | 1000 |
| PGOLIS | 0164 | PRINBL | 2277 | RBSWCH | 0135 | STICKI | 6430 |
| PGOTOP | 0107 | PRINCO | 2303 | READ | 1623 | STOP | 2570 |
| PHRCHA | 6740 | PRINHA | 2260 | READLO | 0046 | STOVAR | 0341 |
| PIGNOR | 0471 | PRINQU | 2225 | READY | 6525 | SUBRA | 2161 |
| PINCHA | 6741 | PRINRE | 2242 | REALTI | 7473 | SXERR | 6441 |
| PINT | 5676 | PRINSE | 2312 | REJECT | 7473 | TAB | 5547 |
| PISITL | 0175 | PRINT | 2173 | RELATE | 1342 | TABDES | 6367 |
| PJSET | 2461 | PRINTC | 2207 | REMPAC | 3043 | TABDO | 6350 |
| PLBEGI | 0172 | PRINTG | 2206 | RESET1 | 7116 | TABFLG | 2345 |
| PLETDO | 0204 | PRINTH | 2222 | RESET2 | 7141 | TABOK | 6360 |
| PLETTE | 3103 | PRINTX | 3702 | RESTOR | 3773 | TABTHR | 2362 |
| PLIMIT | 2561 | PRINUM | 3747 | RETNER | 0713 | TAN | 5600 |
| PLINBU | 0037 | PRINVA | 3653 | RETURN | 0677 | TBEGFI | 5572 |
| PLINPI | 0161 | PRLOOP | 3711 | RHALF | 3074 | TEN | 0000 |
| PLIST | 2563 | PRSUBR | 3724 | RMLEFT | 6413 | THESKI | 1353 |
| PLITRA | 3377 | PRTEMP | 0042 | RND | 5353 | THISTX | 3107 |
| PLOG | 5775 | PRTXRE | 3722 | RNDJMP | 5350 | TIM | 7477 |
| PLOT | 7400 | PSGN | 5675 | RTERR | 7373 | TIM1 | 0004 |
| PLOTB | 7514 | PSKIPI | 1617 | RUBO | 5573 | TIM2 | 0005 |
| PLUS | 1312 | PSLOOP | 0116 | RUN | 2452 | TMP | 0031 |
| PMEVAL | 7441 | PSPACE | 1565 | RUNIN | 2503 | TOOLON | 5162 |
| PMPY | 5160 | PSTICK | 0121 | RUNLUP | 2465 | TPRINT | 6370 |
| PNBF6 | 5161 | PSTOVA | 0112 | RUNNOT | 2477 | TRALUP | 2105 |
| PNOCR | 0757 | PSXERR | 0100 | RUN2IN | 2543 | TRANSF | 2103 |
| PNONBL | 0122 | PSYMTA | 0005 | RUN2LU | 2514 | TRYAGI | 5133 |
| PNOTNO | 2566 | PTABDE | 5570 | RUN2NO | 2537 | TRYSTE | 0626 |
| PNUMBU | 0044 | PTABFL | 5571 | SCHMOR | 1657 | TST | 7421 |
| POADD | 0157 | PTABLE | 2777 | SCRATC | 2440 | TSTFX | 7417 |
| POFLAG | 6742 | PTEN | 0145 | SEARCH | 1660 | TSTP | 7431 |
| POP | 3551 | PTEXT | 0076 | SETCLO | 7473 | TTYIN | 7173 |
| POPERA | 3127 | PTPOUT | 7164 | SETRAT | 7473 | TTYOUT | 7165 |
| POP3 | 4434 | PTRIN | 7172 | SETSGN | 4512 | TUBIG | 2657 |
| POTHER | 2776 | PTUBIG | 3021 | SETUP | 7400 | TWIDTH | 2357 |
| POUIT | 6743 | PUSERF | 5545 | SGN | 0726 | TWOSS | 1077 |
| POUTNU | 0117 | PUSH | 2364 | SIMPLV | 3466 | TXTPAK | 3046 |
| PPACE | 0045 | PUTCDF | 7037 | SIN | 5624 | UABAD | 0620 |
| PPACS | 0046 | PUTCH | 0741 | SINCHA | 7162 | UACCPY | 0453 |
| PPAC1 | 0042 | PUTCIN | 7023 | SJUMP | 0240 | UAC1 | 0037 |
| PPAC2 | 0043 | PUTER | 7000 | SKIPIT | 0467 | UAC2 | 0040 |
| PPAC3 | 0044 | PUTJ | 1761 | SLASH | 1332 | UAC3 | 0041 |

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|--------|------|--------|------|--------|------|--------|------|
| UAOCB | 0622 | UUUJMP | 0730 | XXEQ | 7054 | XXTAB | 7207 |
| UADCIN | 0613 | UUUJMS | 0721 | XXEXIT | 7505 | XXTAN | 7115 |
| UADCMY | 0615 | UUULLL | 0352 | XXEXP | 7126 | XXTEXT | 7501 |
| UADCN | 0522 | UVP | 7502 | XXFINI | 7504 | XXTHEN | 7253 |
| UCLC | 0345 | UWAIT | 0437 | XXFN | 7107 | XXTIME | 7204 |
| UCLoop | 0217 | UWAITC | 0440 | XXFOR | 7235 | XXTO | 7072 |
| UCLS | 0340 | U1P | 7503 | XXGE | 7040 | XXTTY | 7201 |
| UDEVCO | 0256 | U10 | 0036 | XXGET | 7173 | XXTTYI | 7347 |
| UDDAD | 0351 | U100 | 0013 | XXGOSU | 7241 | XXTTYO | 7354 |
| UDOPER | 1363 | U17 | 0047 | XXGOTO | 7246 | XXUCOM | 7462 |
| UFFUD | 0756 | U177 | 0017 | XXGT | 7060 | XXUNAR | 7503 |
| UFJMP | 0757 | U2P | 7504 | XXIF | 7260 | XXUPAR | 7033 |
| UGETHD | 0257 | U4707 | 0020 | XXINPU | 7263 | XXUSE | 7416 |
| UGH1 | 3562 | U5010 | 0034 | XXINT | 7142 | XXUUF | 7212 |
| UIEXT | 0234 | U7 | 0033 | XXLBR | 7105 | XXWAIT | 7452 |
| UIEXT2 | 0243 | U7760 | 0052 | XXLE | 7035 | YYWAIT | 7456 |
| UIEXT3 | 0245 | U7767 | 0035 | XXLET | 7270 | ZERDON | 5144 |
| UIEXT4 | 0260 | U7775 | 0021 | XXLIS | 7162 | ZERO | 0152 |
| UINAC | 0631 | U7777 | 0050 | XXLIST | 7156 | ZFIXEX | 4767 |
| UJMP | 0254 | VAR | 0343 | XXLIT0 | 7506 | ZZADB | 0775 |
| UJMS | 0255 | VARTEM | 0553 | XXLOG | 7123 | ZZADC | 0770 |
| UMEVAL | 0031 | VSCHII | 3524 | XXLPT | 7361 | | |
| UMOPER | 1321 | VSCHLU | 3475 | XXLT | 7056 | | |
| UNDERF | 4645 | VSCHNO | 3520 | XXMINU | 7025 | | |
| UPAGET | 0653 | WAIT | 7473 | XXNE | 7043 | | |
| UPARRO | 6457 | WAITC | 7473 | XXNEXT | 7274 | | |
| UPARRX | 5740 | WOTEMP | 1075 | XXNRUB | 7377 | | |
| UPARR2 | 4365 | WORD | 0050 | XXOPEN | 7103 | | |
| UPCOMD | 0731 | XEXECU | 0412 | XXPLOT | 7422 | | |
| UPFIX | 0032 | XGISIT | 4066 | XXPLUS | 7023 | | |
| UPFJN | 0747 | XGMUST | 7345 | XXPRIN | 7300 | | |
| UPJMP | 0736 | XISIT | 4073 | XXPTP | 7364 | | |
| UREAL | 0460 | XMUST | 7352 | XXPTR | 7367 | | |
| UREJT | 0456 | XRESTA | 1003 | XXPUT | 7153 | | |
| USE | 7446 | XXABS | 7134 | XXRBR | 7070 | | |
| USERFN | 1620 | XXACPT | 7466 | XXREAD | 7337 | | |
| USETC | 0411 | XXADB | 7223 | XXREAL | 7426 | | |
| USETF | 0550 | XXADC | 7176 | XXREJT | 7473 | | |
| USETM | 0416 | XXATN | 7120 | XXREM | 7327 | | |
| USETR | 0400 | XXBSLS | 7230 | XXRETR | 7305 | | |
| USKIPI | 7461 | XXCLC | 7220 | XXRND | 7145 | | |
| UTEMP | 0053 | XXCLEA | 7406 | XXRSTO | 7322 | | |
| UTIM | 0541 | XXCLOS | 7066 | XXRUB | 7372 | | |
| UUAC1 | 0654 | XXCLS | 7215 | XXRUN | 7165 | | |
| UUAC2 | 0661 | XXCOMM | 7062 | XXSCR | 7170 | | |
| UUAC3 | 0666 | XXCOS | 7112 | XXSEMI | 7064 | | |
| UUATA | 7567 | XXCRLF | 7226 | XXSETC | 7443 | | |
| UUDEVC | 0705 | XXDATA | 7343 | XXSETR | 7435 | | |
| UUFUDG | 0735 | XXDEF | 7333 | XXSGN | 7137 | | |
| UUJMP | 0722 | XXDELA | 7412 | XXSIN | 7150 | | |
| UUJMS | 0707 | XXDIM | 7316 | XXSLAS | 7031 | | |
| UUMEVA | 0673 | XXEG | 7046 | XXSQR | 7131 | | |
| UUNOAD | 7460 | XXEL | 7051 | XXSTAR | 7027 | | |
| UUPFIX | 0677 | XXEND | 7232 | XXSTEP | 7076 | | |
| UUSETF | 0030 | XXEOF | 7502 | XXSTOP | 7312 | | |