LSI

EIS INSTRUCTION TEST

MD-11-DVKAB-A

EP DVKAB A DL A

OCT 1976

FICHE 1 OF 1

digital

Made In U.S.A.

DVKABA.SRC TABLE OF CONTENTS

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 4943
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```
4945
4946                                    .ABS
4947                                    .NLIST  MD,MC,CND
4948                                    .LIST   ME
4949                                    .MCALL  .$EOP,.$ACT11,.$APTBLS,.$APTHDR,.HEADER,.SETUP,FJSH,POP
4950                                    .MCALL  STARS
4951                                    .TITLE  DVKABA
 (1)                                    ;*COPYRIGHT (C) AUGUST 1975
 (1)                                    ;*DIGITAL EQUIPMENT CORP.
 (1)                                    ;*MAYNARD, MASS. 01754
 (1)                                    ;*
 (1)                                    ;*PROGRAM BY PERVEZ ZAKI
 (1)                                    ;*
 (1)                                    ;*THIS PROGRAM WAS ASSEMBLED USING THE PDP-11 MAINDEC SYSMAC
 (1)                                    ;*PACKAGE (MAINDEC-11-DZQAC-B),JULY 11,1975.
 (1)                                    ;*
 (1)        000001                      $TN=1
 (1)        160000                      $SWR=160000     ;;HALT ON ERROR, LOOP ON TEST, INHIBIT ERROR TYPOUT
4952
4953
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```
                                ;*****************************************************************
                                ;*****************************************************************
                                ;*****************************************************************
                                .SBTTL  ACT11 HOOKS
                                ;HOOKS REQUIRED BY ACT11
                        001000          $SVPC=.                 ;SAVE PC
                        000046          .=46
                000046  017026          $ENDAD                  ;;1)SET LOC.46 TO ADDRESS OF $ENDAD IN .$EOP
                        000052          .=52
                000052  000000          .WORD   0               ;;2)SET LOC.52 TO ZERO
                        001000          .=$SVPC                 ;; RESTORE PC

                        000000  DUMMY=  0
                        000001  ERRNM=  1
                        000051  F=      51
                        000176  N=      176
                        000007  PC=     %7
                        000006  SP=     %6
                        010701  SCOPE=  10701
                        010701  SCOPE1= 10701
                        010703  SCOPE3= 10703
                        001000  SW09=   1000
                        002000  SW10=   2000
                        004000  SW11=   4000
                        010000  SW12=   10000
                        000004  TYPE=   IOT

                        000020          .=20
                000020  017274          $TYPE
```

```
 4989            000400                  .=400
 4990                                    ;*****************************************************************
  (1)                                    
  (1)                                    .SBTTL  APT MAILBOX-ETABLE
  (1)                                    
  (1)                                    
  (1)                                    
  (1)                                            .EVEN
  (1)   000400                           $MAIL:
  (1)   000400  000000                   $MSGTY: .WORD   AMSGTY   ;;APT MAILBOX
  (1)   000402  000000                   $FATAL: .WORD   AFATAL   ;;MESSAGE TYPE CODE
  (1)   000404  000000                   $TESTN: .WORD   ATESTN   ;;FATAL ERROR NUMBER
  (1)   000406  000000                   $PASS:  .WORD   APASS    ;;TEST NUMBER
  (1)   000410  000000                   $DEVCT: .WORD   ADEVCT   ;;PASS COUNT
  (1)   000412  000000                   $UNIT:  .WORD   AUNIT    ;;DEVICE COUNT
  (1)   000414  000000                   $MSGAD: .WORD   AMSGAD   ;;I/O UNIT NUMBER
  (1)   000416  000000                   $MSGLG: .WORD   AMSGLG   ;;MESSAGE ADDRESS
  (1)   000420                           $ETABLE:                 ;;MESSAGE LENGTH
  (1)   000420     000                   $ENV:   .BYTE   AENV     ;;APT ENVIRONMENT TABLE
  (1)   000421     000                   $ENVM:  .BYTE   AENVM    ;;ENVIRONMENT BYTE
  (1)   000422  000000                   $SWREG: .WORD   ASWREG   ;;ENVIRONMENT MODE BITS
  (1)   000424  000000                   $USWR:  .WORD   AUSWR    ;;APT SWITCH REGISTER
  (1)   000426  000000                   $CPUOP: .WORD   ACPUOP   ;;USER SWITCHES
  (1)                                    ;*                      ;;CPU TYPE,OPTIONS
  (1)                                    ;*                      BITS 15-11=CPU TYPE
  (1)                                    ;*                              11/04=01,11/05=02,11/20=03,11/40=04,11/45=05
  (1)                                    ;*                              11/70=06,PDQ=07,Q=10
  (1)                                    ;*                      BIT 10=REAL TIME CLOCK
  (1)                                    ;*                      BIT  9=FLOATING POINT PROCESSOR
  (1)                                    ;*                      BIT  8=MEMORY MANAGEMENT
  (1)   000430                           $ETEND:
  (1)                                            .MEXIT
 4991
 4992                                    ;*****************************************************************
  (1)                                    
  (1)                                    .SBTTL  APT PARAMETER BLOCK
  (1)                                    ;SET LOCATIONS 24 AND 44 AS REQUIRED FOR APT
  (2)                                    ;*****************************************************************
  (1)             000430                         .$X=.    ;;SAVE CURRENT LOCATION
  (1)             000024                         .=24     ;;SET POWER FAIL TO POINT TO START OF PROGRAM
  (1)   000024    000200                         200      ;;FOR APT START UP
  (1)             000044                         .=44     ;;POINT TO APT INDIRECT ADDRESS PNTR.
  (1)   000044    000430                         $APTHDR  ;;POINT TO APT HEADER BLOCK
  (1)             000430                         .=.$X    ;;RESET LOCATION COUNTER
  (2)                                    ;*****************************************************************
  (1)                                    ;SETUP APT PARAMETER BLOCK AS DEFINED IN THE APT-PDP11 DIAGNOSTIC
  (1)                                    ;INTERFACE SPEC.
  (1)                                    
  (1)   000430                           $APTHD:
  (1)   000430  000000                   $HIBTS: .WORD   0        ;;TWO HIGH BITS OF 18 BIT MAILBOX ADDR.
  (1)   000432  000400                   $MBADR: .WORD   $MAIL    ;;ADDRESS OF APT MAILBOX (BITS 0-15)
  (1)   000434  000003                   $TSTM:  .WORD   3        ;;RUN TIM OF LONGEST TEST
  (1)   000436  000005                   $PASTM: .WORD   5        ;;RUN TIME IN SECS. OF 1ST PASS ON 1 UNIT (QUICK VERIFY)
  (1)   000440  000000                   $UNITM: .WORD            ;;ADDITIONAL RUN TIME (SECS) OF A PASS FOR EACH ADDITIONAL UNIT
  (1)   000442  000014                           .WORD   $ETEND-$MAIL/2 ;;LENGTH MAILBOX-ETABLE(WORDS)
 4993
 4994            000430                 .=$APTHD
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 4995  000430                          COUNT:
 4996        000432                          .=COUNT+2
 4997  000432                          PSWORD:
 4998        000434                          .=PSWORD+2
 4999  000434                          TEMP1:
 5000        000436                          .=TEMP1+2
 5001  000436                          TEMP2:
 5002        000440                          .=TEMP2+2
 5003  000440                          TEMP3:
 5004        000442                          .=TEMP3+2
 5005  000442                          TEMP4:
 5006        000444                          .=TEMP4+2
 5007  000444  000000                  TEMP5:  .WORD
 5008  000446  000000                  TEMP6:  .WORD
 5009  000450     000                  TYPCNT: .BYTE
 5010  000451     000                  $TPCNT: .BYTE
 5011  000452  000007                  S0:     7
 5012  000454  177771                  S1:     -7
 5013  000456  000454                  S2:     S1
 5014  000460  177772                  S3:     -6
 5015  000462  177777                  S4:     -1
 5016  000464  040000                  S5:     40000
 5017  000466  000464                  S6:     S5
 5018  000470  040000                  S7:     40000
 5019  000472  177776                  S8:     -2
 5020  000474  000002                  S9:     2
 5021  000476  000474                  S10:    S9
 5022  000500  000002                  S11:    2
 5023  000502  000064                  TTYOUT: 64
 5024  000504  177566                  $TPB:   177566
 5025  000506  177564                  $TPS:   177564
 5026  000510  005015  020040  000040  $CRLF:  .ASCIZ  <15><12>/    /
 5027  000516  006412  047520  042527  POWER:  .ASCIZ  <12><15>/POWER/
       000524  000122
 5028
 5030
 5031
 5045
 5046
 5066
 5067
 5073
 5074
 5075
 5076
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5342                    000200                          .=200
5343    000200  012737  017060  000024                  MOV     #$PWRDN,@#24    ;PREPARE TO SERVICE POWER DOWN ROUTINE
5344    000206  012700  000410                          MOV     #$DEVCT,R0      ;PREPARE TO INITIALIZE THE STACK
5345    000212  005040                          2$:     CLR     -(R0)
5346    000214  022700  000400                          CMP     #$MAIL,R0
5347    000220  001374                                  BNE     2$
5348    000222  000167  000352                  RESTRT: JMP     BEGIN
5349
5350                    000600                          .=600
5351
5352    000600  012705  000404                  BEGIN:  MOV     #$TESTN,R5      ;MAKE R5 POINT TO THE LOCATION $TESTN
5353    000604  005037  000430                          CLR     @#COUNT         ;CLEAR THE COUNTER
5354    000610  012715  000001                          MOV     #1,(R5)         ;INITIALIZE TEST NUMBER
5355    000614  012706  000600                          MOV     #BEGIN,SP       ;** STACK AT BEGIN **
5359    000620                                          MTPS    #0              ;PLACE #0 IN PSW
  (1)   000620  106427                                  .WORD   106400!..C
5363    000624  132737  000001  000420                  BITB    #1,@#$ENV       ;ARE WE UNDER APT ?
5364    000632  001410                                  BEQ     2$              ;IF NOT THEN GO TO 2$
5365    000634  012700  000510                          MOV     #$TPS+2,R0      ;OTHERWISE SET FOR OTHER SLU
5366    000640  012740  176564                          MOV     #176564,-(R0)
5367    000644  012740  176566                          MOV     #176566,-(R0)
5368    000650  012740  000074                          MOV     #74,-(R0)
5369    000654  012737  000001  000434          2$:     MOV     #1,@#TEMP1      ;TEMP1=1
5370    000662  005037  000436                          CLR     @#TEMP2         ;TEMP2=0
5371    000666  012737  000001  000440                  MOV     #1,@#TEMP3      ;TEMP3=1
5372    000674  005037  000442                          CLR     @#TEMP4         ;TEMP4=0
5373
5374
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5379
5380                                    ;*********************************
5381                                    ;     ASH INSTRUCTION TESTS
5382                                    ;*********************************
5383
5384
5385
5386
5387                                            ;*************
5388                                            ; TESTS 1-36
5389                                            ;*************
5390
5391
5392  000700  010701                  START:  SCOPE1
5393  000702  013700  000434                  MOV     @#TEMP1,%0      ;LOAD R0 WITH THE CONTENTS OF TEMP1
5394  000706  032737  000001  000406         BIT     #1,@#$PASS      ;IS IT AN EVEN PASS ?
5395  000714  001004                          BNE     2$              ;IF NOT THEN GO TO 2$
5396  000716  013701  000436                  MOV     @#TEMP2,R1      ;OTHERWISE EXECUTE THE INSTRUCTION
5397                                                                  ;IN MODE 0 USING R1
5398  000722  072001                          ASH     R1,R0
5399  000724  000402                          BR      4$
5400  000726  072067  177504          2$:     ASH     TEMP2,%0        ;SHIFT R0 BY THE NUMBER SPECIFIED BY TEMP2
5404  000732                           4$:     MFPS    @#PSWORD        ;SAVE PS
  (1) 000732  106737                          .WORD   106700!..C
5408  000736  123737  000442  000432         CMPB    @#TEMP4,@#PSWORD;IS THE PS = TEMP4 ?
5409  000744  001403                          BEQ     .+10
5410  000746  004767  016136                  JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                                 ;THE PS IS NOT EQUAL TO 0
  (2) 000752  000001                          1
5411  000754  005237  000430                  INC     @#COUNT         ;INCREMENT THE COUNTER
5412  000760  023700  000440                  CMP     @#TEMP3,%0      ;IS THE RESULT IN R0 EQUAL TO TEMP3?
5413  000764  001403                          BEQ     .+10
5414  000766                           6$:
  (2) 000766  004767  016116                  JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                                 ;EITHER INCORRECT R0 OR INCORRECT SEQUENCE
  (2) 000772  000002                          2
5415  000774  021537  000430                  CMP     (R5),@#COUNT    ;IS THE TEST NUMBER EQUAL TO THE
5416                                                                  ;COUNTER?
5417  001000  001372                          BNE     6$              ;IF NOT GO TO THE HLT ABOVE
5418  001002  005215                          INC     (R5)
5419  001004  010701                          SCOPE1
5420  001006  021527  000037                  CMP     (R5),#37        ;HAS THE CONTENTS OF REGISTERS BEEN SHIFTED LEFT
5421                                                                  ;BY 14. AND RIGHT BY 14.?
5422  001012  002011                          BGE     8$
5423  001014  005237  000436                  INC     @#TEMP2
5424  001020  006367  177414                  ASL     TEMP3           ;SHIFT TEMP3 LEFT.
5425  001024  021527  000020                  CMP     (R5),#20        ;HAS THE CONTENTS OF REGISTERS BEEN SHIFTED LEFT BY 14.?
5426  001030  001004                          BNE     REG1
5427  001032  000167  000764                  JMP     NEGAT           ;IF SO GO TO NEGAT AND INITIATE RIGHT SHIFT
5428  001036  004767  001006           8$:     JSR     PC,TST37        ;IF SO GO AND CONTINUE THE REST OF THE PROGRAM
5429  001042  010703                  REG1:   SCOPE3
5430  001044  013701  000434                  MOV     @#TEMP1,%1      ;LOAD R1 WITH THE CONTENTS OF TEMP1
5431  001050  032737  000001  000406         BIT     #1,@#$PASS      ;IS IT AN EVEN PASS ?
5432  001056  001004                          BNE     2$              ;IF NOT THEN GO TO 2$
5433  001060  013702  000436                  MOV     @#TEMP2,R2      ;OTHERWISE EXECUTE ASH INSTRUCTION IN MODE 0
5434  001064  072102                          ASH     R2,R1           ;USING R1
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5435  001066  000402                        BR      4$
5436  001070  072167  177342          2$:   ASH     TEMP2,%1        ;SHIFT R1 BY THE NUMBER SPECIFIED BY TEMP2
5440  001074                          4$:   MFPS    @#PSWORD        ;SAVE PS
  (1) 001074  106737                        .WORD   106700!..C
5444  001100  123737  000442  000432        CMPB    @#TEMP4,@#PSWORD;IS THE PS = TEMP4 ?
5445  001106  001403                        BEQ     .+10
5446  001110  004767  015774                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                               ;THE PS IS NOT EQUAL TO 0
  (2) 001114  000003                        3
5447  001116  005237  000430                INC     @#COUNT         ;INCREMENT THE COUNTER
5448  001122  023701  000440                CMP     @#TEMP3,%1      ;IS THE RESULT IN R1 EQUAL TO TEMP3?
5449  001126  001403                        BEQ     .+10
5450  001130                          6$:
  (2) 001130  004767  015754                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                               ;EITHER INCORRECT R1 OR INCORRECT SEQUENCE
  (2) 001134  000004                        4
5451  001136  021537  000430                CMP     (R5),@#COUNT    ;IS THE TEST NUMBER EQUAL TO THE COUNTER?
5452  001142  001372                        BNE     6$              ;IF NOT GO TO THE HLT ABOVE
5453  001144  005215                        INC     (R5)
5454  001146  010703                        SCOPE3
5455  001150  021527  000037                CMP     (R5),#37        ;HAS THE CONTENTS OF REGISTERS BEEN SHIFTED LEFT
5456                                                                ;BY 14. AND RIGHT BY 14.?
5457  001154  002011                        BGE     8$
5458  001156  005237  000436                INC     @#TEMP2
5459  001162  006367  177252                ASL     TEMP3           ;SHIFT TEMP3 LEFT
5460  001166  021527  000020                CMP     (R5),#20        ;HAS THE CONTENTS OF REGISTERS BEEN SHIFTED LEFT BY 14.?
5461  001172  001004                        BNE     REG2
5462  001174  000167  000622                JMP     NEGAT           ;IF SO GO TO NEGAT AND INITIATE RIGHT SHIFT
5463  001200  004767  000644          8$:   JSR     PC,TST37        ;IF SO GO AND CONTINUE THE REST OF THE PROGRAM
5464  001204  010701                  REG2: SCOPE1
5465  001206  013702  000434                MOV     @#TEMP1,%2      ;LOAD R2 WITH THE CONTENTS OF TEMP1
5466  001212  032737  000001  000406        BIT     #1,@#$PASS      ;IS IT AN EVEN PASS ?
5467  001220  001004                        BNE     2$              ;IF NOT THEN GO TO 2$
5468  001222  013703  000436                MOV     @#TEMP2,R3      ;OTHERWISE EXECUTE ASH INSTRUCTION IN MODE 0
5469  001226  072203                        ASH     R3,R2           ;USING R2
5470  001230  000402                        BR      4$
5471  001232  072267  177200          2$:   ASH     TEMP2,%2        ;SHIFT R2 BY THE NUMBER SPECIFIED BY TEMP2
5475  001236                          4$:   MFPS    @#PSWORD        ;SAVE PS
  (1) 001236  106737                        .WORD   106700!..C
5479  001242  123737  000442  000432        CMPB    @#TEMP4,@#PSWORD;IS THE PS = TEMP4 ?
5480  001250  001403                        BEQ     .+10
5481  001252  004767  015632                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                               ;THE PS IS NOT EQUAL TO 0
  (2) 001256  000005                        5
5482  001260  005237  000430                INC     @#COUNT
5483  001264  023702  000440                CMP     @#TEMP3,%2      ;IS THE RESULT IN R2 EQUAL TO TEMP3?
5484  001270  001403                        BEQ     .+10
5485  001272                          6$:
  (2) 001272  004767  015612                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                               ;EITHER INCORRECT R2 OR INCORRECT SEQUENCE
  (2) 001276  000006                        6
5486  001300  021537  000430                CMP     (R5),@#COUNT    ;IS THE TEST NUMBER EQUAL TO THE COUNTER?
5487  001304  001372                        BNE     6$              ;IF NOT GO TO THE HLT ABOVE
5488  001306  005215                        INC     (R5)
5489  001310  010701                        SCOPE1
5490  001312  021527  000037                CMP     (R5),#37        ;HAS THE CONTENTS OF REGISTERS BEEN SHIFTED
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 5491
 5492  001316  002011                          BGE     8$                      ;LEFT BY 14, AND RIGHT BY 14.?
 5493  001320  005237  000436                  INC     @#TEMP2
 5494  001324  006367  177110                  ASL     TEMP3                   ;SHIFTED TEMP3 LEFT
 5495  001330  021527  000020                  CMP     (R5),#20                ;HAS THE CONTENTS OF REGISTERS BEEN SHIFTED LEFT BY 14.?
 5496  001334  001004                          BNE     REG3
 5497  001336  000167  000460                  JMP     NEGAT                   ;IF SO GO TO NEGAT AND INITIATE RIGHT SHIFT
 5498  001342  004767  000502          8$:     JSR     PC,TST37                ;IF SO GO AND CONTINUE THE REST OF THE PROGRAM
 5499  001346  010701                  REG3:   SCOPE1
 5500  001350  013703  000434                  MOV     @#TEMP1,%3              ;LOAD R3 WITH THE CONTENTS OF TEMP1
 5501  001354  032737  000001  000406          BIT     #1,@#$PASS              ;IS IT AN EVEN PASS ?
 5502  001362  001004                          BNE     2$                      ;IF NOT THEN GO TO 2$
 5503  001364  013704  000436                  MOV     @#TEMP2,R4              ;OTHERWISE EXECUTE ASH INSTRUCTION IN MODE 0
 5504  001370  072304                          ASH     R4,R3                   ;USING R3
 5505  001372  000402                          BR      4$
 5506  001374  072367  177036          2$:     ASH     TEMP2,%3                ;SHIFT R3 BY THE NUMBER SPECIFIED BY TEMP2
 5510  001400                          4$:     MFPS    @#PSWORD                ;SAVE PS
   (1) 001400  106737                          .WORD   106700!.,C
 5514  001404  123737  000442  000432          CMPB    @#TEMP4,@#PSWORD;IS THE PS = TEMP4 ?
 5515  001412  001003                          BEQ     .+10
 5516  001414  004767  015470                  JSR     PC,$HLT                 ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (2)                                                                         ;THE PS IS NOT EQUAL TO 0.
   (2) 001420  000007                          7
 5517  001422  005237  000430                  INC     @#COUNT
 5518  001426  023703  000440                  CMP     @#TEMP3,%3              ;IS THE RESULT IN R3 EQUAL TO TEMP3?
 5519  001432  001003                          BEQ     .+10
 5520  001434                          6$:
   (2) 001434  004767  015450                  JSR     PC,$HLT                 ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (2)                                                                         ;EITHER INCORRECT R3 OR INCORRECT SEQUENCE
   (2) 001440  000010                          10
 5521  001442  021537  000430                  CMP     (R5),@#COUNT            ;IS THE TEST NUMBER EQUAL TO THE COUNTER?
 5522  001446  001372                          BNE     6$                      ;IF NOT GO TO THE HLT ABOVE
 5523  001450  005215                          INC     (R5)
 5524  001452  010701                          SCOPE1
 5525  001454  021527  000037                  CMP     (R5),#37                ;HAS THE CONTENTS OF REGISTERS BEEN SHIFTED
 5526                                                                          ;LEFT BY 14, AND RIGHT BY 14.?
 5527  001460  002010                          BGE     8$
 5528  001462  005237  000436                  INC     @#TEMP2
 5529  001466  006367  176746                  ASL     TEMP3                   ;SHIFT TEMP3 LEFT?
 5530  001472  021527  000020                  CMP     (R5),#20                ;HAS THE CONTENTS OF REGISTERS BEEN SHIFTED LEFT BY 14.?
 5531  001476  001003                          BNE     REG4
 5532  001500  000550                          BR      NEGAT                   ;IF SO GO TO NEGAT AND INITIATE RIGHT SHIFT
 5533  001502  004767  000342          8$:     JSR     PC,TST37                ;IF SO GO AND CONTINUE THE REST OF THE PROGRAM
 5534  001506  010703                  REG4:   SCOPE3
 5535  001510  013704  000434                  MOV     @#TEMP1,%4              ;LOAD R4 WITH THE CONTENTS OF TEMP1
 5536  001514  010501                          MOV     R5,R1                   ;SAVE R5
 5537  001516  032737  000001  000406          BIT     #1,@#$PASS              ;IS IT AN EVEN PASS ?
 5538  001524  001004                          BNE     2$                      ;IF NOT THEN GO TO 2$
 5539  001526  013705  000436                  MOV     @#TEMP2,R5              ;OTHERWISE EXECUTE ASH INSTRUCTION IN MODE 0
 5540  001532  072405                          ASH     R5,R4                   ;USING R4
 5541  001534  000402                          BR      4$
 5542  001536  072467  176674          2$:     ASH     TEMP2,%4                ;SHIFT R4 BY THE NUMBER SPECIFIED BY TEMP2
 5546  001542                          4$:     MFPS    @#PSWORD                ;SAVE PS
   (1) 001542  106737                          .WORD   106700!.,C
 5550  001546  123737  000442  000432          CMPB    @#TEMP4,@#PSWORD;IS PS = TEMP4 ?
 5551  001554  001403                          BEQ     .+10
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 5552  001556  004767  015326                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                                     ;THE PS IS NOT EQUAL TO 0
  (2)  001562  000011                            11
 5553  001564  005237  000430                    INC     @#COUNT
 5554  001570  023704  000440                    CMP     @#TEMP3,%4      ;IS THE RESULT IN R4 EQUAL TO TEMP3?
 5555  001574  001403                            BEQ     .+10
 5556  001576                            6$:
  (2)  001576  004767  015306                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                                     ;EITHER INCORRECT R4 OR INCORRECT SEQUENCE
  (2)  001602  000012                            12
 5557  001604  010105                            MOV     R1,R5           ;RESTORE R5
 5558  001606  021537  000430                    CMP     (R5),@#COUNT    ;IS THE TEST NUMBER EQUAL TO THE COUNTER?
 5559  001612  001371                            BNE     6$              ;IF NOT GO TO THE HLT ABOVE
 5560  001614  005215                            INC     (R5)
 5561  001616  010701                            SCOPE1
 5562  001620  021527  000037                    CMP     (R5),#37        ;HAS THE CONTENTS OF REGISTERS BEEN
 5563                                                                     ;SHIFTED LEFT BY 14. AND RIGHT BY 14.?
 5564  001624  002010                            BGE     8$
 5565  001626  005237  000436                    INC     @#TEMP2
 5566  001632  006367  176602                    ASL     TEMP3           ;SHIFT TEMP3 LEFT
 5567  001636  021527  000020                    CMP     (R5),#20        ;HAS THE CONTENTS OF REGISTER BEEN SHIFTED BY 14.?
 5568  001642  001003                            BNE     REG5
 5569  001644  000466                            BR      NEGAT           ;IF SO GO TO NEGAT AND INITIATE RIGHT SHIFT
 5570  001646  004767  000176            8$:     JSR     PC,TST37        ;IF SO GO AND CONTINUE THE REST OF THE PROGRAM
 5571  001652  010701                    REG5:   SCOPE1
 5572  001654  010501                            MOV     R5,R1           ;SAVE R5
 5573  001656  013705  000434                    MOV     @#TEMP1,%5      ;LOAD R5 WITH THE CONTENTS OF TEMP1
 5574  001662  032737  000001  000406            BIT     #1,@#$PASS      ;IS IT AN EVEN PASS ?
 5575  001670  001004                            BNE     2$              ;IF NOT THEN GO TO 2$
 5576  001672  013700  000436                    MOV     @#TEMP2,R0      ;OTHERWISE EXECUTE ASH INSTRUCTION IN MODE 0
 5577  001676  072500                            ASH     R0,R5           ;USING R5
 5578  001700  000402                            BR      4$
 5579  001702  072567  176530            2$:     ASH     TEMP2,%5        ;SHIFT R5 BY THE NUMBER SPECIFIED BY TEMP2
 5583  001706                            4$:     MFPS    @#PSWORD        ;SAVE PS
  (1)  001706  106737                            .WORD   106700!.-.C
 5587  001712  123737  000442  000432            CMPB    @#TEMP4,@#PSWORD;IS PS = TEMP4 ?
 5588  001720  001403                            BEQ     .+10
 5589  001722  004767  015162                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                                     ;THE PS IS NOT EQUAL TO 0.
  (2)  001726  000013                            13
 5590  001730  005237  000430                    INC     @#COUNT
 5591  001734  023705  000440                    CMP     @#TEMP3,%5      ;IS THE RESULT IN R5 EQUAL TO TEMP3?
 5592  001740  001403                            BEQ     .+10
 5593  001742                            6$:
  (2)  001742  004767  015142                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                                     ;EITHER INCORRECT R5 OR INCORRECT SEQUENCE
  (2)  001746  000014                            14
 5594  001750  021137  000430                    CMP     (R1),@#COUNT    ;IS THE TEST NUMBER EQUAL TO THE COUNTER?
 5595  001754  001372                            BNE     6$              ;IF NOT GO TO THE HLT ABOVE
 5596  001756  010105                            MOV     R1,R5           ;RESTORE R5
 5597  001760  005215                            INC     (R5)
 5598  001762  010701                            SCOPE1
 5599  001764  021527  000037                    CMP     (R5),#37        ;HAS THE CONTENTS OF REGISTERS BEEN SHIFTED
 5600                                                                     ;LEFT BY 14. AND RIGHT BY 14.?
 5601  001770  002010                            BGE     8$              ;IF SO GO AND CONTINUE THE REST OF THE PROGRAM
 5602  001772  005237  000436                    INC     @#TEMP2
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5603  001776  006367  176436                ASL     TEMP3           ;SHIFT TEMP3 LEFT
5604  002002  021527  000020                CMP     (R5),#20        ;HAS THE CONTENTS OF REGISTERS BEEN SHIFTED LEFT BY 14.?
5605  002006  001405                        BEQ     NEGAT           ;IF SO GO TO NEGAT AND INITIATE RIGHT SHIFT
5606  002010  000402                        BR      10$
5607  002012  004767  000032          8$:   JSR     PC,TST37
5608  002016  000167  176656          10$:  JMP     START           ;GO BACK TO START
5609  002022  012737  040000  000434  NEGAT: MOV     #40000,@#TEMP1  ;TEMP1=40000
5610  002030  012737  177762  000436        MOV     #177762,@#TEMP2 ;TEMP2=177762
5611  002036  012737  000001  000440        MOV     #1,@#TEMP3      ;TEMP3=1
5612  002044  000167  176630                JMP     START
5613  002050  021527  000037          TST37: CMP     (R5),#37        ;IS IT TEST 37?
5614  002054  001013                        BNE     TST40           ;IF NOT THEN TRY TEST 40
5615  002056  005037  000434                CLR     @#TEMP1         ;0
5616  002062  012737  000020  000436        MOV     #16.,@#TEMP2    ;SHIFTED BY 16
5617  002070  005037  000440                CLR     @#TEMP3         ;IS=0
5618  002074  012737  000004  000442        MOV     #4,@#TEMP4      ;AND PS=4
5619  002102  000207                        RTS     PC
5620  002104  021527  000040          TST40: CMP     (R5),#40        ;IS IT TEST 40?
5621  002110  001003                        BNE     TST41           ;IF NOT THEN TRY TEST 41
5622  002112  005037  000436                CLR     @#TEMP2         ;0 SHIFTED BY 0=0 AND PS=4
5623  002116  000207                        RTS     PC
5624  002120  021527  000041          TST41: CMP     (R5),#41        ;IS IT TEST 41?
5625  002124  001004                        BNE     TST42           ;IF NOT THEN TRY TEST 42
5626  002126  012737  177760  000436        MOV     #-16.,@#TEMP2   ;0 SHIFTED BY -16.=0 AND PS=4
5627  002134  000207                        RTS     PC
5628  002136  021527  000042          TST42: CMP     (R5),#42        ;IS IT TEST 42?
5629  002142  001013                        BNE     TST43           ;IF NOT THEN TRY TEST 43
5630  002144  012737  100000  000434        MOV     #100000,@#TEMP1 ;100000
5631  002152  005237  000436                INC     @#TEMP2         ;SHIFTED BY -15
5632  002156  005337  000440                DEC     @#TEMP3         ;IS=-1
5633  002162  012737  000010  000442        MOV     #10,@#TEMP4             ;AND PS=10
5634  002170  000207                        RTS     PC
5635  002172  021527  000043          TST43: CMP     (R5),#43        ;IS IT TEST 43?
5636  002176  001012                        BNE     TST44           ;IF NOT THEN IF NOT THEN TRY TEST 44
5637  002200  012737  125252  000434        MOV     #125252,@#TEMP1 ;125252
5638  002206  012737  177777  000436        MOV     #-1,@#TEMP2     ;SHIFTED BY -1
5639  002214  012737  152525  000440        MOV     #152525,@#TEMP3 ;IS=152525 AND PS=10
5640  002222  000207                        RTS     PC
5641  002224  021527  000044          TST44: CMP     (R5),#44        ;IS IT TEST 44?
5642  002230  001012                        BNE     TST45           ;IF NOT THEN TRY TEST 45
5643  002232  012737  000001  000436        MOV     #1,@#TEMP2      ;125252 SHIFTED BY 1
5644  002240  012737  052524  000440        MOV     #52524,@#TEMP3  ;IS=52524
5645  002246  012737  000003  000442        MOV     #3,@#TEMP4      ;AND PS=3
5646  002254  000207                        RTS     PC
5647  002256  021527  000045          TST45: CMP     (R5),#45        ;IS IT TEST 45?
5648  002262  001012                        BNE     TST46           ;IF NOT THEN TRY TEST 46
5649  002264  012737  177776  000436        MOV     #-2,@#TEMP2     ;125252 SHIFTED BY -2
5650  002272  012737  165252  000440        MOV     #165252,@#TEMP3 ;IS=165252
5651  002300  012737  000011  000442        MOV     #11,@#TEMP4     ;AND PS=11
5652  002306  000207                        RTS     PC
5653  002310  021527  000046          TST46: CMP     (R5),#46        ;IS IT TEST 46?
5654  002314  001014                        BNE     TST47           ;IF NOT THEN TRY TEST 47
5655  002316  012737  177777  000434        MOV     #-1,@#TEMP1     ;-1
5656  002324  012737  000020  000436        MOV     #16.,@#TEMP2    ;SHIFTED BY 15.
5657  002332  005037  000440                CLR     @#TEMP3         ;IS=0
5658  002336  012737  000007  000442        MOV     #7,@#TEMP4      ;AND PS=7
```

NO1


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 5659  002344  000207                          RTS     PC
 5660  002346  021527  000047          TST47:  CMP     (R5),#47        ;IS IT TEST 47?
 5661  002352  001011                          BNE     TST50           ;IF NOT THEN TRY TEST 50
 5662  002354  005337  000436                  DEC     @#TEMP2         ;-1 SHIFTED BY 15
 5663  002360  012737  100000  000440          MOV     #100000,@#TEMP3 ;IS=100000
 5664  002366  012737  000011  000442          MOV     #11,@#TEMP4     ;AND PS=11
 5665  002374  000207                          RTS     PC
 5666  002376  021527  000050          TST50:  CMP     (R5),#50        ;IS IT TEST 50
 5667  002402  001007                          BNE     ENT51           ;IF NOT THEN TRY TEST 51
 5668  002404  012737  137777  000434          MOV     #137777,@#TEMP1 ;137777 SHIFTED BY 15. IS=100000
 5669  002412  012737  000013  000442          MOV     #13,@#TEMP4     ;AND PS=13
 5670  002420  000207                          RTS     PC
 5671  002422  021527  000051          ENT51:  CMP     (R5),#51        ;IS IT ENTERING TEST 51?
 5672  002426  001403                          BEQ     .+10
 5673  002430  004767  014454                  JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (2)                                                                 ;TEST NUMBER GOOFED
   (2)  002434  000015                          15
 5674
 5675  002436  005726                          TST     (SP)+           ;RESTORE STACK POINTER
 5676  002440  012704  177771                  MOV     #-7,%4
 5677  002444  012702  000454                  MOV     #S1,%2
 5678  002450  012703  000456                  MOV     #S2,%3
```

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5679                                    ;*****************************************************************************
 (1)                                    ;TEST:51   LSI-11   ASH     125252 SHIFTED BY #5 = 52500  PS = 3
 (1)                                    ;*****************************************************************************
 (1)
 (1)  002454  010701                    TST51:  SCOPE1
 (1)  002456  012701  125252                    MOV     #125252,%1      ;LOAD R1 WITH 125252
 (1)  002462  072127  000005                    ASH     #5,%1           ;SHIFT R1 BY #5
 (2)  002466                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  002466  106737                            .WORD   106700!..C
 (1)  002472  122737  000003  000432            CMPB    #3,@#PSWORD     ;IS THE PS 3?
 (1)  002500  001403                            BEQ     .+10
 (3)  002502  004767  014402                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 3
 (3)  002506  000016                            16
 (1)  002510  022701  052500                    CMP     #52500,%1       ;IS THE RESULT 52500?
 (1)  002514  001403                            BEQ     .+10
 (2)  002516                            1$:
 (3)  002516  004767  014366                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R1 IS NOT EQUAL TO 52500 OR INCORRECT SEQUENCE
 (3)  002522  000017                            17
 (1)  002524  021527  000051                    CMP     (R5),#51                ;IS $TESTN = #51
 (1)  002530  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  002532  005215                            INC     (R5)
 (1)
 (1)
 (1)
5680                                    ;*****************************************************************************
 (1)                                    ;TEST:52   LSI-11   ASH     125252 SHIFTED BY @S2 = 177525  PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  002534  010701                    TST52:  SCOPE1
 (1)  002536  012700  125252                    MOV     #125252,%0      ;LOAD R0 WITH 125252
 (1)  002542  072077  175710                    ASH     @S2,%0          ;SHIFT R0 BY @S2
 (2)  002546                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  002546  106737                            .WORD   106700!..C
 (1)  002552  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  002560  001403                            BEQ     .+10
 (3)  002562  004767  014322                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 10
 (3)  002566  000020                            20
 (1)  002570  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  002574  001403                            BEQ     .+10
 (2)  002576                            1$:
 (3)  002576  004767  014306                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177525 OR INCORRECT SEQUENCE
 (3)  002602  000021                            21
 (1)  002604  021527  000052                    CMP     (R5),#52                ;IS $TESTN = #52
 (1)  002610  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  002612  005215                            INC     (R5)
 (1)
 (1)
 (1)
```

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5681                                    ;*****************************************************************************
 (1)                                    ;TEST:53   LSI-11   ASH     125252 SHIFTED BY @#S1 = 177525  PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  002614  010701                    TST53:  SCOPE1
 (1)  002616  012700  125252                    MOV     #125252,%0      ;LOAD R0 WITH 125252
 (1)  002622  072037  000454                    ASH     @#S1,%0         ;SHIFT R0 BY @#S1
 (2)  002626                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  002626  106737                            .WORD   106700!..C
 (1)  002632  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  002640  001403                            BEQ     .+10
 (3)  002642  004767  014242                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 10
 (3)  002646  000022                            22
 (1)  002650  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  002654  001403                            BEQ     .+10
 (2)  002656                            1$:
 (3)  002656  004767  014226                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177525 OR INCORRECT SEQUENCE
 (3)  002662  000023                            23
 (1)  002664  021527  000053                    CMP     (R5),#53                ;IS $TESTN = #53
 (1)  002670  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  002672  005215                            INC     (R5)
 (1)
 (1)
 (1)
5682                                    ;*****************************************************************************
 (1)                                    ;TEST:54   LSI-11   ASH     125252 SHIFTED BY (2) = 177525  PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  002674  010701                    TST54:  SCOPE1
 (1)  002676  012700  125252                    MOV     #125252,%0      ;LOAD R0 WITH 125252
 (1)  002702  072012                            ASH     (2),%0          ;SHIFT R0 BY (2)
 (2)  002704                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  002704  106737                            .WORD   106700!..C
 (1)  002710  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  002716  001403                            BEQ     .+10
 (3)  002720  004767  014164                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 10
 (3)  002724  000024                            24
 (1)  002726  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  002732  001403                            BEQ     .+10
 (2)  002734                            1$:
 (3)  002734  004767  014150                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177525 OR INCORRECT SEQUENCE
 (3)  002740  000025                            25
 (1)  002742  021527  000054                    CMP     (R5),#54                ;IS $TESTN = #54
 (1)  002746  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  002750  005215                            INC     (R5)
 (1)
 (1)
 (1)
```

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5683                                    ;*****************************************************************************
 (1)                                    ;TEST:55   LSI-11   ASH     125252 SHIFTED BY (2)+ = 177525  PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  002752  010701                    TST55:  SCOPE1
 (1)  002754  012700  125252                    MOV     #125252,%0      ;LOAD R0 WITH 125252
 (1)  002760  072022                            ASH     (2)+,%0         ;SHIFT R0 BY (2)+
 (2)  002762                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  002762  106737                            .WORD   106700!..C
 (1)  002766  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  002774  001403                            BEQ     .+10
 (3)  002776  004767  014106                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 10
 (3)  003002  000026                            26
 (1)  003004  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  003010  001403                            BEQ     .+10
 (2)  003012                            1$:
 (3)  003012  004767  014072                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177525 OR INCORRECT SEQUENCE
 (3)  003016  000027                            27
 (1)  003020  021527  000055                    CMP     (P5),#55                ;IS $TESTN = #55
 (1)  003024  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  003026  005215                            INC     (R5)
 (1)
 (1)
 (1)
5684                                    ;*****************************************************************************
 (1)                                    ;TEST:56   LSI-11   ASH     125252 SHIFTED BY -(2) = 177525  PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  003030  010701                    TST56:  SCOPE1
 (1)  003032  012700  125252                    MOV     #125252,%0      ;LOAD R0 WITH 125252
 (1)  003036  072042                            ASH     -(2),%0         ;SHIFT R0 BY -(2)
 (2)  003040                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  003040  106737                            .WORD   106700!..C
 (1)  003044  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  003052  001403                            BEQ     .+10
 (3)  003054  004767  014030                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 10
 (3)  003060  000030                            30
 (1)  003062  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  003066  001403                            BEQ     .+10
 (2)  003070                            1$:
 (3)  003070  004767  014014                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177525 OR INCORRECT SEQUENCE
 (3)  003074  000031                            31
 (1)  003076  021527  000056                    CMP     (R5),#56                ;IS $TESTN = #56
 (1)  003102  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  003104  005215                            INC     (R5)
 (1)
 (1)
 (1)
```

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5685                                    ;*************************************************************************
 (1)                                    ;TEST:57   LSI-11   ASH     125252 SHIFTED BY 2(3) = 177252  PS = 11
 (1)                                    ;*************************************************************************
 (1)
 (1)  003106  010701                    TST57:  SCOPE1
 (1)  003110  012700  125252                    MOV     #125252,%0      ;LOAD R0 WITH 125252
 (1)  003114  072063  000002                    ASH     2(3),%0         ;SHIFT R0 BY 2(3)
 (2)  003120                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  003120  106737                            .WORD   106700!..C
 (1)  003124  122737  000011  000432            CMPB    #11,@#PSWORD    ;IS THE PS 11?
 (1)  003132  001403                            BEQ     .+10
 (3)  003134  004767  013750                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 11
 (3)  003140  000032                            32
 (1)  003142  022700  177252                    CMP     #177252,%0      ;IS THE RESULT 177252?
 (1)  003146  001403                            BEQ     .+10
 (2)  003150                            1$:
 (3)  003150  004767  013734                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177252 OR INCORRECT SEQUENCE
 (3)  003154  000033                            33
 (1)  003156  021527  000057                    CMP     (R5),#57                ;IS $TESTN = #57
 (1)  003162  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  003164  005215                            INC     (R5)
 (1)
 (1)
 (1)
5686                                    ;*************************************************************************
 (1)                                    ;TEST:60   LSI-11   ASH     125252 SHIFTED BY @(3) = 177525  PS = 10
 (1)                                    ;*************************************************************************
 (1)
 (1)  003166  010701                    TST60:  SCOPE1
 (1)  003170  012700  125252                    MOV     #125252,%0      ;LOAD R0 WITH 125252
 (1)  003174  072073  000000                    ASH     @(3),%0         ;SHIFT R0 BY @(3)
 (2)  003200                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  003200  106737                            .WORD   106700!..C
 (1)  003204  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  003212  001403                            BEQ     .+10
 (3)  003214  004767  013670                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 10
 (3)  003220  000034                            34
 (1)  003222  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  003226  001403                            BEQ     .+10
 (2)  003230                            1$:
 (3)  003230  004767  013654                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177525 OR INCORRECT SEQUENCE
 (3)  003234  000035                            35
 (1)  003236  021527  000060                    CMP     (R5),#60                ;IS $TESTN = #60
 (1)  003242  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  003244  005215                            INC     (R5)
 (1)
 (1)
 (1)
```

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5687                                    ;*****************************************************************************
 (1)                                    ;TEST:61   LSI-11   ASH     125252 SHIFTED BY @(3)+ = 177525  PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  003246  010701                    TST61:  SCOPE1
 (1)  003250  012700  125252                    MOV     #125252,%0      ;LOAD R0 WITH 125252
 (1)  003254  072033                            ASH     @(3)+,%0        ;SHIFT R0 BY @(3)+
 (2)  003256                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  003256  106737                            .WORD   106700!..C
 (1)  003262  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  003270  001403                            BEQ     .+10
 (3)  003272  004767  013612                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 10
 (3)  003276  000036                            36
 (1)  003300  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  003304  001403                            BEQ     .+10
 (2)  003306                            1$:
 (3)  003306  004767  013576                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177525 OR INCORRECT SEQUENCE
 (3)  003312  000037                            37
 (1)  003314  021527  000061                    CMP     (R5),#61                ;IS $TESTN = #61
 (1)  003320  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  003322  005215                            INC     (R5)
 (1)
 (1)
 (1)
5688                                    ;*****************************************************************************
 (1)                                    ;TEST:62   LSI-11   ASH     125252 SHIFTED BY @-(3) = 177525  PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  003324  010701                    TST62:  SCOPE1
 (1)  003326  012700  125252                    MOV     #125252,%0      ;LOAD R0 WITH 125252
 (1)  003332  072053                            ASH     @-(3),%0        ;SHIFT R0 BY @-(3)
 (2)  003334                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  003334  106737                            .WORD   106700!..C
 (1)  003340  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  003346  001403                            BEQ     .+10
 (3)  003350  004767  013534                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 10
 (3)  003354  000040                            40
 (1)  003356  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  003362  001403                            BEQ     .+10
 (2)  003364                            1$:
 (3)  003364  004767  013520                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177525 OR INCORRECT SEQUENCE
 (3)  003370  000041                            41
 (1)  003372  021527  000062                    CMP     (R5),#62                ;IS $TESTN = #62
 (1)  003376  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  003400  005215                            INC     (R5)
 (1)
 (1)
 (1)
```

```
                                        ;**********************************
                                        ;     ASHC INSTRUCTION TESTS
                                        ;**********************************



                                                ;************
                                                ;TESTS 63-157
                                                ;************


005705  003402  012737  000062  000430        MOV     #62,@#COUNT
005706  003410  005037  000434                CLR     @#TEMP1         ;TEMP1=0
005707  003414  012737  000001  000436        MOV     #1,@#TEMP2      ;TEMP2=1
005708  003422  005037  000440                CLR     @#TEMP3         ;TEMP3=0
005709  003426  005037  000442                CLR     @#TEMP4         ;TEMP4=0
005710  003432  012737  000001  000444        MOV     #1,@#TEMP5      ;TEMP5=1
005711  003440  005037  000446                CLR     @#TEMP6         ;0 1 SHIFTED BY 0=0 1, PS=0
005712
005713  003444  010703              REG01:  SCOPE3
005714  003446  010502                      MOV     R5,R2           ;SAVE R5
005715  003450  013700  000434              MOV     @#TEMP1,%0      ;PLACE THE CONTENTS OF TEMP1 IN REGISTER 0
005716  003454  013701  000436              MOV     @#TEMP2,%0!1    ;PLACE THE CONTENTS OF TEMP2 IN REGISTER 1
005717  003460  000241                      CLC
005718  003462  032737  000001  000406      BIT     #1,@#$PASS      ;IS IT AN EVEN PASS ?
005719  003470  001004                      BNE     2$              ;IF NOT THEN GO TO 2$
005720  003472  013705  000440              MOV     @#TEMP3,R5      ;OTHERWISE EXECUTE ASHC INSTRUCTION IN MODE 0
005721  003476  073005                      ASHC    R5,R0           ;USING R0
005722  003500  000402                      BR      4$
005723  003502  073067  174732      2$:     ASHC    TEMP3,%0        ;ASHC REGISTER 0 BY THE CONTENTS OF TEMP3
005727  003506                      4$:     MFPS    @#PSWORD        ;SAVE PS
  (1)   003506  106737                      .WORD   106700!..C
005731  003512  123737  000446  000432      CMPB    @#TEMP6,@#PSWORD;COMPARE PS WITH THE CONTENTS OF TEMP6
005732  003520  001403                      BEQ     .+10
005733  003522  004767  013362              JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                             ;WRONG PS
  (2)   003526  000042                      42
005734  003530  005237  000430              INC     @#COUNT
005735  003534  023700  000442              CMP     @#TEMP4,%0      ;IS THE RESULT IN R0 SAME AS TEMP4?
005736  003540  001403                      BEQ     .+10
005737  003542  004767  013342              JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                             ;WRONG RESULT IN R0
  (2)   003546  000043                      43
005738  003550  023701  000444              CMP     @#TEMP5,%1      ;IS THE RESULT IN R1 SAME AS TEMP5?
005739  003554  001403                      BEQ     .+10            ;TEMP1 TEMP2 SHIFTED BY TEMP3=TEMP4 TEMP5
005740                                                              ;AND PS=TEMP6
005741  003556  004767  013326              JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                             ;WRONG RESULT IN R1
  (2)   003562  000044                      44
005742  003564  010205                      MOV     R2,R5           ;RESTORE R5
005743  003566  021537  000430              CMP     (R5),@#COUNT    ;IS TEST NUMBER=COUNTER?
005744  003572  001403                      BEQ     .+10
005745  003574  004767  013310              JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                             ;NO
  (2)   003600  000045                      45
```

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 5746  003602  005215                          INC     (R5)
 5747  003604  021527  000160                  CMP     (R5),#160       ;HAVE THE FIRST 159 TEST BEEN EXECUTED?
 5748  003610  002014                          BGE     6$              ;YES
 5749  003612  005237  000440                  INC     @#TEMP3
 5750  003616  000241                          CLC
 5751  003620  006137  000444                  ROL     @#TEMP5         ;ROTATE TEMP5 LEFT BY 1 PLACE
 5752  003624  006137  000442                  ROL     @#TEMP4         ;INTRODUCE CARRY FROM TEMP4 IN TEMP5
 5753  003630  021527  000121                  CMP     (R5),#121       ;IS IT TEST 121?
 5754  003634  001004                          BNE     REG23
 5755  003636  004467  000410                  JSR     R4,RITSH        ;IF SO THEN GO AND INITIATE RIGHT SHIFT
 5756  003642  004767  000440          6$:     JSR     %7,TST160
 5757  003646  010701                REG23:    SCOPE1
 5758  003650  013702  000434                  MOV     @#TEMP1,%2      ;PLACE THE CONTENTS OF TEMP1 IN REGISTER 2
 5759  003654  013703  000436                  MOV     @#TEMP2,%2!1    ;PLACE THE CONTENTS OF TEMP2 IN REGISTER 3
 5760  003660  000241                          CLC
 5761  003662  032737  000001  000406          BIT     #1,@#$PASS      ;IS IT AN EVEN PASS ?
 5762  003670  001004                          BNE     2$              ;IF NOT THEN GO TO 2$
 5763  003672  013704  000440                  MOV     @#TEMP3,R4      ;OTHERWISE EXECUTE ASHC INSTRUCTION IN MODE 0
 5764  003676  073204                          ASHC    R4,R2           ;USING R2
 5765  003700  000402                          BR      4$
 5766  003702  073267  174532          2$:     ASHC    TEMP3,%2        ;ASHC REGISTER 2 BY THE CONTETNS OF TEMP3
 5770  003706                          4$:     MFPS    @#PSWORD        ;SAVE PS
   (1) 003706  106737                          .WORD   106700!..C
 5774  003712  123737  000446  000432          CMPB    @#TEMP6,@#PSWORD;COMPARE PS WITH THE CONTENTS OF TEMP6
 5775  003720  001403                          BEQ     .+10
 5776  003722  004767  013162                  JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (2)                                                                 ;WRONG PS
   (2) 003726  000046                          46
 5777  003730  005237  000430                  INC     @#COUNT
 5778  003734  023702  000442                  CMP     @#TEMP4,%2      ;IS THE RESULT IN R2 SAME AS TEMP4?
 5779  003740  001403                          BEQ     .+10
 5780  003742  004767  013142                  JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (2)                                                                 ;WRONG RESULT IN R2
   (2) 003746  000047                          47
 5781  003750  023703  000444                  CMP     @#TEMP5,%3      ;IS THE RESULT IN R3 SAME AS TEMP5?
 5782  003754  001403                          BEQ     .+10            ;TEMP1 TEMP2 SHIFTED BY TEMP3=TEMP4 TEMP5
 5783                                                                  ;AND PS=TEMP6
 5784  003756  004767  013126                  JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (2)                                                                 ;WRONG RESULT IN R1
   (2) 003762  000050                          50
 5785  003764  021537  000430                  CMP     (R5),@#COUNT    ;IS TEST NUMBER=COUNTER?
 5786  003770  001403                          BEQ     .+10
 5787  003772  004767  013112                  JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (2)                                                                 ;NO
   (2) 003776  000051                          51
 5788  004000  005215                          INC     (R5)
 5789  004002  021527  000160                  CMP     (R5),#160       ;HAVE THE FIRST 159 TEST BEEN EXECUTED?
 5790  004006  002014                          BGE     6$              ;YES
 5791  004010  005237  000440                  INC     @#TEMP3
 5792  004014  000241                          CLC
 5793  004016  006137  000444                  ROL     @#TEMP5         ;ROTATE TEMP5 LEFT BY 1 PLACE
 5794  004022  006137  000442                  ROL     @#TEMP4         ;INTRODUCE CARRY FROM TEMP5 IN TEMP4
 5795  004026  021527  000121                  CMP     (R5),#121       ;IS IT TEST 121?
 5796  004032  001004                          BNE     REG4$
 5797  004034  004467  000212                  JSR     R4,RITSH        ;IF SO THEN GO AND INITIATE RIGHT SHIFT
 5798  004040  004767  000242          6$:     JSR     %7,TST160
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 5799  004044  010701                        REG45:  SCOPE1
 5800  004046  010501                                MOV     R5,R1                   ;SAVE R5
 5801  004050  013704  000434                        MOV     @#TEMP1,%4              ;PLACE THE CONTENTS OF TEMP1 IN REGISTER 4
 5802  004054  013705  000436                        MOV     @#TEMP2,%4!1            ;PLACE THE CONTENTS OF TEMP2 IN REGISTER 5
 5803  004060  000241                                CLC
 5804  004062  032737  000001  000406                BIT     #1,@#$PASS              ;IS IT AN EVEN PASS ?
 5805  004070  001004                                BNE     2$                      ;IF NOT THEN GO TO 2$
 5806  004072  013700  000440                        MOV     @#TEMP3,R0              ;OTHERWISE EXECUTE ASHC INSTRUCTION IN MODE 0
 5807  004076  073400                                ASHC    R0,R4                   ;USING R4
 5808  004100  000402                                BR      4$
 5809  004102  073467  174332            2$:         ASHC    TEMP3,%4                ;ASHC REGISTER 4 BY THE CONTENTS OF TEMP3
 5813  004106                              4$:         MFPS    @#PSWORD                ;SAVE PS
   (1) 004106  106737                                .WORD   106700!.-.
 5817  004112  123737  000446  000432                CMPB    @#TEMP6,@#PSWORD;COMPARE PS WITH THE CONTENTS OF TEMP6
 5818  004120  001403                                BEQ     .+10
 5819  004122  004767  012762                        JSR     PC,$HLT                 ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (2)                                                                               ;WRONG PS
   (2) 004126  000052                                52
 5820  004130  005237  000430                        INC     @#COUNT
 5821  004134  023704  000442                        CMP     @#TEMP4,%4              ;IS THE RESULT IN R4 SAME AS TEMP4?
 5822  004140  001403                                BEQ     .+10
 5823  004142  004767  012742                        JSR     PC,$HLT                 ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (2)                                                                               ;WRONG RESULT IN R4
   (2) 004146  000053                                53
 5824  004150  023705  000444                        CMP     @#TEMP5,%5              ;IS THE RESULT IN R5 SAME AS TEMP5?
 5825  004154  001403                                BEQ     .+10                    ;TEMP1 TEMP2 SHIFTED BY TEMP3=TEMP4 TEMP5
 5826                                                                                ;AND PS=TEMP6
 5827  004156  004767  012726                        JSR     PC,$HLT                 ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (2)                                                                               ;WRONG RESULT IN R5
   (2) 004162  000054                                54
 5828  004164  021137  000430                        CMP     (R1),@#COUNT            ;IS TEST NUMBER=COUNTER?
 5829  004170  001403                                BEQ     .+10
 5830  004172  004767  012712                        JSR     PC,$HLT                 ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (2)                                                                               ;NO
   (2) 004176  000055                                55
 5831  004200  010105                                MOV     R1,R5                   ;RESTORE R5
 5832  004202  005215                                INC     (R5)
 5833  004204  021527  000160                        CMP     (R5),#160               ;HAVE THE FIRST 159 TEST BEEN EXECUTED?
 5834  004210  002014                                BGE     6$                      ;YES
 5835  004212  005237  000440                        INC     @#TEMP3
 5836  004216  000241                                CLC
 5837  004220  006137  000444                        ROL     @#TEMP5                 ;ROTATE TEMP5 LEFT BY 1 PLACE
 5838  004224  006137  000442                        ROL     @#TEMP4                 ;INTRODUCE CARRY FROM TEMP5 IN TEMP4
 5839  004230  021527  000121                        CMP     (R5),#121               ;IS IT TEST 121?
 5840  004234  001004                                BNE     8$
 5841  004236  004467  000010                        JSR     R4,RITSH                ;IF SO THEN GO AND INITIATE RIGHT SHIFT
 5842  004242  004767  000040            6$:         JSR     %7,TST160
 5843  004246  000167  177172            8$:         JMP     REG01
 5844  004252  022424                    RITSH:      CMP     (R4)+,(R4)+             ;MAKE R4 POINT TO THE NEXT REG TAG
 5845  004254  012737  040000  000434                MOV     #40000,@#TEMP1          ;TEMP1=4000
 5846  004262  005037  000436                        CLR     @#TEMP2                 ;TEMP2=0
 5847  004266  012737  177742  000440                MOV     #-30.,@#TEMP3           ;TEMP3=-30
 5848  004274  005037  000442                        CLR     @#TEMP4                 ;TEMP4=0
 5849  004300  005237  000444                        INC     @#TEMP5                 ;TEMP5=1
 5850  004304  000204                                RTS     R4
 5851  004306  021527  000160            TST160:     CMP     (R5),#160               ;IS IT TEST 160
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 5852  004312  001010                          BNE     TST161          ;IF NOT THEN TRY TEST 161
 5853  004314  005037  000434                  CLR     @#TEMP1         ;0 0 SHIFTED BY 0
 5854  004320  005037  000442                  CLR     @#TEMP4         ;IS EQUAL TO 0 0
 5855  004324  012737  000004  000446          MOV     #4,@#TEMP6      ;AND PS=4
 5856  004332  000207                          RTS     %7
 5857  004334  021527  000161          TST161: CMP     (R5),#161       ;IS IT TEST 161
 5858  004340  001004                          BNE     TST162
 5859  004342  012737  177746  000440          MOV     #-32,@#TEMP3    ;0 0 SHIFTED BY -32=0 0, PS=4
 5860  004350  000207                          RTS     %7
 5861  004352  021527  000162          TST162: CMP     (R5),#162       ;IS IT TEST 162
 5862  004356  001004                          BNE     TST163          ;IF NOT THEN TRY TEST 163
 5863  004360  012737  000032  000440          MOV     #32,@#TEMP3     ;0 0 SHIFTED BY 32=0 0, PS=4
 5864  004366  000207                          RTS     %7
 5865  004370  021527  000163          TST163: CMP     (R5),#163       ;IS IT TEST 163?
 5866  004374  001016                          BNE     TST164          ;IF NOT THEN TRY TEST 164
 5867  004376  012737  052525  000434          MOV     #52525,@#TEMP1  ;52525 0
 5868  004404  012737  177760  000440          MOV     #-16.,@#TEMP3   ;SHIFTED BY -16.
 5869  004412  005037  000442                  CLR     @#TEMP4
 5870  004416  012737  052525  000444          MOV     #52525,@#TEMP5  ;IS EQUAL TO 0 52525
 5871  004424  005037  000446                  CLR     @#TEMP6         ;AND PS = 0
 5872  004430  000207                          RTS     %7
 5873  004432  021527  000164          TST164: CMP     (R5),#164       ;IS IT TEST 164?
 5874  004436  001014                          BNE     TST165          ;IF NOT THEN TRY TEST 165
 5875  004440  012737  125252  000434          MOV     #125252,@#TEMP1 ;125252 0 SHIFTED BY -16.
 5876  004446  005337  000442                  DEC     @#TEMP4
 5877  004452  012737  125252  000444          MOV     #125252,@#TEMP5 ;IS EQUAL TO -1 125252
 5878  004460  012737  000010  000446          MOV     #10,@#TEMP6     ;AND PS=10
 5879  004466  000207                          RTS     %7
 5880  004470  021527  000165          TST165: CMP     (R5),#165       ;IS IT TEST 165?
 5881  004474  001007                          BNE     TST166          ;IF NOT THEN TRY TEST 166
 5882  004476  012737  177777  000434          MOV     #-1,@#TEMP1     ;-1 0 SHIFTED BY -16
 5883  004504  012737  177777  000444          MOV     #-1,@#TEMP5     ;IS EQUAL TO -1 -1, AND PS=10
 5884  004512  000207                          RTS     %7
 5885  004514  021527  000166          TST166: CMP     (R5),#166       ;IS IT TEST 166?
 5886  004520  001011                          BNE     TST167          ;IF NOT THEN TRY TEST 167
 5887  004522  012737  100000  000434          MOV     #100000,@#TEMP1 ;100000 0
 5888  004530  012737  177740  000440          MOV     #-32.,@#TEMP3   ;SHIFTED BY -32 IS EQUAL TO -1 -1
 5889  004536  005237  000446                  INC     @#TEMP6         ;AND PS=11
 5890  004542  000207                          RTS     %7
 5891  004544  021527  000167          TST167: CMP     (R5),#167       ;IS IT TEST 167?
 5892  004550  001014                          BNE     TST170          ;IF NOT THEN TRY TEST 170
 5893  004552  005037  000434                  CLR     @#TEMP1
 5894  004556  005337  000436                  DEC     @#TEMP2         ;0 -1
 5895  004562  012737  000020  000440          MOV     #16.,@#TEMP3    ;SHIFTED BY 16.
 5896  004570  005037  000444                  CLR     @#TEMP5         ;IS EQUAL TO -1 0
 5897  004574  005237  000446                  INC     @#TEMP6         ;AND PS=12
 5898  004600  000207                          RTS     %7
 5899  004602  021527  000170          TST170: CMP     (R5),#170       ;IS IT TEST 170?
 5900  004606  001007                          BNE     TST171          ;IF NOT THEN TRY TEST 171
 5901  004610  012737  125252  000436          MOV     #125252,@#TEMP2 ;0 125252 SHIFTED BY 16
 5902  004616  012737  125252  000442          MOV     #125252,@#TEMP4 ;IS EQUAL TO 125252 0, AND PS=12
 5903  004624  000207                          RTS     %7
 5904  004626  021527  000171          TST171: CMP     (R5),#171       ;IS IT TEST 171?
 5905  004632  001010                          BNE     TST172          ;IF NOT THEN TRY TEST 172
 5906  004634  005337  000440                  DEC     @#TEMP3         ;0 125252 SHIFTED BY 15
 5907  004640  012737  052525  000442          MOV     #52525,@#TEMP4  ;IS EQUAL TO 52525 0
```

```
 5908  004646  005037  000446                CLR     @#TEMP6         ;AND PS=0
 5909  004652  000207                        RTS     %7
 5910  004654  021527  000172        TST172: CMP     (R5),#172       ;IS IT TEST 172?
 5911  004660  001006                        BNE     TST173          ;IF NOT THEN TRY TEST 173
 5912  004662  012737  052525  000436        MOV     #52525,@#TEMP2  ;0 52525
 5913  004670  005237  000440                INC     @#TEMP3         ;SHIFTED BY 16. IS EQUAL TO 52525 0, AND PS=0
 5914  004674  000207                        RTS     %7
 5915  004676  021527  000173        TST173: CMP     (R5),#173       ;IS IT TEST 173?
 5916  004702  001014                        BNE     TST174          ;IF NOT THEN TRY TEST 174
 5917  004704  012737  177777  000436        MOV     #-1,@#TEMP2     ;0 -1
 5918  004712  005337  000440                DEC     @#TEMP3         ;SHIFTED BY 15.
 5919  004716  012737  077777  000442        MOV     #77777,@#TEMP4
 5920  004724  012737  100000  000444        MOV     #100000,@#TEMP5 ;IS EQUAL TO 77777 100000, AND PS=0
 5921  004732  000207                        RTS     %7
 5922  004734  021527  000174        TST174: CMP     (R5),#174       ;IS IT TEST 174?
 5923  004740  001013                        BNE     TST175          ;IF NOT THEN TRY TEST 175
 5924  004742  012737  100000  000434        MOV     #100000,@#TEMP1
 5925  004750  005337  000436                DEC     @#TEMP2         ;100000 -2 SHIFTED BY 15.
 5926  004754  005037  000444                CLR     @#TEMP5         ;IS EQUAL TO 77777 0
 5927  004760  012737  000002  000446        MOV     #2,@#TEMP6      ;AND PS=2
 5928  004766  000207                        RTS     %7
 5929  004770  021527  000175        TST175: CMP     (R5),#175       ;IS IT TEST 175?
 5930  004774  001015                        BNE     ENT176          ;IF NOT THEN TRY TEST 176
 5931  004776  012737  177777  000434        MOV     #-1,@#TEMP1
 5932  005004  005037  000436                CLR     @#TEMP2         ;-1 0
 5933  005010  005237  000440                INC     @#TEMP3         ;SHIFTED BY 16.
 5934  005014  005037  000442                CLR     @#TEMP4         ;IS EQUAL TO 0 0
 5935  005020  012737  000007  000446        MOV     #7,@#TEMP6      ;AND PS=7
 5936  005026  000207                        RTS     %7
 5937  005030  021527  000176        ENT176: CMP     (R5),#176       ;IS THE PROGRM ENTERING TEST 176?
 5938  005034  001403                        BEQ     .+10
 5939  005036  004767  012046                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (2)                                                                ;TEST NUMBER GOOFED
  (2)  005042  000056                        56
 5940
 5941  005044  005726                        TST     (SP)+           ;RESTORE STACK POINTER
 5942
```

```
5943                                    ;*****************************************************************************
 (1)                                    ;TEST:176       1 SHIFTED BY 8. = 400  PS = 0
 (1)                                    ;*****************************************************************************
 (1)
 (1)  005046  010701                    TST176: SCOPE1
 (1)  005050  012701  000000                    MOV     #DUMMY,%1       ;LOAD R1 WITH DUMMY
 (1)  005054  012701  000001                    MOV     #1,%1!1         ;LOAD R1!1 WITH 1
 (1)  005060  000241                            CLC
 (1)  005062  073127  000010                    ASHC    #8.,%1          ;SHIFT R1,R1!1 BY 8.
 (2)  005066                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  005066  106737                            .WORD   106700!..C
 (1)  005072  122737  000000  000432            CMPB    #0,@#PSWORD     ;IS THE PS 0?
 (1)  005100  001403                            BEQ     .+10
 (3)  005102  004767  012002                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 0
 (3)  005106  000057                            57
 (1)  005110  022701  000400                    CMP     #400,%1         ;IS THE RESULT 400?
 (1)  005114  001403                            BEQ     .+10
 (3)  005116  004767  011766                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R1 IS NOT EQUAL TO 400
 (3)  005122  000060                            60
 (1)  005124  021527  000176                    CMP     (R5),#176               ;IS $TESTN = #176?
 (1)  005130  001403                            BEQ     .+10            ;IF NOT THEN GO TO HLT
 (3)  005132  004767  011752                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  005136  000061                            61
 (1)  005140  005215                            INC     (R5)
 (1)
 (1)
5944                                    ;*****************************************************************************
 (1)                                    ;TEST:177       -1 SHIFTED BY 15. = 100000  PS = 11
 (1)                                    ;*****************************************************************************
 (1)
 (1)  005142  010701                    TST177: SCOPE1
 (1)  005144  012703  000000                    MOV     #DUMMY,%3       ;LOAD R3 WITH DUMMY
 (1)  005150  012703  177777                    MOV     #-1,%3!1        ;LOAD R3!1 WITH -1
 (1)  005154  000241                            CLC
 (1)  005156  073327  000017                    ASHC    #15.,%3         ;SHIFT R3,R3!1 BY 15.
 (2)  005162                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  005162  106737                            .WORD   106700!..C
 (1)  005166  122737  000011  000432            CMPB    #11,@#PSWORD    ;IS THE PS 11?
 (1)  005174  001403                            BEQ     .+10
 (3)  005176  004767  011706                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 11
 (3)  005202  000062                            62
 (1)  005204  022703  100000                    CMP     #100000,%3      ;IS THE RESULT 100000?
 (1)  005210  001403                            BEQ     .+10
 (3)  005212  004767  011672                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R3 IS NOT EQUAL TO 100000
 (3)  005216  000063                            63
 (1)  005220  021527  000177                    CMP     (R5),#177               ;IS $TESTN = #177?
 (1)  005224  001403                            BEQ     .+10            ;IF NOT THEN GO TO HLT
 (3)  005226  004767  011656                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  005232  000064                            64
 (1)  005234  005215                            INC     (R5)
```

```
(1)
(1)
```

```
5945                                    ;*****************************************************************
 (1)                                    ;TEST:200       52525 SHIFTED BY 0 = 52525  PS = 0
 (1)                                    ;*****************************************************************
 (1)
 (1)  005236  010701                    TST200: SCOPE1
 (1)  005240  010501                            MOV     R5,R1           ;SAVE R5
 (1)  005242  012705  000000                    MOV     #DUMMY,%5       ;LOAD R5 WITH DUMMY
 (1)  005246  012705  052525                    MOV     #52525,%5!1     ;LOAD R5!1 WITH 52525
 (1)  005252  000241                            CLC
 (1)  005254  073527  000000                    ASHC    #0,%5           ;SHIFT R5,R5!1 BY 0
 (2)  005260                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  005260  106737                            .WORD   106700!..C
 (1)  005264  122737  000000  000432            CMPB    #0,@#PSWORD     ;IS THE PS 0?
 (1)  005272  001403                            BEQ     .+10
 (3)  005274  004767  011610                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 0
 (3)  005300  000065                            65
 (1)  005302  022705  052525                    CMP     #52525,%5       ;IS THE RESULT 52525?
 (1)  005306  001403                            BEQ     .+10
 (3)  005310  004767  011574                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R5 IS NOT EQUAL TO 52525
 (3)  005314  000066                            66
 (1)  005316  010105                            MOV     R1,R5           ;RESTORE R5
 (1)  005320  021527  000200                    CMP     (R5),#200               ;IS $TESTN = #200?
 (1)  005324  001403                            BEQ     .+10            ;IF NOT THEN GO TO HLT
 (3)  005326  004767  011556                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  005332  000067                            67
 (1)  005334  005215                            INC     (R5)
 (1)
 (1)
5946                                    ;*****************************************************************
 (1)                                    ;TEST:201       20010 SHIFTED BY -13. = 101  PS = 0
 (1)                                    ;*****************************************************************
 (1)
 (1)  005336  010701                    TST201: SCOPE1
 (1)  005340  012701  000000                    MOV     #DUMMY,%1       ;LOAD R1 WITH DUMMY
 (1)  005344  012701  020010                    MOV     #20010,%1!1     ;LOAD R1!1 WITH 20010
 (1)  005350  000241                            CLC
 (1)  005352  073127  177763                    ASHC    #-13.,%1        ;SHIFT R1,R1!1 BY -13.
 (2)  005356                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  005356  106737                            .WORD   106700!..C
 (1)  005362  122737  000000  000432            CMPB    #0,@#PSWORD     ;IS THE PS 0?
 (1)  005370  001403                            BEQ     .+10
 (3)  005372  004767  011512                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 0
 (3)  005376  000070                            70
 (1)  005400  022701  000101                    CMP     #101,%1         ;IS THE RESULT 101?
 (1)  005404  001403                            BEQ     .+10
 (3)  005406  004767  011476                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R1 IS NOT EQUAL TO 101
 (3)  005412  000071                            71
 (1)  005414  021527  000201                    CMP     (R5),#201               ;IS $TESTN = #201?
 (1)  005420  001403                            BEQ     .+10            ;IF NOT THEN GO TO HLT
 (3)  005422  004767  011462                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
```

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   (3)  005426  000072                          72
   (1)  005430  005215                          INC     (R5)
   (1)
   (1)
   (1)
```

```
5947                                    ;*****************************************************************************
 (1)                                    ;TEST:202       -1 SHIFTED BY 16. = 0  PS = 11
 (1)                                    ;*****************************************************************************
 (1)
 (1)  005432  010701                    TST202: SCOPE1
 (1)  005434  012703  000000                    MOV     #DUMMY,%3       ;LOAD R3 WITH DUMMY
 (1)  005440  012703  177777                    MOV     #-1,%3!1        ;LOAD R3!1 WITH -1
 (1)  005444  000241                            CLC
 (1)  005446  073327  000020                    ASHC    #16.,%3         ;SHIFT R3,R3!1 BY 16.
 (2)  005452                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  005452  106737                            .WORD   106700!..C
 (1)  005456  122737  000011  000432            CMPB    #11,@#PSWORD    ;IS THE PS 11?
 (1)  005464  001403                            BEQ     .+10
 (3)  005466  004767  011416                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 11
 (3)  005472  000073                            73
 (1)  005474  022703  000000                    CMP     #0,%3           ;IS THE RESULT 0?
 (1)  005500  001403                            BEQ     .+10
 (3)  005502  004767  011402                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R3 IS NOT EQUAL TO 0
 (3)  005506  000074                            74
 (1)  005510  021527  000202                    CMP     (R5),#202               ;IS $TESTN = #202?
 (1)  005514  001403                            BEQ     .+10            ;IF NOT THEN GO TO HLT
 (3)  005516  004767  011366                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  005522  000075                            75
 (1)  005524  005215                            INC     (R5)
 (1)
 (1)
5948                                    ;*****************************************************************************
 (1)                                    ;TEST:203       1 SHIFTED BY -1 = 100000  PS = 1
 (1)                                    ;*****************************************************************************
 (1)
 (1)  005526  010701                    TST203: SCOPE1
 (1)  005530  010501                            MOV     R5,R1           ;SAVE R5
 (1)  005532  012705  000000                    MOV     #DUMMY,%5       ;LOAD R5 WITH DUMMY
 (1)  005536  012705  000001                    MOV     #1,%5!1         ;LOAD R5!1 WITH 1
 (1)  005542  000241                            CLC
 (1)  005544  073527  177777                    ASHC    #-1,%5          ;SHIFT R5,R5!1 BY -1
 (2)  005550                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  005550  106737                            .WORD   106700!..C
 (1)  005554  122737  000001  000432            CMPB    #1,@#PSWORD     ;IS THE PS 1?
 (1)  005562  001403                            BEQ     .+10
 (3)  005564  004767  011320                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 1
 (3)  005570  000076                            76
 (1)  005572  022705  100000                    CMP     #100000,%5      ;IS THE RESULT 100000?
 (1)  005576  001403                            BEQ     .+10
 (3)  005600  004767  011304                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R5 IS NOT EQUAL TO 100000
 (3)  005604  000077                            77
 (1)  005606  010105                            MOV     R1,R5           ;RESTORE R5
 (1)  005610  021527  000203                    CMP     (R5),#203               ;IS $TESTN = #203?
 (1)  005614  001403                            BEQ     .+10            ;IF NOT THEN GO TO HLT
 (3)  005616  004767  011266                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
```

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    (3)  005622  000100                          100
    (1)  005624  005215                          INC     (R5)
    (1)
    (1)
    (1)
```

```
5949                                    ;*****************************************************************************
 (1)                                    ;TEST:204       125252 SHIFTED BY -16. = 125252  PS = 11
 (1)                                    ;*****************************************************************************
 (1)
 (1)  005626  010701                    TST204: SCOPE1
 (1)  005630  012701  000000                    MOV     #DUMMY,%1       ;LOAD R1 WITH DUMMY
 (1)  005634  012701  125252                    MOV     #125252,%1!1    ;LOAD R1!1 WITH 125252
 (1)  005640  000241                            CLC
 (1)  005642  073127  177760                    ASHC    #-16.,%1        ;SHIFT R1,R1!1 BY -16.
 (2)  005646                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  005646  106737                            .WORD   106700!..C
 (1)  005652  122737  000011  000432            CMPB    #11,@#PSWORD    ;IS THE PS 11?
 (1)  005660  001403                            BEQ     .+10
 (3)  005662  004767  011222                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 11
 (3)  005666  000101                            101
 (1)  005670  022701  125252                    CMP     #125252,%1      ;IS THE RESULT 125252?
 (1)  005674  001403                            BEQ     .+10
 (3)  005676  004767  011206                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R1 IS NOT EQUAL TO 125252
 (3)  005702  000102                            102
 (1)  005704  021527  000204                    CMP     (R5),#204               ;IS $TESTN = #204?
 (1)  005710  001403                            BEQ     .+10
 (3)  005712  004767  011172                    JSR     PC,$HLT         ;IF NOT THEN GO TO HLT
 (3)                                                                    ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)  005716  000103                                                    ;TEST IS IN WRONG SEQUENCE
 (1)  005720  005215                            103
 (1)                                            INC     (R5)
 (1)
 (1)                                    ;*****************************************************************************
5950                                    ;TEST:205       125252 125252 SHIFTED BY 21. = 52500 000000  PS = 3
 (1)                                    ;*****************************************************************************
 (1)
 (1)  005722  010701                    TST205: SCOPE1
 (1)  005724  012702  125252                    MOV     #125252,%2      ;LOAD R2 WITH 125252
 (1)  005730  012703  125252                    MOV     #125252,%2!1    ;LOAD R2!1 WITH 125252
 (1)  005734  000241                            CLC
 (1)  005736  073227  000025                    ASHC    #21.,%2         ;SHIFT R2,R2!1 BY 21.
 (2)  005742                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  005742  106737                            .WORD   106700!..C
 (1)  005746  122737  000003  000432            CMPB    #3,@#PSWORD     ;IS THE PS 3?
 (1)  005754  001403                            BEQ     .+10
 (3)  005756  004767  011126                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 3
 (3)  005762  000104                            104
 (1)  005764  022702  052500                    CMP     #52500,%2       ;IS THE RESULT 52500?
 (1)  005770  001403                            BEQ     .+10
 (3)  005772  004767  011112                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R2 IS NOT EQUAL TO 52500
 (3)  005776  000105                            105
 (1)  006000  022703  000000                    CMP     #000000,%2!1    ;IS THE RESULT 000000?
 (1)  006004  001403                            BEQ     .+10
 (3)  006006  004767  011076                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R2!1 IS NOT EQUAL TO 000000
 (3)  006012  000106                            106
 (1)  006014  021527  000205                    CMP     (R5),#205               ;IS $TESTN = #205?
```

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   (1)  006020  001403                          BEQ     .+10            ;IF NOT THEN GO TO HLT
   (3)  006022  004767  011062                  JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (3)                                                                  ;TEST IS IN WRONG SEQUENCE
   (3)  006026  000107                          107
   (1)  006030  005215                          INC     (R5)
   (1)
   (1)
  5951
  5952  006032  012702  177771                  MOV     #-7,%2
  5953  006036  012703  000454                  MOV     #S1,%3
  5954  006042  012704  000456                  MOV     #S2,%4
  5955
```

```
5956                                    ;*************************************************************************
 (1)                                    ;TEST:206       125252 125252 SHIFTED BY S1 = 177525 52525  PS = 10
 (1)                                    ;*************************************************************************
 (1)
 (1)  006046  010701                    TST206: SCOPE1
 (1)  006050  012700  125252                    MOV     #125252,%0              ;LOAD R0 WITH 125252
 (1)  006054  012701  125252                    MOV     #125252,%0!1    ;LOAD R0!1 WITH 125252
 (1)  006060  000241                            CLC
 (1)  006062  073067  172366                    ASHC    S1,%0           ;SHIFT R0,R0!1 BY S1
 (2)  006066                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  006066  106737                            .WORD   106700!..C
 (1)  006072  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  006100  001403                            BEQ     .+10
 (3)  006102  004767  011002                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 10
 (3)  006106  000110                            110
 (1)  006110  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  006114  001403                            BEQ     .+10
 (3)  006116  004767  010766                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177525
 (3)  006122  000111                            111
 (1)  006124  022701  052525                    CMP     #52525,%0!1     ;IS THE RESULT 52525?
 (1)  006130  001403                            BEQ     .+10
 (2)  006132                            1$:
 (3)  006132  004767  010752                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0!1 IS NOT EQUAL TO 52525 OR INCORRECT SEQUENCE
 (3)  006136  000112                            112
 (1)  006140  021527  000206                    CMP     (R5),#206               ;IS THE $TESTN = #206?
 (1)  006144  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  006146  005215                            INC     (R5)
 (1)
 (1)
5957                                    ;*************************************************************************
 (1)                                    ;TEST:207       125252 125252 SHIFTED BY @S2 = 177525 52525  PS = 10
 (1)                                    ;*************************************************************************
 (1)
 (1)  006150  010701                    TST207: SCOPE1
 (1)  006152  012700  125252                    MOV     #125252,%0              ;LOAD R0 WITH 125252
 (1)  006156  012701  125252                    MOV     #125252,%0!1    ;LOAD R0!1 WITH 125252
 (1)  006162  000241                            CLC
 (1)  006164  073077  172266                    ASHC    @S2,%0          ;SHIFT R0,R0!1 BY @S2
 (2)  006170                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  006170  106737                            .WORD   106700!..C
 (1)  006174  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  006202  001403                            BEQ     .+10
 (3)  006204  004767  010700                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 10
 (3)  006210  000113                            113
 (1)  006212  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  006216  001403                            BEQ     .+10
 (3)  006220  004767  010664                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177525
 (3)  006224  000114                            114
 (1)  006226  022701  052525                    CMP     #52525,%0!1     ;IS THE RESULT 52525?
 (1)  006232  001403                            BEQ     .+10
 (2)  006234                            1$:
```

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   (3)  006234  004767  010650                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
   (3)                                                                     ;R0!1 IS NOT EQUAL TO 52525 OR INCORRECT SEQUENCE
   (3)  006240  000115                            115
   (1)  006242  021527  000207                    CMP     (R5),#207               ;IS THE $TESTN = #207?
   (1)  006246  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
   (1)  006250  005215                            INC     (R5)
   (1)
   (1)
```

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5958                                    ;*****************************************************************************
 (1)                                    ;TEST:210       125252 125252 SHIFTED BY @#S1 = 177525 52525  PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  006252  010701                    TST210: SCOPE1
 (1)  006254  012700  125252                    MOV     #125252,%0              ;LOAD R0 WITH 125252
 (1)  006260  012701  125252                    MOV     #125252,%0!1    ;LOAD R0!1 WITH 125252
 (1)  006264  000241                            CLC
 (1)  006266  073037  000454                    ASHC    @#S1,%0         ;SHIFT R0,R0!1 BY @#S1
 (2)  006272                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  006272  106737                            .WORD   106700!..C
 (1)  006276  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  006304  001403                            BEQ     .+10
 (3)  006306  004767  010576                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;THE PS IS NOT EQUAL TO 10
 (3)  006312  000116                            116
 (1)  006314  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  006320  001403                            BEQ     .+10
 (3)  006322  004767  010562                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;R0 IS NOT EQUAL TO 177525
 (3)  006326  000117                            117
 (1)  006330  022701  052525                    CMP     #52525,%0!1     ;IS THE RESULT 52525?
 (1)  006334  001403                            BEQ     .+10
 (2)  006336                            1$:
 (3)  006336  004767  010546                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;R0!1 IS NOT EQUAL TO 52525 OR INCORRECT SEQUENCE
 (3)  006342  000120                            120
 (1)  006344  021527  000210                    CMP     (R5),#210               ;IS THE $TESTN = #210?
 (1)  006350  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  006352  005215                            INC     (R5)
 (1)
 (1)
5959                                    ;*****************************************************************************
 (1)                                    ;TEST:211       125252 125252 SHIFTED BY (3) = 177525 52525  PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  006354  010701                    TST211: SCOPE1
 (1)  006356  012700  125252                    MOV     #125252,%0              ;LOAD R0 WITH 125252
 (1)  006362  012701  125252                    MOV     #125252,%0!1    ;LOAD R0!1 WITH 125252
 (1)  006366  000241                            CLC
 (1)  006370  073013                            ASHC    (3),%0          ;SHIFT R0,R0!1 BY (3)
 (2)  006372                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  006372  106737                            .WORD   106700!..C
 (1)  006376  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  006404  001403                            BEQ     .+10
 (3)  006406  004767  010476                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;THE PS IS NOT EQUAL TO 10
 (3)  006412  000121                            121
 (1)  006414  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  006420  001403                            BEQ     .+10
 (3)  006422  004767  010462                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;R0 IS NOT EQUAL TO 177525
 (3)  006426  000122                            122
 (1)  006430  022701  052525                    CMP     #52525,%0!1     ;IS THE RESULT 52525?
 (1)  006434  001403                            BEQ     .+10
 (2)  006436                            1$:
```

```
(3)  006436  004767  010446          JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
(3)                                                          ;R0!1 IS NOT EQUAL TO 52525 OR INCORRECT SEQUENCE
(3)  006442  000123                  123
(1)  006444  021527  000211          CMP     (R5),#211               ;IS THE $TESTN = #211?
(1)  006450  001372                  BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
(1)  006452  005215                  INC     (R5)
(1)
(1)
```

```
 5960                                   ;*****************************************************************************
  (1)                                   ;TEST:212       125252 125252 SHIFTED BY (3)+ = 177525 52525  PS = 10
  (1)                                   ;*****************************************************************************
  (1)
  (1)  006454  010701                   TST212: SCOPE1
  (1)  006456  012700  125252                   MOV     #125252,%0              ;LOAD R0 WITH 125252
  (1)  006462  012701  125252                   MOV     #125252,%0!1    ;LOAD R0!1 WITH 125252
  (1)  006466  000241                           CLC
  (1)  006470  073023                           ASHC    (3)+,%0         ;SHIFT R0,R0!1 BY (3)+
  (2)  006472                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  006472  106737                           .WORD   106700!..C
  (1)  006476  122737  000010  000432           CMPB    #10,@#PSWORD    ;IS THE PS 10?
  (1)  006504  001403                           BEQ     .+10
  (3)  006506  004767  010376                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;THE PS IS NOT EQUAL TO 10
  (3)  006512  000124                           124
  (1)  006514  022700  177525                   CMP     #177525,%0      ;IS THE RESULT 177525?
  (1)  006520  001403                           BEQ     .+10
  (3)  006522  004767  010362                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;R0 IS NOT EQUAL TO 177525
  (3)  006526  000125                           125
  (1)  006530  022701  052525                   CMP     #52525,%0!1     ;IS THE RESULT 52525?
  (1)  006534  001403                           BEQ     .+10
  (2)  006536                           1$:
  (3)  006536  004767  010346                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;R0!1 IS NOT EQUAL TO 52525 OR INCORRECT SEQUENCE
  (3)  006542  000126                           126
  (1)  006544  021527  000212                   CMP     (R5),#212               ;IS THE $TESTN = #212?
  (1)  006550  001372                           BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
  (1)  006552  005215                           INC     (R5)
  (1)
  (1)
 5961                                   ;*****************************************************************************
  (1)                                   ;TEST:213       125252 125252 SHIFTED BY -(3) = 177525 52525  PS = 10
  (1)                                   ;*****************************************************************************
  (1)
  (1)  006554  010701                   TST213: SCOPE1
  (1)  006556  012700  125252                   MOV     #125252,%0              ;LOAD R0 WITH 125252
  (1)  006562  012701  125252                   MOV     #125252,%0!1    ;LOAD R0!1 WITH 125252
  (1)  006566  000241                           CLC
  (1)  006570  073043                           ASHC    -(3),%0         ;SHIFT R0,R0!1 BY -(3)
  (2)  006572                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  006572  106737                           .WORD   106700!..C
  (1)  006576  122737  000010  000432           CMPB    #10,@#PSWORD    ;IS THE PS 10?
  (1)  006604  001403                           BEQ     .+10
  (3)  006606  004767  010276                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;THE PS IS NOT EQUAL TO 10
  (3)  006612  000127                           127
  (1)  006614  022700  177525                   CMP     #177525,%0      ;IS THE RESULT 177525?
  (1)  006620  001403                           BEQ     .+10
  (3)  006622  004767  010262                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;R0 IS NOT EQUAL TO 177525
  (3)  006626  000130                           130
  (1)  006630  022701  052525                   CMP     #52525,%0!1     ;IS THE RESULT 52525?
  (1)  006634  001403                           BEQ     .+10
  (2)  006636                           1$:
```

```
(3)  006636  004767  010246                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
(3)                                                                  ;R0!1 IS NOT EQUAL TO 52525 OR INCORRECT SEQUENCE
(3)  006642  000131                        131
(1)  006644  021527  000213                CMP     (R5),#213               ;IS THE $TESTN = #213?
(1)  006650  001372                        BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
(1)  006652  005215                        INC     (R5)
(1)
(1)
```

```
5962                                    ;*************************************************************************
 (1)                                    ;TEST:214       125252 125252 SHIFTED BY 2(4) = 177252 125252  PS = 11
 (1)                                    ;*************************************************************************
 (1)
 (1)  006654  010701                    TST214: SCOPE1
 (1)  006656  012700  125252                    MOV     #125252,%0              ;LOAD R0 WITH 125252
 (1)  006662  012701  125252                    MOV     #125252,%0!1    ;LOAD R0!1 WITH 125252
 (1)  006666  000241                            CLC
 (1)  006670  073064  000002                    ASHC    2(4),%0         ;SHIFT R0,R0!1 BY 2(4)
 (2)  006674                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  006674  106737                            .WORD   106700!..C
 (1)  006700  122737  000011  000432            CMPB    #11,@#PSWORD    ;IS THE PS 11?
 (1)  006706  001403                            BEQ     .+10
 (3)  006710  004767  010174                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 11
 (3)  006714  000132                            132
 (1)  006716  022700  177252                    CMP     #177252,%0      ;IS THE RESULT 177252?
 (1)  006722  001403                            BEQ     .+10
 (3)  006724  004767  010160                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177252
 (3)  006730  000133                            133
 (1)  006732  022701  125252                    CMP     #125252,%0!1    ;IS THE RESULT 125252?
 (1)  006736  001403                            BEQ     .+10
 (2)  006740                            1$:
 (3)  006740  004767  010144                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0!1 IS NOT EQUAL TO 125252 OR INCORRECT SEQUENCE
 (3)  006744  000134                            134
 (1)  006746  021527  000214                    CMP     (R5),#214               ;IS THE $TESTN = #214?
 (1)  006752  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  006754  005215                            INC     (R5)
 (1)
 (1)
5963                                    ;*************************************************************************
 (1)                                    ;TEST:215       125252 125252 SHIFTED BY @(4) = 177525 52525  PS = 10
 (1)                                    ;*************************************************************************
 (1)
 (1)  006756  010701                    TST215: SCOPE1
 (1)  006760  012700  125252                    MOV     #125252,%0              ;LOAD R0 WITH 125252
 (1)  006764  012701  125252                    MOV     #125252,%0!1    ;LOAD R0!1 WITH 125252
 (1)  006770  000241                            CLC
 (1)  006772  073074  000000                    ASHC    @(4),%0         ;SHIFT R0,R0!1 BY @(4)
 (2)  006776                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  006776  106737                            .WORD   106700!..C
 (1)  007002  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  007010  001403                            BEQ     .+10
 (3)  007012  004767  010072                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;THE PS IS NOT EQUAL TO 10
 (3)  007016  000135                            135
 (1)  007020  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  007024  001403                            BEQ     .+10
 (3)  007026  004767  010056                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;R0 IS NOT EQUAL TO 177525
 (3)  007032  000136                            136
 (1)  007034  022701  052525                    CMP     #52525,%0!1     ;IS THE RESULT 52525?
 (1)  007040  001403                            BEQ     .+10
 (2)  007042                            1$:
```

```
(3)  007042  004767  010042          JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
(3)                                                          ;R0!1 IS NOT EQUAL TO 52525 OR INCORRECT SEQUENCE
(3)  007046  000137                  137
(1)  007050  021527  000215          CMP     (R5),#215               ;IS THE $TESTN = #215?
(1)  007054  001372                  BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
(1)  007056  005215                  INC     (R5)
(1)
(1)
```

```
5964                                    ;*************************************************************************
 (1)                                    ;TEST:216       125252 125252 SHIFTED BY @(4)+ = 177525 52525  PS = 10
 (1)                                    ;*************************************************************************
 (1)
 (1)  007060  010701                    TST216: SCOPE1
 (1)  007062  012700  125252                    MOV     #125252,%0              ;LOAD R0 WITH 125252
 (1)  007066  012701  125252                    MOV     #125252,%0!1    ;LOAD R0!1 WITH 125252
 (1)  007072  000241                            CLC
 (1)  007074  073034                            ASHC    @(4)+,%0                ;SHIFT R0,R0!1 BY @(4)+
 (2)  007076                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  007076  106737                            .WORD   106700!..C
 (1)  007102  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  007110  001403                            BEQ     .+10
 (3)  007112  004767  007772                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;THE PS IS NOT EQUAL TO 10
 (3)  007116  000140                            140
 (1)  007120  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  007124  001403                            BEQ     .+10
 (3)  007126  004767  007756                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;R0 IS NOT EQUAL TO 177525
 (3)  007132  000141                            141
 (1)  007134  022701  052525                    CMP     #52525,%0!1     ;IS THE RESULT 52525?
 (1)  007140  001403                            BEQ     .+10
 (2)  007142                            1$:
 (3)  007142  004767  007742                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;R0!1 IS NOT EQUAL TO 52525 OR INCORRECT SEQUENCE
 (3)  007146  000142                            142
 (1)  007150  021527  000216                    CMP     (R5),#216               ;IS THE $TESTN = #216?
 (1)  007154  001372                            BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
 (1)  007156  005215                            INC     (R5)
 (1)
 (1)
5965                                    ;*************************************************************************
 (1)                                    ;TEST:217       125252 125252 SHIFTED BY @-(4) = 177525 52525  PS = 10
 (1)                                    ;*************************************************************************
 (1)
 (1)  007160  010701                    TST217: SCOPE1
 (1)  007162  012700  125252                    MOV     #125252,%0              ;LOAD R0 WITH 125252
 (1)  007166  012701  125252                    MOV     #125252,%0!1    ;LOAD R0!1 WITH 125252
 (1)  007172  000241                            CLC
 (1)  007174  073054                            ASHC    @-(4),%0                ;SHIFT R0,R0!1 BY @-(4)
 (2)  007176                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  007176  106737                            .WORD   106700!..C
 (1)  007202  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS THE PS 10?
 (1)  007210  001403                            BEQ     .+10
 (3)  007212  004767  007672                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;THE PS IS NOT EQUAL TO 10
 (3)  007216  000143                            143
 (1)  007220  022700  177525                    CMP     #177525,%0      ;IS THE RESULT 177525?
 (1)  007224  001403                            BEQ     .+10
 (3)  007226  004767  007656                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;R0 IS NOT EQUAL TO 177525
 (3)  007232  000144                            144
 (1)  007234  022701  052525                    CMP     #52525,%0!1     ;IS THE RESULT 52525?
 (1)  007240  001403                            BEQ     .+10
 (2)  007242                            1$:
```

```
    (3)  007242  004767  007642                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
    (3)                                                                ;R0!1 IS NOT EQUAL TO 52525 OR INCORRECT SEQUENCE
    (3)  007246  000145                         145
    (1)  007250  021527  000217                CMP     (R5),#217               ;IS THE $TESTN = #217?
    (1)  007254  001372                        BNE     1$              ;IF NOT THEN GO TO HLT ABOVE
    (1)  007256  005215                        INC     (R5)
    (1)
    (1)
 5966
 5967
 5968
 5969
 5970
 5971
 5972
```

```
                                        ;*********************************
                                        ;     MUL INSTRUCTION TESTS
                                        ;*********************************



                        ;*************************************************************************
                        ;TEST:220       MUL     1 * #0 = 0 0        PS = 4
                        ;*************************************************************************

007260  010701          TST220: SCOPE
007262  012700  000001          MOV     #1,%0           ;LOAD MULTIPLICAND WITH 1
007266  070027  000000          MUL     #0,%0           ;MULTIPLY 1 * #0
007272                          MFPS    @#PSWORD        ;SAVE PS
007272  106737                  .WORD   106700!..C
007276  122737  000004  000432  CMPB    #4,@#PSWORD     ;IS PS = 4
007304  001403                  BEQ     .+10
007306  004767  007576          JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
                                                        ;PS IS WRONG
007312  000146                  146
007314  022700  000000          CMP     #0,%0           ;IS HIGH ORDER = 0
007320  001403                  BEQ     .+10
007322  004767  007562          JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
                                                        ;HIGH ORDER IS WRONG
007326  000147                  147
007330  022701  000000          CMP     #0,%0!1         ;IS LOW ORDER = 0
007334  001403                  BEQ     .+10
007336                  1$:
007336  004767  007546          JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
                                                        ;LOW ORDER IS WRONG OR WRONG SEQUENCE
007342  000150                  150
007344  021527  000220          CMP     (R5),#220
007350  001372                  BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
007352  005215                  INC     (R5)
```

```
6079
 (1)                                    ;*****************************************************************************
 (1)                                    ;TEST:221       MUL     -1 * #1 = -1 -1         PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  007354  010701                    TST221: SCOPE
 (1)  007356  012700  177777                    MOV     #-1,%0          ;LOAD MULTIPLICAND WITH -1
 (1)  007362  070027  000001                    MUL     #1,%0           ;MULTIPLY -1 * #1
 (2)  007366                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  007366  106737                            .WORD   106700!..C
 (1)  007372  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS PS = 10
 (1)  007400  001403                            BEQ     .+10
 (3)  007402  004767  007502                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  007406  000151                            151
 (1)  007410  022700  177777                    CMP     #-1,%0          ;IS HIGH ORDER = -1
 (1)  007414  001403                            BEQ     .+10
 (3)  007416  004767  007466                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;HIGH ORDER IS WRONG
 (3)  007422  000152                            152
 (1)  007424  022701  177777                    CMP     #-1,%0!1        ;IS LOW ORDER = -1
 (1)  007430  001403                            BEQ     .+10
 (2)  007432                            1$:
 (3)  007432  004767  007452                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  007436  000153                            153
 (1)  007440  021527  000221                    CMP     (R5),#221
 (1)  007444  001372                            BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  007446  005215                            INC     (R5)
 (1)
 (1)
```

```
6080
  (1)                                   ;*****************************************************************
  (1)                                   ;TEST:222       MUL     2 * #2 = 0 4        PS = 0
  (1)                                   ;*****************************************************************
  (1)
  (1)  007450  010701                   TST222: SCOPE
  (1)  007452  012702  000002                   MOV     #2,%2           ;LOAD MULTIPLICAND WITH 2
  (1)  007456  070227  000002                   MUL     #2,%2           ;MULTIPLY 2 * #2
  (2)  007462                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  007462  106737                           .WORD   106700!..C
  (1)  007466  122737  000000  000432           CMPB    #0,@#PSWORD     ;IS PS = 0
  (1)  007474  001403                           BEQ     .+10
  (3)  007476  004767  007406                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  007502  000154                           154
  (1)  007504  022702  000000                   CMP     #0,%2           ;IS HIGH ORDER = 0
  (1)  007510  001403                           BEQ     .+10
  (3)  007512  004767  007372                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;HIGH ORDER IS WRONG
  (3)  007516  000155                           155
  (1)  007520  022703  000004                   CMP     #4,%2!1         ;IS LOW ORDER = 4
  (1)  007524  001403                           BEQ     .+10
  (2)  007526                           1$:
  (3)  007526  004767  007356                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;LOW ORDER IS WRONG OR WRONG SEQUENCE
  (3)  007532  000156                           156
  (1)  007534  021527  000222                   CMP     (R5),#222
  (1)  007540  001372                           BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
  (1)  007542  005215                           INC     (R5)
  (1)
  (1)
```

```
 6081
  (1)                                   ;*****************************************************************************
  (1)                                   ;TEST:223       MUL       1000 * #200 = 1 0         PS = 1
  (1)                                   ;*****************************************************************************
  (1)
  (1)  007544  010701                   TST223: SCOPE
  (1)  007546  010501                           MOV     R5,R1           ;SAVE R5
  (1)  007550  012704  001000                   MOV     #1000,%4        ;LOAD MULTIPLICAND WITH 1000
  (1)  007554  070427  000200                   MUL     #200,%4         ;MULTIPLY 1000 * #200
  (2)  007560                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  007560  106737                           .WORD   106700!..C
  (1)  007564  122737  000001  000432           CMPB    #1,@#PSWORD     ;IS PS = 1
  (1)  007572  001403                           BEQ     .+10
  (3)  007574  004767  007310                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  007600  000157                           157
  (1)  007602  022704  000001                   CMP     #1,%4           ;IS HIGH ORDER = 1
  (1)  007606  001403                           BEQ     .+10
  (3)  007610  004767  007274                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;HIGH ORDER IS WRONG
  (3)  007614  000160                           160
  (1)  007616  022705  000000                   CMP     #0,%4!1         ;IS LOW ORDER = 0
  (1)  007622  001403                           BEQ     .+10
  (2)  007624                           1$:
  (3)  007624  004767  007260                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;LOW ORDER IS WRONG OR WRONG SEQUENCE
  (3)  007630  000161                           161
  (1)  007632  021127  000223                   CMP     (R1),#223               ;CHECK THE TEST NUMBER
  (1)  007636  001372                           BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
  (1)  007640  010105                           MOV     R1,R5           ;RESTORE R5
  (1)  007642  005215                           INC     (R5)
  (1)
  (1)
```

```
6082
 (1)                                ;*****************************************************************************
 (1)                                ;TEST:224       MUL     2 * #77777 = 0 177776        PS = 1
 (1)                                ;*****************************************************************************
 (1)
 (1)  007644  010701                TST224: SCOPE
 (1)  007646  012700  000002               MOV     #2,%0           ;LOAD MULTIPLICAND WITH 2
 (1)  007652  070027  077777               MUL     #77777,%0       ;MULTIPLY 2 * #77777
 (2)  007656                                MFPS    @#PSWORD        ;SAVE PS
 (2)  007656  106737                        .WORD   106700!..C
 (1)  007662  122737  000001  000432        CMPB    #1,@#PSWORD     ;IS PS = 1
 (1)  007670  001403                        BEQ     .+10
 (3)  007672  004767  007212                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;PS IS WRONG
 (3)  007676  000162                        162
 (1)  007700  022700  000000                CMP     #0,%0           ;IS HIGH ORDER = 0
 (1)  007704  001403                        BEQ     .+10
 (3)  007706  004767  007176                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;HIGH ORDER IS WRONG
 (3)  007712  000163                        163
 (1)  007714  022701  177776                CMP     #177776,%0!1    ;IS LOW ORDER = 177776
 (1)  007720  001403                        BEQ     .+10
 (2)  007722                        1$:
 (3)  007722  004767  007162                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  007726  000164                        164
 (1)  007730  021527  000224                CMP     (R5),#224
 (1)  007734  001372                        BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  007736  005215                        INC     (R5)
 (1)
 (1)
```

```
6083
 (1)                                    ;*****************************************************************************
 (1)                                    ;TEST:225       MUL      7777 * #10 = 0 77770        PS = 0
 (1)                                    ;*****************************************************************************
 (1)
 (1)  007740  010701                    TST225: SCOPE
 (1)  007742  012702  007777                    MOV     #7777,%2        ;LOAD MULTIPLICAND WITH 7777
 (1)  007746  070227  000010                    MUL     #10,%2          ;MULTIPLY 7777 * #10
 (2)  007752                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  007752  106737                            .WORD   106700!..C
 (1)  007756  122737  000000  000432            CMPB    #0,@#PSWORD     ;IS PS = 0
 (1)  007764  001403                            BEQ     .+10
 (3)  007766  004767  007116                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  007772  000165                            165
 (1)  007774  022702  000000                    CMP     #0,%2           ;IS HIGH ORDER = 0
 (1)  010000  001403                            BEQ     .+10
 (3)  010002  004767  007102                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;HIGH ORDER IS WRONG
 (3)  010006  000166                            166
 (1)  010010  022703  077770                    CMP     #77770,%2!1     ;IS LOW ORDER = 77770
 (1)  010014  001403                            BEQ     .+10
 (2)  010016                            1$:
 (3)  010016  004767  007066                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  010022  000167                            167
 (1)  010024  021527  000225                    CMP     (R5),#225
 (1)  010030  001372                            BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  010032  005215                            INC     (R5)
 (1)
 (1)
```

```
6084
 (1)                                    ;*****************************************************************************
 (1)                                    ;TEST:226       MUL     77777 * #77777 = 37777 1        PS = 1
 (1)                                    ;*****************************************************************************
 (1)
 (1)  010034  010701                    TST226: SCOPE
 (1)  010036  010501                            MOV     R5,R1           ;SAVE R5
 (1)  010040  012704  077777                    MOV     #77777,%4       ;LOAD MULTIPLICAND WITH 77777
 (1)  010044  070427  077777                    MUL     #77777,%4       ;MULTIPLY 77777 * #77777
 (2)  010050                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  010050  106737                            .WORD   106700!..C
 (1)  010054  122737  000001  000432            CMPB    #1,@#PSWORD     ;IS PS = 1
 (1)  010062  001403                            BEQ     .+10
 (3)  010064  004767  007020                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  010070  000170                            170
 (1)  010072  022704  037777                    CMP     #37777,%4       ;IS HIGH ORDER = 37777
 (1)  010076  001403                            BEQ     .+10
 (3)  010100  004767  007004                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;HIGH ORDER IS WRONG
 (3)  010104  000171                            171
 (1)  010106  022705  000001                    CMP     #1,%4!1         ;IS LOW ORDER = 1
 (1)  010112  001403                            BEQ     .+10
 (2)  010114                            1$:
 (3)  010114  004767  006770                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  010120  000172                            172
 (1)  010122  021127  000226                    CMP     (R1),#226               ;CHECK THE TEST NUMBER
 (1)  010126  001372                            BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  010130  010105                            MOV     R1,R5           ;RESTORE R5
 (1)  010132  005215                            INC     (R5)
 (1)
 (1)
```

```
6085
 (1)                                    ;*****************************************************************************
 (1)                                    ;TEST:227       MUL     -1 * #77777 = -1 100001         PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  010134  010701                    TST227: SCOPE
 (1)  010136  012702  177777                    MOV     #-1,%2          ;LOAD MULTIPLICAND WITH -1
 (1)  010142  070227  077777                    MUL     #77777,%2       ;MULTIPLY -1 * #77777
 (2)  010146                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  010146  106737                            .WORD   106700!..C
 (1)  010152  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS PS = 10
 (1)  010160  001403                            BEQ     .+10
 (3)  010162  004767  006722                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  010166  000173                            173
 (1)  010170  022702  177777                    CMP     #-1,%2          ;IS HIGH ORDER = -1
 (1)  010174  001403                            BEQ     .+10
 (3)  010176  004767  006706                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;HIGH ORDER IS WRONG
 (3)  010202  000174                            174
 (1)  010204  022703  100001                    CMP     #100001,%2!1    ;IS LOW ORDER = 100001
 (1)  010210  001403                            BEQ     .+10
 (2)  010212                            1$:
 (3)  010212  004767  006672                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  010216  000175                            175
 (1)  010220  021527  000227                    CMP     (R5),#227
 (1)  010224  001372                            BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  010226  005215                            INC     (R5)
 (1)
 (1)
```

```
6086
 (1)                                    ;*****************************************************************
 (1)                                    ;TEST:230       MUL     -2 * #77777 = -1 2        PS = 11
 (1)                                    ;*****************************************************************
 (1)
 (1)  010230  010701                    TST230: SCOPE
 (1)  010232  012700  177776                    MOV     #-2,%0          ;LOAD MULTIPLICAND WITH -2
 (1)  010236  070027  077777                    MUL     #77777,%0       ;MULTIPLY -2 * #77777
 (2)  010242                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  010242  106737                            .WORD   106700!..C
 (1)  010246  122737  000011  000432            CMPB    #11,@#PSWORD    ;IS PS = 11
 (1)  010254  001403                            BEQ     .+10
 (3)  010256  004767  006626                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  010262  000176                            176
 (1)  010264  022700  177777                    CMP     #-1,%0          ;IS HIGH ORDER = -1
 (1)  010270  001403                            BEQ     .+10
 (3)  010272  004767  006612                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;HIGH ORDER IS WRONG
 (3)  010276  000177                            177
 (1)  010300  022701  000002                    CMP     #2,%0!1         ;IS LOW ORDER = 2
 (1)  010304  001403                            BEQ     .+10
 (2)  010306                            1$:
 (3)  010306  004767  006576                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  010312  000200                            200
 (1)  010314  021527  000230                    CMP     (R5),#230
 (1)  010320  001372                            BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  010322  005215                            INC     (R5)
 (1)
 (1)
```

```
 6087                                   ;*****************************************************************************
  (1)                                   ;TEST:231       MUL      125252 * #2 = -1 52524        PS = 11
  (1)                                   ;*****************************************************************************
  (1)
  (1)  010324  010701                   TST231: SCOPE
  (1)  010326  012702  125252                   MOV     #125252,%2      ;LOAD MULTIPLICAND WITH 125252
  (1)  010332  070227  000002                   MUL     #2,%2           ;MULTIPLY 125252 * #2
  (2)  010336                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  010336  106737                           .WORD   106700!..C
  (1)  010342  122737  000011  000432           CMPB    #11,@#PSWORD    ;IS PS = 11
  (1)  010350  001403                           BEQ     .+10
  (3)  010352  004767  006532                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  010356  000201                           201
  (1)  010360  022702  177777                   CMP     #-1,%2          ;IS HIGH ORDER = -1
  (1)  010364  001403                           BEQ     .+10
  (3)  010366  004767  006516                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;HIGH ORDER IS WRONG
  (3)  010372  000202                           202
  (1)  010374  022703  052524                   CMP     #52524,%2!1     ;IS LOW ORDER = 52524
  (1)  010400  001403                           BEQ     .+10
  (2)  010402                           1$:
  (3)  010402  004767  006502                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;LOW ORDER IS WRONG OR WRONG SEQUENCE
  (3)  010406  000203                           203
  (1)  010410  021527  000231                   CMP     (R5),#231
  (1)  010414  001372                           BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
  (1)  010416  005215                           INC     (R5)
  (1)
  (1)
```

```
 6088
  (1)                                   ;*****************************************************************************
  (1)                                   ;TEST:232       MUL     125252 * #40000 = 165252 100000       PS = 11
  (1)                                   ;*****************************************************************************
  (1)
  (1)  010420  010701                   TST232: SCOPE
  (1)  010422  010501                           MOV     R5,R1           ;SAVE R5
  (1)  010424  012704  125252                   MOV     #125252,%4      ;LOAD MULTIPLICAND WITH 125252
  (1)  010430  070427  040000                   MUL     #40000,%4       ;MULTIPLY 125252 * #40000
  (2)  010434                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  010434  106737                           .WORD   106700!..C
  (1)  010440  122737  000011  000432           CMPB    #11,@#PSWORD    ;IS PS = 11
  (1)  010446  001403                           BEQ     .+10
  (3)  010450  004767  006434                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  010454  000204                           204
  (1)  010456  022704  165252                   CMP     #165252,%4      ;IS HIGH ORDER = 165252
  (1)  010462  001403                           BEQ     .+10
  (3)  010464  004767  006420                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;HIGH ORDER IS WRONG
  (3)  010470  000205                           205
  (1)  010472  022705  100000                   CMP     #100000,%4!1    ;IS LOW ORDER = 100000
  (1)  010476  001403                           BEQ     .+10
  (2)  010500                           1$:
  (3)  010500  004767  006404                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;LOW ORDER IS WRONG OR WRONG SEQUENCE
  (3)  010504  000206                           206
  (1)  010506  021127  000232                   CMP     (R1),#232               ;CHECK THE TEST NUMBER
  (1)  010512  001372                           BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
  (1)  010514  010105                           MOV     R1,R5           ;RESTORE R5
  (1)  010516  005215                           INC     (R5)
  (1)
  (1)
```

```
6089
  (1)                                   ;*****************************************************************
  (1)                                   ;TEST:233       MUL     107070 * #107070 = 31222 26100      PS = 1
  (1)                                   ;*****************************************************************
  (1)
  (1)  010520  010701                   TST233: SCOPE
  (1)  010522  012700  107070                   MOV     #107070,%0      ;LOAD MULTIPLICAND WITH 107070
  (1)  010526  070027  107070                   MUL     #107070,%0      ;MULTIPLY 107070 * #107070
  (2)  010532                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  010532  106737                           .WORD   106700!..C
  (1)  010536  122737  000001  000432           CMPB    #1,@#PSWORD     ;IS PS = 1
  (1)  010544  001403                           BEQ     .+10
  (3)  010546  004767  006336                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  010552  000207                           207
  (1)  010554  022700  031222                   CMP     #31222,%0       ;IS HIGH ORDER = 31222
  (1)  010560  001403                           BEQ     .+10
  (3)  010562  004767  006322                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;HIGH ORDER IS WRONG
  (3)  010566  000210                           210
  (1)  010570  022701  026100                   CMP     #26100,%0!1     ;IS LOW ORDER = 26100
  (1)  010574  001403                           BEQ     .+10
  (2)  010576                           1$:
  (3)  010576  004767  006306                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;LOW ORDER IS WRONG OR WRONG SEQUENCE
  (3)  010602  000211                           211
  (1)  010604  021527  000233                   CMP     (R5),#233
  (1)  010610  001372                           BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
  (1)  010612  005215                           INC     (R5)
  (1)
  (1)
```

```
 6090                                   ;*****************************************************************************
  (1)                                   ;TEST:234       MUL     -1 * #1 = -1 -1         PS = 10
  (1)                                   ;*****************************************************************************
  (1)
  (1)  010614  010701                   TST234: SCOPE
  (1)  010616  012701  177777                   MOV     #-1,%1          ;LOAD MULTIPLICAND WITH -1
  (1)  010622  070127  000001                   MUL     #1,%1           ;MULTIPLY -1 * #1
  (2)  010626                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  010626  106737                           .WORD   106700!..C
  (1)  010632  122737  000010  000432           CMPB    #10,@#PSWORD    ;IS PS = 10
  (1)  010640  001403                           BEQ     .+10
  (3)  010642  004767  006242                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  010646  000212                           212
  (1)  010650  022701  177777                   CMP     #-1,%1          ;IS HIGH ORDER = -1
  (1)  010654  001403                           BEQ     .+10
  (3)  010656  004767  006226                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;HIGH ORDER IS WRONG
  (3)  010662  000213                           213
  (1)  010664  022701  177777                   CMP     #-1,%1!1        ;IS LOW ORDER = -1
  (1)  010670  001403                           BEQ     .+10
  (2)  010672                           1$:
  (3)  010672  004767  006212                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;LOW ORDER IS WRONG OR WRONG SEQUENCE
  (3)  010676  000214                           214
  (1)  010700  021527  000234                   CMP     (R5),#234
  (1)  010704  001372                           BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
  (1)  010706  005215                           INC     (R5)
  (1)
  (1)
```

```
6091
 (1)                                ;*****************************************************************************
 (1)                                ;TEST:235       MUL     -1 * #0 = 0 0       PS = 4
 (1)                                ;*****************************************************************************
 (1)
 (1)  010710  010701                TST235: SCOPE
 (1)  010712  012703  177777               MOV     #-1,%3          ;LOAD MULTIPLICAND WITH -1
 (1)  010716  070327  000000               MUL     #0,%3           ;MULTIPLY -1 * #0
 (2)  010722                               MFPS    @#PSWORD        ;SAVE PS
 (2)  010722  106737                       .WORD   106700!..C
 (1)  010726  122737  000004  000432       CMPB    #4,@#PSWORD     ;IS PS = 4
 (1)  010734  001403                       BEQ     .+10
 (3)  010736  004767  006146               JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                               ;PS IS WRONG
 (3)  010742  000215                       215
 (1)  010744  022703  000000               CMP     #0,%3           ;IS HIGH ORDER = 0
 (1)  010750  001403                       BEQ     .+10
 (3)  010752  004767  006132               JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                               ;HIGH ORDER IS WRONG
 (3)  010756  000216                       216
 (1)  010760  022703  000000               CMP     #0,%3!1         ;IS LOW ORDER = 0
 (1)  010764  001403                       BEQ     .+10
 (2)  010766                        1$:
 (3)  010766  004767  006116               JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                               ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  010772  000217                       217
 (1)  010774  021527  000235               CMP     (R5),#235
 (1)  011000  001372                       BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  011002  005215                       INC     (R5)
 (1)
 (1)
```

```
 6092
  (1)                                   ;*****************************************************************************
  (1)                                   ;TEST:236       MUL     77777 * #100000 = 100000 100000        PS = 11
  (1)                                   ;*****************************************************************************
  (1)
  (1)  011004  010701                   TST236: SCOPE
  (1)  011006  010501                           MOV     R5,R1           ;SAVE R5
  (1)  011010  012705  077777                   MOV     #77777,%5       ;LOAD MULTIPLICAND WITH 77777
  (1)  011014  070527  100000                   MUL     #100000,%5      ;MULTIPLY 77777 * #100000
  (2)  011020                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  011020  106737                           .WORD   106700!..C
  (1)  011024  122737  000011  000432           CMPB    #11,@#PSWORD    ;IS PS = 11
  (1)  011032  001403                           BEQ     .+10
  (3)  011034  004767  006050                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  011040  000220                           220
  (1)  011042  022705  100000                   CMP     #100000,%5      ;IS HIGH ORDER = 100000
  (1)  011046  001403                           BEQ     .+10
  (3)  011050  004767  006034                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;HIGH ORDER IS WRONG
  (3)  011054  000221                           221
  (1)  011056  022705  100000                   CMP     #100000,%5!1    ;IS LOW ORDER = 100000
  (1)  011062  001403                           BEQ     .+10
  (2)  011064                           1$:
  (3)  011064  004767  006020                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;LOW ORDER IS WRONG OR WRONG SEQUENCE
  (3)  011070  000222                           222
  (1)  011072  021127  000236                   CMP     (R1),#236               ;CHECK THE TEST NUMBER
  (1)  011076  001372                           BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
  (1)  011100  010105                           MOV     R1,R5           ;RESTORE R5
  (1)  011102  005215                           INC     (R5)
  (1)
  (1)
```

```
6093
 (1)                                    ;*****************************************************************************
 (1)                                    ;TEST:237       MUL     -1 * #77777 = 100001 100001        PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  011104  010701                    TST237: SCOPE
 (1)  011106  012701  177777                    MOV     #-1,%1          ;LOAD MULTIPLICAND WITH -1
 (1)  011112  070127  077777                    MUL     #77777,%1       ;MULTIPLY -1 * #77777
 (2)  011116                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  011116  106737                            .WORD   106700!..C
 (1)  011122  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS PS = 10
 (1)  011130  001403                            BEQ     .+10
 (3)  011132  004767  005752                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  011136  000223                            223
 (1)  011140  022701  100001                    CMP     #100001,%1      ;IS HIGH ORDER = 100001
 (1)  011144  001403                            BEQ     .+10
 (3)  011146  004767  005736                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;HIGH ORDER IS WRONG
 (3)  011152  000224                            224
 (1)  011154  022701  100001                    CMP     #100001,%1!1    ;IS LOW ORDER = 100001
 (1)  011160  001403                            BEQ     .+10
 (2)  011162                            1$:
 (3)  011162  004767  005722                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  011166  000225                            225
 (1)  011170  021527  000237                    CMP     (R5),#237
 (1)  011174  001372                            BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  011176  005215                            INC     (R5)
 (1)
 (1)
```

```
 6094                                   ;*****************************************************************************
  (1)                                   ;TEST:240       MUL     77777 * #77777 = 1 1        PS = 1
  (1)                                   ;*****************************************************************************
  (1)
  (1)  011200  010701                   TST240: SCOPE
  (1)  011202  012703  077777                   MOV     #77777,%3       ;LOAD MULTIPLICAND WITH 77777
  (1)  011206  070327  077777                   MUL     #77777,%3       ;MULTIPLY 77777 * #77777
  (2)  011212                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  011212  106737                           .WORD   106700!..C
  (1)  011216  122737  000001  000432           CMPB    #1,@#PSWORD     ;IS PS = 1
  (1)  011224  001403                           BEQ     .+10
  (3)  011226  004767  005656                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  011232  000226                           226
  (1)  011234  022703  000001                   CMP     #1,%3           ;IS HIGH ORDER = 1
  (1)  011240  001403                           BEQ     .+10
  (3)  011242  004767  005642                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;HIGH ORDER IS WRONG
  (3)  011246  000227                           227
  (1)  011250  022703  000001                   CMP     #1,%3!1         ;IS LOW ORDER = 1
  (1)  011254  001403                           BEQ     .+10
  (2)  011256                           1$:
  (3)  011256  004767  005626                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;LOW ORDER IS WRONG OR WRONG SEQUENCE
  (3)  011262  000230                           230
  (1)  011264  021527  000240                   CMP     (R5),#240
  (1)  011270  001372                           BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
  (1)  011272  005215                           INC     (R5)
  (1)
  (1)
```

```
6095
 (1)                                ;*****************************************************************************
 (1)                                ;TEST:241       MUL     2 * #2 = 4 4        PS = 0
 (1)                                ;*****************************************************************************
 (1)
 (1)  011274  010701                TST241: SCOPE
 (1)  011276  010501                        MOV     R5,R1           ;SAVE R5
 (1)  011300  012705  000002                MOV     #2,%5           ;LOAD MULTIPLICAND WITH 2
 (1)  011304  070527  000002                MUL     #2,%5           ;MULTIPLY 2 * #2
 (2)  011310                                MFPS    @#PSWORD        ;SAVE PS
 (2)  011310  106737                        .WORD   106700!..C
 (1)  011314  122737  000000  000432        CMPB    #0,@#PSWORD     ;IS PS = 0
 (1)  011322  001403                        BEQ     .+10
 (3)  011324  004767  005560                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;PS IS WRONG
 (3)  011330  000231                        231
 (1)  011332  022705  000004                CMP     #4,%5           ;IS HIGH ORDER = 4
 (1)  011336  001403                        BEQ     .+10
 (3)  011340  004767  005544                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;HIGH ORDER IS WRONG
 (3)  011344  000232                        232
 (1)  011346  022705  000004                CMP     #4,%5!1         ;IS LOW ORDER = 4
 (1)  011352  001403                        BEQ     .+10
 (2)  011354                        1$:
 (3)  011354  004767  005530                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  011360  000233                        233
 (1)  011362  021127  000241                CMP     (R1),#241               ;CHECK THE TEST NUMBER
 (1)  011366  001372                        BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  011370  010105                        MOV     R1,R5           ;RESTORE R5
 (1)  011372  005215                        INC     (R5)
 (1)
 (1)
```

```
 6096  011374  012702  040000                MOV     #40000,%2
 6097  011400  012703  000464                MOV     #S5,%3
 6098  011404  012704  000466                MOV     #S6,%4
 6099
 6100
  (1)                                ;*************************************************************************
  (1)                                ;TEST:242       MUL      125252 * S5 = 165252 100000        PS = 11
  (1)                                ;*************************************************************************
  (1)
  (1)  011410  010701                TST242: SCOPE
  (1)  011412  012700  125252                MOV     #125252,%0      ;LOAD MULTIPLICAND WITH 125252
  (1)  011416  070067  167042                MUL     S5,%0           ;MULTIPLY 125252 * S5
  (2)  011422                                MFPS    @#PSWORD        ;SAVE PS
  (2)  011422  106737                        .WORD   106700!..C
  (1)  011426  122737  000011  000432        CMPB    #11,@#PSWORD    ;IS PS = 11
  (1)  011434  001403                        BEQ     .+10
  (3)  011436  004767  005446                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                ;PS IS WRONG
  (3)  011442  000234                        234
  (1)  011444  022700  165252                CMP     #165252,%0      ;IS HIGH ORDER = 165252
  (1)  011450  001403                        BEQ     .+10
  (3)  011452  004767  005432                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                ;HIGH ORDER IS WRONG
  (3)  011456  000235                        235
  (1)  011460  022701  100000                CMP     #100000,%0!1    ;IS LOW ORDER = 100000
  (1)  011464  001403                        BEQ     .+10
  (2)  011466                        1$:
  (3)  011466  004767  005416                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                ;LOW ORDER IS WRONG OR WRONG SEQUENCE
  (3)  011472  000236                        236
  (1)  011474  021527  000242                CMP     (R5),#242
  (1)  011500  001372                        BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
  (1)  011502  005215                        INC     (R5)
  (1)
  (1)
```

```
6101
 (1)                                    ;*****************************************************************************
 (1)                                    ;TEST:243       MUL      125252 * @S6 = 165252 100000        PS = 11
 (1)                                    ;*****************************************************************************
 (1)
 (1)  011504  010701                    TST243: SCOPE
 (1)  011506  012700  125252                    MOV     #125252,%0      ;LOAD MULTIPLICAND WITH 125252
 (1)  011512  070077  166750                    MUL     @S6,%0          ;MULTIPLY 125252 * @S6
 (2)  011516                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  011516  106737                            .WORD   106700!..C
 (1)  011522  122737  000011  000432            CMPB    #11,@#PSWORD    ;IS PS = 11
 (1)  011530  001403                            BEQ     .+10
 (3)  011532  004767  005352                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;PS IS WRONG
 (3)  011536  000237                            237
 (1)  011540  022700  165252                    CMP     #165252,%0      ;IS HIGH ORDER = 165252
 (1)  011544  001403                            BEQ     .+10
 (3)  011546  004767  005336                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;HIGH ORDER IS WRONG
 (3)  011552  000240                            240
 (1)  011554  022701  100000                    CMP     #100000,%0!1    ;IS LOW ORDER = 100000
 (1)  011560  001403                            BEQ     .+10
 (2)  011562                            1$:
 (3)  011562  004767  005322                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  011566  000241                            241
 (1)  011570  021527  000243                    CMP     (R5),#243
 (1)  011574  001372                            BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  011576  005215                            INC     (R5)
 (1)
 (1)
```

```
6102
 (1)                                ;*****************************************************************************
 (1)                                ;TEST:244       MUL      125252 * @#55 = 165252 100000        PS = 11
 (1)                                ;*****************************************************************************
 (1)
 (1)  011600  010701                TST244: SCOPE
 (1)  011602  012700  125252                MOV     #125252,%0      ;LOAD MULTIPLICAND WITH 125252
 (1)  011606  070037  000464                MUL     @#55,%0         ;MULTIPLY 125252 * @#55
 (2)  011612                                MFPS    @#PSWORD        ;SAVE PS
 (2)  011612  106737                        .WORD   106700!..C
 (1)  011616  122737  000011  000432        CMPB    #11,@#PSWORD    ;IS PS = 11
 (1)  011624  001403                        BEQ     .+10
 (3)  011626  004767  005256                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;PS IS WRONG
 (3)  011632  000242                        242
 (1)  011634  022700  165252                CMP     #165252,%0      ;IS HIGH ORDER = 165252
 (1)  011640  001403                        BEQ     .+10
 (3)  011642  004767  005242                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;HIGH ORDER IS WRONG
 (3)  011646  000243                        243
 (1)  011650  022701  100000                CMP     #100000,%0!1    ;IS LOW ORDER = 100000
 (1)  011654  001403                        BEQ     .+10
 (2)  011656                        1$:
 (3)  011656  004767  005226                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  011662  000244                        244
 (1)  011664  021527  000244                CMP     (R5),#244
 (1)  011670  001372                        BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  011672  005215                        INC     (R5)
 (1)
 (1)
```

```
 6103                                   ;*****************************************************************************
  (1)                                   ;TEST:245       MUL      125252 * %2 = 165252 100000        PS = 11
  (1)                                   ;*****************************************************************************
  (1)
  (1)  011674  010701                   TST245: SCOPE
  (1)  011676  012700  125252                   MOV     #125252,%0      ;LOAD MULTIPLICAND WITH 125252
  (1)  011702  070002                           MUL     %2,%0           ;MULTIPLY 125252 * %2
  (2)  011704                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  011704  106737                           .WORD   106700!...C
  (1)  011710  122737  000011  000432           CMPB    #11,@#PSWORD    ;IS PS = 11
  (1)  011716  001403                           BEQ     .+10
  (3)  011720  004767  005164                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  011724  000245                           245
  (1)  011726  022700  165252                   CMP     #165252,%0      ;IS HIGH ORDER = 165252
  (1)  011732  001403                           BEQ     .+10
  (3)  011734  004767  005150                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;HIGH ORDER IS WRONG
  (3)  011740  000246                           246
  (1)  011742  022701  100000                   CMP     #100000,%0!1    ;IS LOW ORDER = 100000
  (1)  011746  001403                           BEQ     .+10
  (2)  011750                           1$:
  (3)  011750  004767  005134                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;LOW ORDER IS WRONG OR WRONG SEQUENCE
  (3)  011754  000247                           247
  (1)  011756  021527  000245                   CMP     (R5),#245
  (1)  011762  001372                           BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
  (1)  011764  005215                           INC     (R5)
  (1)
  (1)
```

```
6104
 (1)                                    ;*****************************************************************************
 (1)                                    ;TEST:246       MUL      125252 * (3)+ = 165252 100000        PS = 11
 (1)                                    ;*****************************************************************************
 (1)
 (1)  011766  010701                    TST246: SCOPE
 (1)  011770  012700  125252                    MOV     #125252,%0      ;LOAD MULTIPLICAND WITH 125252
 (1)  011774  070023                            MUL     (3)+,%0         ;MULTIPLY 125252 * (3)+
 (2)  011776                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  011776  106737                            .WORD   106700!..C
 (1)  012002  122737  000011  000432            CMPB    #11,@#PSWORD    ;IS PS = 11
 (1)  012010  001403                            BEQ     .+10
 (3)  012012  004767  005072                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  012016  000250                            250
 (1)  012020  022700  165252                    CMP     #165252,%0      ;IS HIGH ORDER = 165252
 (1)  012024  001403                            BEQ     .+10
 (3)  012026  004767  005056                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;HIGH ORDER IS WRONG
 (3)  012032  000251                            251
 (1)  012034  022701  100000                    CMP     #100000,%0!1    ;IS LOW ORDER = 100000
 (1)  012040  001403                            BEQ     .+10
 (2)  012042                            1$:
 (3)  012042  004767  005042                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  012046  000252                            252
 (1)  012050  021527  000246                    CMP     (R5),#246
 (1)  012054  001372                            BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  012056  005215                            INC     (R5)
 (1)
 (1)
```

```
6105
 (1)                                    ;*****************************************************************
 (1)                                    ;TEST:247       MUL     125252 * -(3) = 165252 100000       PS = 11
 (1)                                    ;*****************************************************************
 (1)
 (1)  012060  010701                    TST247: SCOPE
 (1)  012062  012700  125252                    MOV     #125252,%0      ;LOAD MULTIPLICAND WITH 125252
 (1)  012066  070043                            MUL     -(3),%0         ;MULTIPLY 125252 * -(3)
 (2)  012070                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  012070  106737                            .WORD   106700!..C
 (1)  012074  122737  000011  000432            CMPB    #11,@#PSWORD    ;IS PS = 11
 (1)  012102  001403                            BEQ     .+10
 (3)  012104  004767  005000                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  012110  000253                            253
 (1)  012112  022700  165252                    CMP     #165252,%0      ;IS HIGH ORDER = 165252
 (1)  012116  001403                            BEQ     .+10
 (3)  012120  004767  004764                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;HIGH ORDER IS WRONG
 (3)  012124  000254                            254
 (1)  012126  022701  100000                    CMP     #100000,%0!1    ;IS LOW ORDER = 100000
 (1)  012132  001403                            BEQ     .+10
 (2)  012134                            1$:
 (3)  012134  004767  004750                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  012140  000255                            255
 (1)  012142  021527  000247                    CMP     (R5),#247
 (1)  012146  001372                            BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  012150  005215                            INC     (R5)
 (1)
 (1)
```

```
6106
 (1)                                ;*****************************************************************
 (1)                                ;TEST:250       MUL     125252 * 2(4) = 165252 100000      PS = 11
 (1)                                ;*****************************************************************
 (1)
 (1)  012152  010701                TST250: SCOPE
 (1)  012154  012700  125252                MOV     #125252,%0      ;LOAD MULTIPLICAND WITH 125252
 (1)  012160  070064  000002                MUL     2(4),%0         ;MULTIPLY 125252 * 2(4)
 (2)  012164                                MFPS    @#PSWORD        ;SAVE PS
 (2)  012164  106737                        .WORD   106700!..C
 (1)  012170  122737  000011  000432        CMPB    #11,@#PSWORD    ;IS PS = 11
 (1)  012176  001403                        BEQ     .+10
 (3)  012200  004767  004704                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;PS IS WRONG
 (3)  012204  000256                        256
 (1)  012206  022700  165252                CMP     #165252,%0      ;IS HIGH ORDER = 165252
 (1)  012212  001403                        BEQ     .+10
 (3)  012214  004767  004670                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;HIGH ORDER IS WRONG
 (3)  012220  000257                        257
 (1)  012222  022701  100000                CMP     #100000,%0!1    ;IS LOW ORDER = 100000
 (1)  012226  001403                        BEQ     .+10
 (2)  012230                        1$:
 (3)  012230  004767  004654                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  012234  000260                        260
 (1)  012236  021527  000250                CMP     (R5),#250
 (1)  012242  001372                        BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  012244  005215                        INC     (R5)
 (1)
 (1)
```

```
6107
 (1)                                    ;*************************************************************************
 (1)                                    ;TEST:251       MUL     125252 * @(4) = 165252 100000        PS = 11
 (1)                                    ;*************************************************************************
 (1)
 (1)  012246  010701                    TST251: SCOPE
 (1)  012250  012700  125252                    MOV     #125252,%0      ;LOAD MULTIPLICAND WITH 125252
 (1)  012254  070074  000000                    MUL     @(4),%0         ;MULTIPLY 125252 * @(4)
 (2)  012260                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  012260  106737                            .WORD   106700!..C
 (1)  012264  122737  000011  000432            CMPB    #11,@#PSWORD    ;IS PS = 11
 (1)  012272  001403                            BEQ     .+10
 (3)  012274  004767  004610                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  012300  000261                            261
 (1)  012302  022700  165252                    CMP     #165252,%0      ;IS HIGH ORDER = 165252
 (1)  012306  001403                            BEQ     .+10
 (3)  012310  004767  004574                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;HIGH ORDER IS WRONG
 (3)  012314  000262                            262
 (1)  012316  022701  100000                    CMP     #100000,%0!1    ;IS LOW ORDER = 100000
 (1)  012322  001403                            BEQ     .+10
 (2)  012324                            1$:
 (3)  012324  004767  004560                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  012330  000263                            263
 (1)  012332  021527  000251                    CMP     (R5),#251
 (1)  012336  001372                            BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  012340  005215                            INC     (R5)
 (1)
 (1)
```

```
6108
  (1)                                   ;*************************************************************************
  (1)                                   ;TEST:252       MUL     125252 * @(4)+ = 165252 100000        PS = 11
  (1)                                   ;*************************************************************************
  (1)
  (1)  012342  010701                   TST252: SCOPE
  (1)  012344  012700  125252                   MOV     #125252,%0      ;LOAD MULTIPLICAND WITH 125252
  (1)  012350  070034                           MUL     @(4)+,%0        ;MULTIPLY 125252 * @(4)+
  (2)  012352                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  012352  106737                           .WORD   106700!..C
  (1)  012356  122737  000011  000432           CMPB    #11,@#PSWORD    ;IS PS = 11
  (1)  012364  001403                           BEQ     .+10
  (3)  012366  004767  004516                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  012372  000264                           264
  (1)  012374  022700  165252                   CMP     #165252,%0      ;IS HIGH ORDER = 165252
  (1)  012400  001403                           BEQ     .+10
  (3)  012402  004767  004502                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;HIGH ORDER IS WRONG
  (3)  012406  000265                           265
  (1)  012410  022701  100000                   CMP     #100000,%0!1    ;IS LOW ORDER = 100000
  (1)  012414  001403                           BEQ     .+10
  (2)  012416                           1$:
  (3)  012416  004767  004466                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;LOW ORDER IS WRONG OR WRONG SEQUENCE
  (3)  012422  000266                           266
  (1)  012424  021527  000252                   CMP     (R5),#252
  (1)  012430  001372                           BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
  (1)  012432  005215                           INC     (R5)
  (1)
  (1)
```

```
6109
 (1)                                ;*****************************************************************************
 (1)                                ;TEST:253       MUL     125252 * @-(4) = 165252 100000        PS = 11
 (1)                                ;*****************************************************************************
 (1)
 (1)  012434  010701                TST253: SCOPE
 (1)  012436  012700  125252                MOV     #125252,%0      ;LOAD MULTIPLICAND WITH 125252
 (1)  012442  070054                        MUL     @-(4),%0        ;MULTIPLY 125252 * @-(4)
 (2)  012444                                MFPS    @#PSWORD        ;SAVE PS
 (2)  012444  106737                        .WORD   106700!..C
 (1)  012450  122737  000011  000432        CMPB    #11,@#PSWORD    ;IS PS = 11
 (1)  012456  001403                        BEQ     .+10
 (3)  012460  004767  004424                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;PS IS WRONG
 (3)  012464  000267                        267
 (1)  012466  022700  165252                CMP     #165252,%0      ;IS HIGH ORDER = 165252
 (1)  012472  001403                        BEQ     .+10
 (3)  012474  004767  004410                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;HIGH ORDER IS WRONG
 (3)  012500  000270                        270
 (1)  012502  022701  100000                CMP     #100000,%0!1    ;IS LOW ORDER = 100000
 (1)  012506  001403                        BEQ     .+10
 (2)  012510                        1$:
 (3)  012510  004767  004374                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;LOW ORDER IS WRONG OR WRONG SEQUENCE
 (3)  012514  000271                        271
 (1)  012516  021527  000253                CMP     (R5),#253
 (1)  012522  001372                        BNE     1$              ;IF IN WRONG SEQUENCE GO TO THE HLT ABOVE
 (1)  012524  005215                        INC     (R5)
 (1)
 (1)
```

```
                                        ;*********************************
                                        ;     DIV INSTRUCTION TESTS
                                        ;*********************************



                        ;*******  ************************************************************
                        ;TEST:254      DIV     0 4 / #2 = 2       REM = 0      PS = 0
                        ;*********  ************************************************************

012526  010701          TST254: SCOPE
012530  012700  000000          MOV     #0,%0           ;LOAD HIGH ORDER WITH 0
012534  012701  000004          MOV     #4,%0+1         ;LOAD LOW ORDER WITH 4
012540  071027  000002          DIV     #2,%0           ;DIVIDE BY #2
012544                          MFPS    @#PSWORD        ;SAVE PS
012544  106737                  .WORD   106700!..C

012550  122737  000000  000432  CMPB    #0,@#PSWORD     ;IS PS = 0
012556  001403                  BEQ     .+10
012560  004767  004324          JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
                                                        ;PS IS WRONG
012564  000272                  272

012566  022700  000002          CMP     #2,%0           ;IS QUOTIENT = 2
012572  001403                  BEQ     .+10
012574  004767  004310          JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
                                                        ;QUOTIENT IS WRONG
012600  000273                  273

012602  022701  000000          CMP     #0,%0+1         ;IS REMAINDER = 0
012606  001403                  BEQ     .+10
012610  004767  004274          JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
                                                        ;WRONG REMAINDER
012614  000274                  274
012616  021527  000254          CMP     (R5),#254
012622  001403                  BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
012624  004767  004260          JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
                                                        ;TEST IS IN WRONG SEQUENCE
012630  000275                  275
012632  005215                  INC     (R5)
```

```
6121                                    ;*************************************************************************
 (1)                                    ;TEST:255      DIV     -1 -9. / #3 = -3       REM = 0      PS = 10
 (1)                                    ;*************************************************************************
 (1)
 (1)  012634  010701                    TST255: SCOPE
 (1)  012636  012702  177777                    MOV     #-1,%2          ;LOAD HIGH ORDER WITH -1
 (1)  012642  012703  177767                    MOV     #-9.,%2+1       ;LOAD LOW ORDER WITH -9.
 (1)  012646  071227  000003                    DIV     #3,%2           ;DIVIDE BY #3
 (2)  012652                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  012652  106737                            .WORD   106700!..C
 (1)
 (1)  012656  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS PS = 10
 (1)  012664  001403                            BEQ     .+10
 (3)  012666  004767  004216                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  012672  000276                            276
 (1)
 (1)  012674  022702  177775                    CMP     #-3,%2          ;IS QUOTIENT = -3
 (1)  012700  001403                            BEQ     .+10
 (3)  012702  004767  004202                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;QUOTIENT IS WRONG
 (3)  012706  000277                            277
 (1)
 (1)  012710  022703  000000                    CMP     #0,%2+1         ;IS REMAINDER = 0
 (1)  012714  001403                            BEQ     .+10
 (3)  012716  004767  004166                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;WRONG REMAINDER
 (3)  012722  000300                            300
 (1)  012724  021527  000255                    CMP     (R5),#255
 (1)  012730  001403                            BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  012732  004767  004152                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  012736  000301                            301
 (1)  012740  005215                            INC     (R5)
 (1)
```

```
6122
 (1)                                ;*****************************************************************************
 (1)                                ;TEST:256      DIV     0 9. / #2 = 4       REM = 1      PS = 0
 (1)                                ;*****************************************************************************
 (1)
 (1)  012742  010701                TST256: SCOPE
 (1)  012744  010501                        MOV     R5,R1           ;SAVE R5
 (1)  012746  012704  000000                MOV     #0,%4           ;LOAD HIGH ORDER WITH 0
 (1)  012752  012705  000011                MOV     #9.,%4+1        ;LOAD LOW ORDER WITH 9.
 (1)  012756  071427  000002                DIV     #2,%4           ;DIVIDE BY #2
 (2)  012762                                MFPS    @#PSWORD        ;SAVE PS
 (2)  012762  106737                        .WORD   106700!..C
 (1)
 (1)  012766  122737  000000  000432        CMPB    #0,@#PSWORD     ;IS PS = 0
 (1)  012774  001403                        BEQ     .+10
 (3)  012776  004767  004106                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;PS IS WRONG
 (3)  013002  000302                        302
 (1)
 (1)  013004  022704  000004                CMP     #4,%4           ;IS QUOTIENT = 4
 (1)  013010  001403                        BEQ     .+10
 (3)  013012  004767  004072                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;QUOTIENT IS WRONG
 (3)  013016  000303                        303
 (1)
 (1)  013020  022705  000001                CMP     #1,%4+1         ;IS REMAINDER = 1
 (1)  013024  001403                        BEQ     .+10
 (3)  013026  004767  004056                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;WRONG REMAINDER
 (3)  013032  000304                        304
 (1)  013034  010105                        MOV     R1,R5           ;RESTORE R5
 (1)  013036  021527  000256                CMP     (R5),#256
 (1)  013042  001403                        BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  013044  004767  004040                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;TEST IS IN WRONG SEQUENCE
 (3)  013050  000305                        305
 (1)  013052  005215                        INC     (R5)
 (1)
```

```
6123                                    ;*****************************************************************************
 (1)                                    ;TEST:257      DIV     -1 -9. / #2 = -4       REM = -1      PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  013054  010701                    TST257: SCOPE
 (1)  013056  012700  177777                    MOV     #-1,%0          ;LOAD HIGH ORDER WITH -1
 (1)  013062  012701  177767                    MOV     #-9.,%0+1       ;LOAD LOW ORDER WITH -9.
 (1)  013066  071027  000002                    DIV     #2,%0           ;DIVIDE BY #2
 (2)  013072                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  013072  106737                            .WORD   106700!..C
 (1)
 (1)  013076  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS PS = 10
 (1)  013104  001403                            BEQ     .+10
 (3)  013106  004767  003776                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  013112  000306                            306
 (1)
 (1)  013114  022700  177774                    CMP     #-4,%0          ;IS QUOTIENT = -4
 (1)  013120  001403                            BEQ     .+10
 (3)  013122  004767  003762                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;QUOTIENT IS WRONG
 (3)  013126  000307                            307
 (1)
 (1)  013130  022701  177777                    CMP     #-1,%0+1        ;IS REMAINDER = -1
 (1)  013134  001403                            BEQ     .+10
 (3)  013136  004767  003746                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;WRONG REMAINDER
 (3)  013142  000310                            310
 (1)  013144  021527  000257                    CMP     (R5),#257
 (1)  013150  001403                            BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  013152  004767  003732                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  013156  000311                            311
 (1)  013160  005215                            INC     (R5)
 (1)
```

```
 6124                                   ;*****************************************************************************
  (1)                                   ;TEST:260      DIV     0 2 / #-3 = 0       REM = 2      PS = 4
  (1)                                   ;*****************************************************************************
  (1)
  (1)  013162  010701                   TST260: SCOPE
  (1)  013164  012702  000000                   MOV     #0,%2           ;LOAD HIGH ORDER WITH 0
  (1)  013170  012703  000002                   MOV     #2,%2+1         ;LOAD LOW ORDER WITH 2
  (1)  013174  071227  177775                   DIV     #-3,%2          ;DIVIDE BY #-3
  (2)  013200                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  013200  106737                           .WORD   106700!..C
  (1)
  (1)  013204  122737  000004  000432           CMPB    #4,@#PSWORD     ;IS PS = 4
  (1)  013212  001403                           BEQ     .+10
  (3)  013214  004767  003670                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  013220  000312                           312
  (1)
  (1)  013222  022702  000000                   CMP     #0,%2           ;IS QUOTIENT = 0
  (1)  013226  001403                           BEQ     .+10
  (3)  013230  004767  003654                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;QUOTIENT IS WRONG
  (3)  013234  000313                           313
  (1)
  (1)  013236  022703  000002                   CMP     #2,%2+1         ;IS REMAINDER = 2
  (1)  013242  001403                           BEQ     .+10
  (3)  013244  004767  003640                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;WRONG REMAINDER
  (3)  013250  000314                           314
  (1)  013252  021527  000260                   CMP     (R5),#260
  (1)  013256  001403                           BEQ     .+10
  (3)  013260  004767  003624                   JSR     PC,$HLT         ;IF IN WRONG SEQUENCE GO TO THE HLT
  (3)                                                                   ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;TEST IS IN WRONG SEQUENCE
  (3)  013264  000315                           315
  (1)  013266  005215                           INC     (R5)
  (1)
```

```
6125
 (1)                                ;*****************************************************************************
 (1)                                ;TEST:261      DIV     -1 -2 / #3 = 0       REM = -2      PS = 4
 (1)                                ;*****************************************************************************
 (1)
 (1)  013270  010701                TST261: SCOPE
 (1)  013272  010501                        MOV     R5,R1           ;SAVE R5
 (1)  013274  012704  177777                MOV     #-1,%4          ;LOAD HIGH ORDER WITH -1
 (1)  013300  012705  177776                MOV     #-2,%4+1        ;LOAD LOW ORDER WITH -2
 (1)  013304  071427  000003                DIV     #3,%4           ;DIVIDE BY #3
 (2)  013310                                MFPS    @#PSWORD        ;SAVE PS
 (2)  013310  106737                        .WORD   106700!..C
 (1)
 (1)  013314  122737  000004  000432        CMPB    #4,@#PSWORD     ;IS PS = 4
 (1)  013322  001403                        BEQ     .+10
 (3)  013324  004767  003560                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;PS IS WRONG
 (3)  013330  000316                        316
 (1)
 (1)  013332  022704  000000                CMP     #0,%4           ;IS QUOTIENT = 0
 (1)  013336  001403                        BEQ     .+10
 (3)  013340  004767  003544                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;QUOTIENT IS WRONG
 (3)  013344  000317                        317
 (1)
 (1)  013346  022705  177776                CMP     #-2,%4+1        ;IS REMAINDER = -2
 (1)  013352  001403                        BEQ     .+10
 (3)  013354  004767  003530                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;WRONG REMAINDER
 (3)  013360  000320                        320
 (1)  013362  010105                        MOV     R1,R5           ;RESTORE R5
 (1)  013364  021527  000261                CMP     (R5),#261
 (1)  013370  001403                        BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  013372  004767  003512                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;TEST IS IN WRONG SEQUENCE
 (3)  013376  000321                        321
 (1)  013400  005215                        INC     (R5)
 (1)
```

```
 6126                                   ;*****************************************************************************
  (1)                                   ;TEST:262      DIV     -1 -1 / #1 = -1       REM = 0      PS = 10
  (1)                                   ;*****************************************************************************
  (1)
  (1)  013402  010701                   TST262: SCOPE
  (1)  013404  012700  177777                   MOV     #-1,%0          ;LOAD HIGH ORDER WITH -1
  (1)  013410  012701  177777                   MOV     #-1,%0+1        ;LOAD LOW ORDER WITH -1
  (1)  013414  071027  000001                   DIV     #1,%0           ;DIVIDE BY #1
  (2)  013420                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  013420  106737                           .WORD   106700!..C
  (1)
  (1)  013424  122737  000010  000432           CMPB    #10,@#PSWORD    ;IS PS = 10
  (1)  013432  001403                           BEQ     .+10
  (3)  013434  004767  003450                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  013440  000322                           322
  (1)
  (1)  013442  022700  177777                   CMP     #-1,%0          ;IS QUOTIENT = -1
  (1)  013446  001403                           BEQ     .+10
  (3)  013450  004767  003434                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;QUOTIENT IS WRONG
  (3)  013454  000323                           323
  (1)
  (1)  013456  022701  000000                   CMP     #0,%0+1         ;IS REMAINDER = 0
  (1)  013462  001403                           BEQ     .+10
  (3)  013464  004767  003420                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;WRONG REMAINDER
  (3)  013470  000324                           324
  (1)  013472  021527  000262                   CMP     (R5),#262
  (1)  013476  001403                           BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
  (3)  013500  004767  003404                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;TEST IS IN WRONG SEQUENCE
  (3)  013504  000325                           325
  (1)  013506  005215                           INC     (R5)
  (1)
```

```
 6127                                   ;*****************************************************************************
  (1)                                   ;TEST:263      DIV     0 0 / #1 = 0       REM = 0      PS = 4
  (1)                                   ;*****************************************************************************
  (1)
  (1)  013510  010701                   TST263: SCOPE
  (1)  013512  012700  000000                   MOV     #0,%0           ;LOAD HIGH ORDER WITH 0
  (1)  013516  012701  000000                   MOV     #0,%0+1         ;LOAD LOW ORDER WITH 0
  (1)  013522  071027  000001                   DIV     #1,%0           ;DIVIDE BY #1
  (2)  013526                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  013526  106737                           .WORD   106700!..C
  (1)
  (1)  013532  122737  000004  000432           CMPB    #4,@#PSWORD     ;IS PS = 4
  (1)  013540  001403                           BEQ     .+10
  (3)  013542  004767  003342                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  013546  000326                           326
  (1)
  (1)  013550  022700  000000                   CMP     #0,%0           ;IS QUOTIENT = 0
  (1)  013554  001403                           BEQ     .+10
  (3)  013556  004767  003326                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;QUOTIENT IS WRONG
  (3)  013562  000327                           327
  (1)
  (1)  013564  022701  000000                   CMP     #0,%0+1         ;IS REMAINDER = 0
  (1)  013570  001403                           BEQ     .+10
  (3)  013572  004767  003312                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;WRONG REMAINDER
  (3)  013576  000330                           330
  (1)  013600  021527  000263                   CMP     (R5),#263
  (1)  013604  001403                           BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
  (3)  013606  004767  003276                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;TEST IS IN WRONG SEQUENCE
  (3)  013612  000331                           331
  (1)  013614  005215                           INC     (R5)
  (1)
```

```
6128                                    ;*****************************************************************************
 (1)                                    ;TEST:264      DIV     -1 125252 / #2 = 152525       REM = 0      PS = 10
 (1)                                    ;*****************************************************************************
 (1)
 (1)  013616  010701                    TST264: SCOPE
 (1)  013620  012702  177777                    MOV     #-1,%2          ;LOAD HIGH ORDER WITH -1
 (1)  013624  012703  125252                    MOV     #125252,%2+1    ;LOAD LOW ORDER WITH 125252
 (1)  013630  071227  000002                    DIV     #2,%2           ;DIVIDE BY #2
 (2)  013634                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  013634  106737                            .WORD   106700!..C
 (1)
 (1)  013640  122737  000010  000432            CMPB    #10,@#PSWORD    ;IS PS = 10
 (1)  013646  001403                            BEQ     .+10
 (3)  013650  004767  003234                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  013654  000332                            332
 (1)
 (1)  013656  022702  152525                    CMP     #152525,%2      ;IS QUOTIENT = 152525
 (1)  013662  001403                            BEQ     .+10
 (3)  013664  004767  003220                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;QUOTIENT IS WRONG
 (3)  013670  000333                            333
 (1)
 (1)  013672  022703  000000                    CMP     #0,%2+1         ;IS REMAINDER = 0
 (1)  013676  001403                            BEQ     .+10
 (3)  013700  004767  003204                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;WRONG REMAINDER
 (3)  013704  000334                            334
 (1)  013706  021527  000264                    CMP     (R5),#264
 (1)  013712  001403                            BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  013714  004767  003170                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  013720  000335                            335
 (1)  013722  005215                            INC     (R5)
 (1)
```

```
6129
 (1)                                    ;*****************************************************************************
 (1)                                    ;TEST:265      DIV     -1 -1 / #-1 = 1       REM = 0      PS = 0
 (1)                                    ;*****************************************************************************
 (1)
 (1)  013724  010701                    TST265: SCOPE
 (1)  013726  010501                            MOV     R5,R1           ;SAVE R5
 (1)  013730  012704  177777                    MOV     #-1,%4          ;LOAD HIGH ORDER WITH -1
 (1)  013734  012705  177777                    MOV     #-1,%4+1        ;LOAD LOW ORDER WITH -1
 (1)  013740  071427  177777                    DIV     #-1,%4          ;DIVIDE BY #-1
 (2)  013744                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  013744  106737                            .WORD   106700!..C
 (1)
 (1)  013750  122737  000000  000432            CMPB    #0,@#PSWORD     ;IS PS = 0
 (1)  013756  001403                            BEQ     .+10
 (3)  013760  004767  003124                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;PS IS WRONG
 (3)  013764  000336                            336
 (1)
 (1)  013766  022704  000001                    CMP     #1,%4           ;IS QUOTIENT = 1
 (1)  013772  001403                            BEQ     .+10
 (3)  013774  004767  003110                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;QUOTIENT IS WRONG
 (3)  014000  000337                            337
 (1)
 (1)  014002  022705  000000                    CMP     #0,%4+1         ;IS REMAINDER = 0
 (1)  014006  001403                            BEQ     .+10
 (3)  014010  004767  003074                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;WRONG REMAINDER
 (3)  014014  000340                            340
 (1)  014016  010105                            MOV     R1,R5           ;RESTORE R5
 (1)  014020  021527  000265                    CMP     (R5),#265
 (1)  014024  001403                            BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  014026  004767  003056                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                            ;TEST IS IN WRONG SEQUENCE
 (3)  014032  000341                            341
 (1)  014034  005215                            INC     (R5)
 (1)
```

```
6130
 (1)                                ;*****************************************************************************
 (1)                                ;TEST:266      DIV     25253 1 / #125252 = 100000      PEM = 1      PS = 10
 (1)                                ;*****************************************************************************
 (1)
 (1)  014036  010701                TST266: SCOPE
 (1)  014040  012700  025253                MOV     #25253,%0       ;LOAD HIGH ORDER WITH 25253
 (1)  014044  012701  000001                MOV     #1,%0+1         ;LOAD LOW ORDER WITH 1
 (1)  014050  071027  125252                DIV     #125252,%0      ;DIVIDE BY #125252
 (2)  014054                                MFPS    @#PSWORD        ;SAVE PS
 (2)  014054  106737                        .WORD   106700!..C
 (1)
 (1)  014060  122737  000010  000432        CMPB    #10,@#PSWORD    ;IS PS = 10
 (1)  014066  001403                        BEQ     .+10
 (3)  014070  004767  003014                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;PS IS WRONG
 (3)  014074  000342                        342
 (1)
 (1)  014076  022700  100000                CMP     #100000,%0      ;IS QUOTIENT = 100000
 (1)  014102  001403                        BEQ     .+10
 (3)  014104  004767  003000                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;QUOTIENT IS WRONG
 (3)  014110  000343                        343
 (1)
 (1)  014112  022701  000001                CMP     #1,%0+1         ;IS REMAINDER = 1
 (1)  014116  001403                        BEQ     .+10
 (3)  014120  004767  002764                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;WRONG REMAINDER
 (3)  014124  000344                        344
 (1)  014126  021527  000266                CMP     (R5),#266
 (1)  014132  001403                        BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  014134  004767  002750                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;TEST IS IN WRONG SEQUENCE
 (3)  014140  000345                        345
 (1)  014142  005215                        INC     (R5)
 (1)
```

```
 6131                                   ;*****************************************************************************
  (1)                                   ;TEST:267      DIV     37777 77777 / #77777 = 77777       REM = 77776      PS = 0
  (1)                                   ;*****************************************************************************
  (1)
  (1)  014144  010701                   TST267: SCOPE
  (1)  014146  012702  037777                   MOV     #37777,%2       ;LOAD HIGH ORDER WITH 37777
  (1)  014152  012703  077777                   MOV     #77777,%2+1     ;LOAD LOW ORDER WITH 77777
  (1)  014156  071227  077777                   DIV     #77777,%2       ;DIVIDE BY #77777
  (2)  014162                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  014162  106737                           .WORD   106700!..C
  (1)
  (1)  014166  122737  000000  000432           CMPB    #0,@#PSWORD     ;IS PS = 0
  (1)  014174  001403                           BEQ     .+10
  (3)  014176  004767  002706                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  014202  000346                           346
  (1)
  (1)  014204  022702  077777                   CMP     #77777,%2       ;IS QUOTIENT = 77777
  (1)  014210  001403                           BEQ     .+10
  (3)  014212  004767  002672                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;QUOTIENT IS WRONG
  (3)  014216  000347                           347
  (1)
  (1)  014220  022703  077776                   CMP     #77776,%2+1     ;IS REMAINDER = 77776
  (1)  014224  001403                           BEQ     .+10
  (3)  014226  004767  002656                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;WRONG REMAINDER
  (3)  014232  000350                           350
  (1)  014234  021527  000267                   CMP     (R5),#267
  (1)  014240  001403                           BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
  (3)  014242  004767  002642                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;TEST IS IN WRONG SEQUENCE
  (3)  014246  000351                           351
  (1)  014250  005215                           INC     (R5)
  (1)
```

```
6132
 (1)                                    ;*****************************************************************
 (1)                                    ;TEST:270      DIV     0 100000 / #2 = 40000       REM = 0      PS = 0
 (1)                                    ;*****************************************************************
 (1)
 (1)  014252  010701                    TST270: SCOPE
 (1)  014254  010501                            MOV     R5,R1           ;SAVE R5
 (1)  014256  012704  000000                    MOV     #0,%4           ;LOAD HIGH ORDER WITH 0
 (1)  014262  012705  100000                    MOV     #100000,%4+1    ;LOAD LOW ORDER WITH 100000
 (1)  014266  071427  000002                    DIV     #2,%4           ;DIVIDE BY #2
 (2)  014272                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  014272  106737                            .WORD   106700!..C
 (1)
 (1)  014276  122737  000000  000432            CMPB    #0,@#PSWORD     ;IS PS = 0
 (1)  014304  001403                            BEQ     .+10
 (3)  014306  004767  002576                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  014312  000352                            352
 (1)
 (1)  014314  022704  040000                    CMP     #40000,%4       ;IS QUOTIENT = 40000
 (1)  014320  001403                            BEQ     .+10
 (3)  014322  004767  002562                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;QUOTIENT IS WRONG
 (3)  014326  000353                            353
 (1)
 (1)  014330  022705  000000                    CMP     #0,%4+1         ;IS REMAINDER = 0
 (1)  014334  001403                            BEQ     .+10
 (3)  014336  004767  002546                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;WRONG REMAINDER
 (3)  014342  000354                            354
 (1)  014344  010105                            MOV     R1,R5           ;RESTORE R5
 (1)  014346  021527  000270                    CMP     (R5),#270
 (1)  014352  001403                            BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  014354  004767  002530                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  014360  000355                            355
 (1)  014362  005215                            INC     (R5)
 (1)
```

```
 6133                                   ;*************************************************************************
  (1)                                   ;TEST:271      DIV     177777 77777 / #177776 = 40000      REM = 177777     PS = 0
  (1)                                   ;*************************************************************************
  (1)
  (1)  014364  010701                   TST271: SCOPE
  (1)  014366  012700  177777                   MOV     #177777,%0      ;LOAD HIGH ORDER WITH 177777
  (1)  014372  012701  077777                   MOV     #77777,%0+1     ;LOAD LOW ORDER WITH 77777
  (1)  014376  071027  177776                   DIV     #177776,%0      ;DIVIDE BY #177776
  (2)  014402                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  014402  106737                           .WORD   106700!..C
  (1)
  (1)  014406  122737  000000  000432           CMPB    #0,@#PSWORD     ;IS PS = 0
  (1)  014414  001403                           BEQ     .+10
  (3)  014416  004767  002466                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  014422  000356                           356
  (1)
  (1)  014424  022700  040000                   CMP     #40000,%0       ;IS QUOTIENT = 40000
  (1)  014430  001403                           BEQ     .+10
  (3)  014432  004767  002452                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;QUOTIENT IS WRONG
  (3)  014436  000357                           357
  (1)
  (1)  014440  022701  177777                   CMP     #177777,%0+1    ;IS REMAINDER = 177777
  (1)  014444  001403                           BEQ     .+10
  (3)  014446  004767  002436                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;WRONG REMAINDER
  (3)  014452  000360                           360
  (1)  014454  021527  000271                   CMP     (R5),#271
  (1)  014460  001403                           BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
  (3)  014462  004767  002422                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;TEST IS IN WRONG SEQUENCE
  (3)  014466  000361                           361
  (1)  014470  005215                           INC     (R5)
  (1)
```

```
6134
 (1)                                ;*****************************************************************************
 (1)                                ;TEST:272      DIV     0 52525 / #52525 = 1       REM = 0      PS = 0
 (1)                                ;*****************************************************************************
 (1)
 (1)  014472  010701                TST272: SCOPE
 (1)  014474  012702  000000               MOV     #0,%2           ;LOAD HIGH ORDER WITH 0
 (1)  014500  012703  052525               MOV     #52525,%2+1     ;LOAD LOW ORDER WITH 52525
 (1)  014504  071227  052525               DIV     #52525,%2       ;DIVIDE BY #52525
 (2)  014510                               MFPS    @#PSWORD        ;SAVE PS
 (2)  014510  106737                       .WORD   106700!..C
 (1)
 (1)  014514  122737  000000  000432       CMPB    #0,@#PSWORD     ;IS PS = 0
 (1)  014522  001403                       BEQ     .+10
 (3)  014524  004767  002360               JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                               ;PS IS WRONG
 (3)  014530  000362                       362
 (1)
 (1)  014532  022702  000001               CMP     #1,%2           ;IS QUOTIENT = 1
 (1)  014536  001403                       BEQ     .+10
 (3)  014540  004767  002344               JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                               ;QUOTIENT IS WRONG
 (3)  014544  000363                       363
 (1)
 (1)  014546  022703  000000               CMP     #0,%2+1         ;IS REMAINDER = 0
 (1)  014552  001403                       BEQ     .+10
 (3)  014554  004767  002330               JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                               ;WRONG REMAINDER
 (3)  014560  000364                       364
 (1)  014562  021527  000272               CMP     (R5),#272
 (1)  014566  001403                       BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  014570  004767  002314               JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                               ;TEST IS IN WRONG SEQUENCE
 (3)  014574  000365                       365
 (1)  014576  005215                       INC     (R5)
 (1)
```

```
6135
 (1)                                ;*****************************************************************************
 (1)                                ;TEST:273      DIV     0 77777 / #0 = DUMMY       REM = DUMMY      PS = 3
 (1)                                ;*****************************************************************************
 (1)
 (1)  014600  010701                TST273: SCOPE
 (1)  014602  010501                        MOV     R5,R1           ;SAVE R5
 (1)  014604  012704  000000                MOV     #0,%4           ;LOAD HIGH ORDER WITH 0
 (1)  014610  012705  077777                MOV     #77777,%4+1     ;LOAD LOW ORDER WITH 77777
 (1)  014614  071427  000000                DIV     #0,%4           ;DIVIDE BY #0
 (2)  014620                                MFPS    @#PSWORD        ;SAVE PS
 (2)  014620  106737                        .WORD   106700!..C
 (1)  014624  042737  000014  000432        BIC     #14,@#PSWORD
 (1)
 (1)  014632  122737  000003  000432        CMPB    #3,@#PSWORD     ;IS PS = 3
 (1)  014640  001403                        BEQ     .+10
 (3)  014642  004767  002242                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;PS IS WRONG
 (3)  014646  000366                        366
 (1)
 (1)  014650  010105                        MOV     R1,R5           ;RESTORE R5
 (1)  014652  021527  000273                CMP     (R5),#273
 (1)  014656  001403                        BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  014660  004767  002224                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                ;TEST IS IN WRONG SEQUENCE
 (3)  014664  000367                        367
 (1)  014666  005215                        INC     (R5)
 (1)
```

```
6136
 (1)                                    ;*****************************************************************************
 (1)                                    ;TEST:274      DIV     77777 177777 / #2 = DUMMY       REM = DUMMY      PS = 2
 (1)                                    ;*****************************************************************************
 (1)
 (1)  014670  010701                    TST274: SCOPE
 (1)  014672  012700  077777                    MOV     #77777,%0       ;LOAD HIGH ORDER WITH 77777
 (1)  014676  012701  177777                    MOV     #177777,%0+1    ;LOAD LOW ORDER WITH 177777
 (1)  014702  071027  000002                    DIV     #2,%0           ;DIVIDE BY #2
 (2)  014706                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  014706  106737                            .WORD   106700!..C
 (1)  014712  042737  000014  000432            BIC     #14,@#PSWORD
 (1)
 (1)  014720  122737  000002  000432            CMPB    #2,@#PSWORD     ;IS PS = 2
 (1)  014726  001403                            BEQ     .+10
 (3)  014730  004767  002154                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  014734  000370                            370
 (1)
 (1)  014736  021527  000274                    CMP     (R5),#274
 (1)  014742  001403                            BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  014744  004767  002140                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  014750  000371                            371
 (1)  014752  005215                            INC     (R5)
 (1)
```

```
 6137  014754  012702  000002                MOV     #2,%2
 6138  014760  012703  000474                MOV     #S9,%3
 6139  014764  012704  000476                MOV     #S10,%4
 6140
 6141                                ;*************************************************************************
  (1)                                ;TEST:275      DIV     0 52525 / S9 = 25252       REM = 1      PS = 0
  (1)                                ;*************************************************************************
  (1)
  (1)  014770  010701                TST275: SCOPE
  (1)  014772  012700  000000                MOV     #0,%0                ;LOAD HIGH ORDER WITH 0
  (1)  014776  012701  052525                MOV     #52525,%0+1          ;LOAD LOW ORDER WITH 52525
  (1)  015002  071067  163466                DIV     S9,%0                ;DIVIDE BY S9
  (2)  015006                                MFPS    @#PSWORD             ;SAVE PS
  (2)  015006  106737                        .WORD   106700!..C
  (1)
  (1)  015012  122737  000000  000432        CMPB    #0,@#PSWORD          ;IS PS = 0
  (1)  015020  001403                        BEQ     .+10
  (3)  015022  004767  002062                JSR     PC,$HLT              ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                     ;PS IS WRONG
  (3)  015026  000372                        372
  (1)
  (1)  015030  022700  025252                CMP     #25252,%0            ;IS QUOTIENT = 25252
  (1)  015034  001403                        BEQ     .+10
  (3)  015036  004767  002046                JSR     PC,$HLT              ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                     ;QUOTIENT IS WRONG
  (3)  015042  000373                        373
  (1)
  (1)  015044  022701  000001                CMP     #1,%0+1              ;IS REMAINDER = 1
  (1)  015050  001403                        BEQ     .+10
  (3)  015052  004767  002032                JSR     PC,$HLT              ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                     ;WRONG REMAINDER
  (3)  015056  000374                        374
  (1)  015060  021527  000275                CMP     (R5),#275
  (1)  015064  001403                        BEQ     .+10                 ;IF IN WRONG SEQUENCE GO TO THE HLT
  (3)  015066  004767  002016                JSR     PC,$HLT              ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                     ;TEST IS IN WRONG SEQUENCE
  (3)  015072  000375                        375
  (1)  015074  005215                        INC     (R5)
  (1)
```

```
 6142                                   ;*****************************************************************************
  (1)                                   ;TEST:276      DIV     0 52525 / @S10 = 25252       REM = 1      PS = 0
  (1)                                   ;*****************************************************************************
  (1)
  (1)  015076  010701                   TST276: SCOPE
  (1)  015100  012700  000000                   MOV     #0,%0           ;LOAD HIGH ORDER WITH 0
  (1)  015104  012701  052525                   MOV     #52525,%0+1     ;LOAD LOW ORDER WITH 52525
  (1)  015110  071077  163362                   DIV     @S10,%0         ;DIVIDE BY @S10
  (2)  015114                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  015114  106737                           .WORD   106700!..C
  (1)
  (1)  015120  122737  000000  000432           CMPB    #0,@#PSWORD     ;IS PS = 0
  (1)  015126  001403                           BEQ     .+10
  (3)  015130  004767  001754                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  015134  000376                           376
  (1)
  (1)  015136  022700  025252                   CMP     #25252,%0       ;IS QUOTIENT = 25252
  (1)  015142  001403                           BEQ     .+10
  (3)  015144  004767  001740                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;QUOTIENT IS WRONG
  (3)  015150  000377                           377
  (1)
  (1)  015152  022701  000001                   CMP     #1,%0+1         ;IS REMAINDER = 1
  (1)  015156  001403                           BEQ     .+10
  (3)  015160  004767  001724                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;WRONG REMAINDER
  (3)  015164  000400                           400
  (1)  015166  021527  000276                   CMP     (R5),#276
  (1)  015172  001403                           BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
  (3)  015174  004767  001710                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;TEST IS IN WRONG SEQUENCE
  (3)  015200  000401                           401
  (1)  015202  005215                           INC     (R5)
  (1)
```

```
 6143                                   ;*****************************************************************************
  (1)                                   ;TEST:277      DIV     0 52525 / @#S9 = 25252       REM = 1      PS = 0
  (1)                                   ;*****************************************************************************
  (1)
  (1)  015204  010701                   TST277: SCOPE
  (1)  015206  012700  000000                   MOV     #0,%0           ;LOAD HIGH ORDER WITH 0
  (1)  015212  012701  052525                   MOV     #52525,%0+1     ;LOAD LOW ORDER WITH 52525
  (1)  015216  071037  000474                   DIV     @#S9,%0         ;DIVIDE BY @#S9
  (2)  015222                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  015222  106737                           .WORD   106700!..C
  (1)
  (1)  015226  122737  000000  000432           CMPB    #0,@#PSWORD     ;IS PS = 0
  (1)  015234  001403                           BEQ     .+10
  (3)  015236  004767  001646                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  015242  000402                           402
  (1)
  (1)  015244  022700  025252                   CMP     #25252,%0       ;IS QUOTIENT = 25252
  (1)  015250  001403                           BEQ     .+10
  (3)  015252  004767  001632                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;QUOTIENT IS WRONG
  (3)  015256  000403                           403
  (1)
  (1)  015260  022701  000001                   CMP     #1,%0+1         ;IS REMAINDER = 1
  (1)  015264  001403                           BEQ     .+10
  (3)  015266  004767  001616                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;WRONG REMAINDER
  (3)  015272  000404                           404
  (1)  015274  021527  000277                   CMP     (R5),#277
  (1)  015300  001403                           BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
  (3)  015302  004767  001602                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;TEST IS IN WRONG SEQUENCE
  (3)  015306  000405                           405
  (1)  015310  005215                           INC     (R5)
  (1)
```

```
 6144
  (1)                                ;*****************************************************************
  (1)                                ;TEST:300      DIV     0 52525 / %2 = 25252       REM = 1      PS = 0
  (1)                                ;*****************************************************************
  (1)
  (1)  015312  010701                TST300: SCOPE
  (1)  015314  012700  000000                MOV     #0,%0           ;LOAD HIGH ORDER WITH 0
  (1)  015320  012701  052525                MOV     #52525,%0+1     ;LOAD LOW ORDER WITH 52525
  (1)  015324  071002                        DIV     %2,%0           ;DIVIDE BY %2
  (2)  015326                                MFPS    @#PSWORD        ;SAVE PS
  (2)  015326  106737                        .WORD   106700!..C
  (1)
  (1)  015332  122737  000000  000432        CMPB    #0,@#PSWORD     ;IS PS = 0
  (1)  015340  001403                        BEQ     .+10
  (3)  015342  004767  001542                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                ;PS IS WRONG
  (3)  015346  000406                        406
  (1)
  (1)  015350  022700  025252                CMP     #25252,%0       ;IS QUOTIENT = 25252
  (1)  015354  001403                        BEQ     .+10
  (3)  015356  004767  001526                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                ;QUOTIENT IS WRONG
  (3)  015362  000407                        407
  (1)
  (1)  015364  022701  000001                CMP     #1,%0+1         ;IS REMAINDER = 1
  (1)  015370  001403                        BEQ     .+10
  (3)  015372  004767  001512                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                ;WRONG REMAINDER
  (3)  015376  000410                        410
  (1)  015400  021527  000300                CMP     (R5),#300
  (1)  015404  001403                        BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
  (3)  015406  004767  001476                JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                ;TEST IS IN WRONG SEQUENCE
  (3)  015412  000411                        411
  (1)  015414  005215                        INC     (R5)
  (1)
```

```
6145
 (1)                                ;*****************************************************************************
 (1)                                ;TEST:301      DIV     0 52525 / (3)+ = 25252       REM = 1      PS = 0
 (1)                                ;*****************************************************************************
 (1)
 (1)  015416  010701                TST301: SCOPE
 (1)  015420  012700  000000                MOV     #0,%0               ;LOAD HIGH ORDER WITH 0
 (1)  015424  012701  052525                MOV     #52525,%0+1         ;LOAD LOW ORDER WITH 52525
 (1)  015430  071023                        DIV     (3)+,%0             ;DIVIDE BY (3)+
 (2)  015432                                MFPS    @#PSWORD            ;SAVE PS
 (2)  015432  106737                        .WORD   106700!..C
 (1)
 (1)  015436  122737  000000  000432        CMPB    #0,@#PSWORD         ;IS PS = 0
 (1)  015444  001403                        BEQ     .+10
 (3)  015446  004767  001436                JSR     PC,$HLT             ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  015452  000412                        412
 (1)
 (1)  015454  022700  025252                CMP     #25252,%0           ;IS QUOTIENT = 25252
 (1)  015460  001403                        BEQ     .+10
 (3)  015462  004767  001422                JSR     PC,$HLT             ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;QUOTIENT IS WRONG
 (3)  015466  000413                        413
 (1)
 (1)  015470  022701  000001                CMP     #1,%0+1             ;IS REMAINDER = 1
 (1)  015474  001403                        BEQ     .+10
 (3)  015476  004767  001406                JSR     PC,$HLT             ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;WRONG REMAINDER
 (3)  015502  000414                        414
 (1)  015504  021527  000301                CMP     (R5),#301
 (1)  015510  001403                        BEQ     .+10                ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  015512  004767  001372                JSR     PC,$HLT             ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  015516  000415                        415
 (1)  015520  005215                        INC     (R5)
 (1)
```

```
6146                                    ;*****************************************************************************
 (1)                                    ;TEST:302      DIV     0 52525 / -(3) = 25252       REM = 1      PS = 0
 (1)                                    ;*****************************************************************************
 (1)
 (1)  015522  010701                    TST302: SCOPE
 (1)  015524  012700  000000                    MOV     #0,%0           ;LOAD HIGH ORDER WITH 0
 (1)  015530  012701  052525                    MOV     #52525,%0+1     ;LOAD LOW ORDER WITH 52525
 (1)  015534  071043                            DIV     -(3),%0         ;DIVIDE BY -(3)
 (2)  015536                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  015536  106737                            .WORD   106700!..C
 (1)
 (1)  015542  122737  000000  000432            CMPB    #0,@#PSWORD     ;IS PS = 0
 (1)  015550  001403                            BEQ     .+10
 (3)  015552  004767  001332                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  015556  000416                            416
 (1)
 (1)  015560  022700  025252                    CMP     #25252,%0       ;IS QUOTIENT = 25252
 (1)  015564  001403                            BEQ     .+10
 (3)  015566  004767  001316                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;QUOTIENT IS WRONG
 (3)  015572  000417                            417
 (1)
 (1)  015574  022701  000001                    CMP     #1,%0+1         ;IS REMAINDER = 1
 (1)  015600  001403                            BEQ     .+10
 (3)  015602  004767  001302                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;WRONG REMAINDER
 (3)  015606  000420                            420
 (1)  015610  021527  000302                    CMP     (R5),#302
 (1)  015614  001403                            BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  015616  004767  001266                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  015622  000421                            421
 (1)  015624  005215                            INC     (R5)
 (1)
```

```
6147
  (1)                                   ;*****************************************************************************
  (1)                                   ;TEST:303      DIV     0 52525 / 2(4) = 25252       REM = 1      PS = 0
  (1)                                   ;*****************************************************************************
  (1)
  (1)  015626  010701                   TST303: SCOPE
  (1)  015630  012700  000000                   MOV     #0,%0           ;LOAD HIGH ORDER WITH 0
  (1)  015634  012701  052525                   MOV     #52525,%0+1     ;LOAD LOW ORDER WITH 52525
  (1)  015640  071064  000002                   DIV     2(4),%0         ;DIVIDE BY 2(4)
  (2)  015644                                   MFPS    @#PSWORD        ;SAVE PS
  (2)  015644  106737                           .WORD   106700!..C
  (1)
  (1)  015650  122737  000000  000432           CMPB    #0,@#PSWORD     ;IS PS = 0
  (1)  015656  001403                           BEQ     .+10
  (3)  015660  004767  001224                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;PS IS WRONG
  (3)  015664  000422                           422
  (1)
  (1)  015666  022700  025252                   CMP     #25252,%0       ;IS QUOTIENT = 25252
  (1)  015672  001403                           BEQ     .+10
  (3)  015674  004767  001210                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;QUOTIENT IS WRONG
  (3)  015700  000423                           423
  (1)
  (1)  015702  022701  000001                   CMP     #1,%0+1         ;IS REMAINDER = 1
  (1)  015706  001403                           BEQ     .+10
  (3)  015710  004767  001174                   JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;WRONG REMAINDER
  (3)  015714  000424                           424
  (1)  015716  021527  000303                   CMP     (R5),#303
  (1)  015722  001403                           BEQ     .+10
  (3)  015724  004767  001160                   JSR     PC,$HLT         ;IF IN WRONG SEQUENCE GO TO THE HLT
  (3)                                                                   ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                   ;TEST IS IN WRONG SEQUENCE
  (3)  015730  000425                           425
  (1)  015732  005215                           INC     (R5)
  (1)
```

```
6148
 (1)                                    ;*****************************************************************************
 (1)                                    ;TEST:304      DIV     0 52525 / @(4) = 25252       REM = 1      PS = 0
 (1)                                    ;*****************************************************************************
 (1)
 (1)  015734  010701                    TST304: SCOPE
 (1)  015736  012700  000000                    MOV     #0,%0           ;LOAD HIGH ORDER WITH 0
 (1)  015742  012701  052525                    MOV     #52525,%0+1     ;LOAD LOW ORDER WITH 52525
 (1)  015746  071074  000000                    DIV     @(4),%0         ;DIVIDE BY @(4)
 (2)  015752                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  015752  106737                            .WORD   106700!..C
 (1)
 (1)  015756  122737  000000  000432            CMPB    #0,@#PSWORD     ;IS PS = 0
 (1)  015764  001403                            BEQ     .+10
 (3)  015766  004767  001116                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  015772  000426                            426
 (1)
 (1)  015774  022700  025252                    CMP     #25252,%0       ;IS QUOTIENT = 25252
 (1)  016000  001403                            BEQ     .+10
 (3)  016002  004767  001102                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;QUOTIENT IS WRONG
 (3)  016006  000427                            427
 (1)
 (1)  016010  022701  000001                    CMP     #1,%0+1         ;IS REMAINDER = 1
 (1)  016014  001403                            BEQ     .+10
 (3)  016016  004767  001066                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;WRONG REMAINDER
 (3)  016022  000430                            430
 (1)  016024  021527  000304                    CMP     (R5),#304
 (1)  016030  001403                            BEQ     .+10
 (3)  016032  004767  001052                    JSR     PC,$HLT         ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)                                                                    ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  016036  000431                            431
 (1)  016040  005215                            INC     (R5)
 (1)
```

```
6149                                    ;*****************************************************************************
 (1)                                    ;TEST:305      DIV     0 52525 / @(4)+ = 25252       REM = 1      PS = 0
 (1)                                    ;*****************************************************************************
 (1)
 (1)  016042  010701                    TST305: SCOPE
 (1)  016044  012700  000000                    MOV     #0,%0           ;LOAD HIGH ORDER WITH 0
 (1)  016050  012701  052525                    MOV     #52525,%0+1     ;LOAD LOW ORDER WITH 52525
 (1)  016054  071034                            DIV     @(4)+,%0        ;DIVIDE BY @(4)+
 (2)  016056                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  016056  106737                            .WORD   106700!..C
 (1)
 (1)  016062  122737  000000  000432            CMPB    #0,@#PSWORD     ;IS PS = 0
 (1)  016070  001403                            BEQ     .+10
 (3)  016072  004767  001012                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  016076  000432                            432
 (1)
 (1)  016100  022700  025252                    CMP     #25252,%0       ;IS QUOTIENT = 25252
 (1)  016104  001403                            BEQ     .+10
 (3)  016106  004767  000776                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;QUOTIENT IS WRONG
 (3)  016112  000433                            433
 (1)
 (1)  016114  022701  000001                    CMP     #1,%0+1         ;IS REMAINDER = 1
 (1)  016120  001403                            BEQ     .+10
 (3)  016122  004767  000762                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;WRONG REMAINDER
 (3)  016126  000434                            434
 (1)  016130  021527  000305                    CMP     (R5),#305
 (1)  016134  001403                            BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  016136  004767  000746                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  016142  000435                            435
 (1)  016144  005215                            INC     (R5)
 (1)
```

```
6150                                    ;*****************************************************************************
 (1)                                    ;TEST:306      DIV     0 52525 / @-(4) = 25252       REM = 1      PS = 0
 (1)                                    ;*****************************************************************************
 (1)
 (1)  016146  010701                    TST306: SCOPE
 (1)  016150  012700  000000                    MOV     #0,%0           ;LOAD HIGH ORDER WITH 0
 (1)  016154  012701  052525                    MOV     #52525,%0+1     ;LOAD LOW ORDER WITH 52525
 (1)  016160  071054                            DIV     @-(4),%0        ;DIVIDE BY @-(4)
 (2)  016162                                    MFPS    @#PSWORD        ;SAVE PS
 (2)  016162  106737                            .WORD   106700!..C
 (1)
 (1)  016166  122737  000000  000432            CMPB    #0,@#PSWORD     ;IS PS = 0
 (1)  016174  001403                            BEQ     .+10
 (3)  016176  004767  000706                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;PS IS WRONG
 (3)  016202  000436                            436
 (1)
 (1)  016204  022700  025252                    CMP     #25252,%0       ;IS QUOTIENT = 25252
 (1)  016210  001403                            BEQ     .+10
 (3)  016212  004767  000672                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;QUOTIENT IS WRONG
 (3)  016216  000437                            437
 (1)
 (1)  016220  022701  000001                    CMP     #1,%0+1         ;IS REMAINDER = 1
 (1)  016224  001403                            BEQ     .+10
 (3)  016226  004767  000656                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;WRONG REMAINDER
 (3)  016232  000440                            440
 (1)  016234  021527  000306                    CMP     (R5),#306
 (1)  016240  001403                            BEQ     .+10            ;IF IN WRONG SEQUENCE GO TO THE HLT
 (3)  016242  004767  000642                    JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                    ;TEST IS IN WRONG SEQUENCE
 (3)  016246  000441                            441
 (1)  016250  005215                            INC     (R5)
 (1)
```

```
6154                                    ;*****************************************************************
 (1)                                    ;TEST:307       TEST THAT EIS ABORTS PROPERLY WHEN INTERUPTED
 (2)                                    ;*****************************************************************
 (1)
 (1)  016252  132737  000040  000421  TST307: BITB    #40,@#$ENVM     ;IF TYPE OUTS HAS BEEN SUPPRESSED
 (1)  016260  001100                          BNE     EASH+2          ;THEN SKIP THIS TEST
 (1)  016262  013702  000502                  MOV     @#TTYOUT,R2
 (1)  016266  012722  016340                  MOV     #RTA307,(R2)+   ;SET INTERUPT VECTOR TO RTA307
 (1)  016272  012712  000340                  MOV     #340,(R2)       ;AND THE INTERUPT PSW AS 340
 (2)  016276                                  MTPS    #0
 (2)  016276  106427                          .WORD   106400!..C
 (1)  016302  012737  000030  000434          MOV     #30,@#TEMP1     ;PREPARE TO EXECUTE THIS SUB TEST 30 TIMES
 (1)  016310  005004                          CLR     R4
 (1)  016312  112777  000015  162164          MOVB    #15,@$TPB       ;OUT PUT A "CR"
 (1)  016320  112777  000100  162160          MOVB    #100,@$TPS      ;ENABLE TTY INTERUPT
 (1)  016326  052704  000001          RTASH:  BIS     #1,R4           ;PLACE A 1 IN R4
 (1)  016332  072427  000020          ASHA:   ASH     #16.,R4         ;SHIFT R4 FOR 16 TIMES
 (1)  016336  000773                          BR      RTASH           ;STAY IN THE LOOP UNTIL INTERUPTED
 (1)  016340  105077  162142          RTA307: CLR3    @$TPS           ;CLEAR TTY INTERUPT
 (1)  016344  022716  016332                  CMP     #ASHA,(SP)      ;IS THE RETURN ADDRESS = ASHA
 (1)  016350  001415                          BEQ     4$              ;IF SO THEN GO TO 4$
 (1)  016352  012777  000015  162124  1$:     MOV     #15,@$TPB       ;OTHERWISE OUT PUT A "CR"
 (1)  016360  105777  162122          2$:     TSTB    @$TPS           ;LOOP HERE UNTIL DONE COMES ON
 (1)  016364  100375                          BPL     2$
 (1)  016366  012777  000015  162110          MOV     #15,@$TPB       ;OUT PUT ANOTHER "CR"
 (1)  016374  012777  000100  162104          MOV     #100,@$TPS      ;ENABLE TTY INTERUPT
 (1)  016402  000002                          RTI
 (1)  016404  020427  000001          4$:     CMP     R4,#1           ;CHECK R4 TO CONTAIN PROPER DATA
 (1)  016410  001403                          BEQ     6$
 (3)  016412  004767  000472                  JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                  ;R4 WAS CHANGED DURING THE EXECUTION OF
 (3)  016416  000442                          442
 (1)                                                                  ;THE INSTRUCTION
 (1)  016420  032766  000360  000002  6$:     BIT     #360,2(SP)      ;CHECK THE PSW BEFORE INTERUPT
 (1)  016426  001406                          BEQ     8$
 (3)  016430  004767  000454                  JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                  ;PSW IS WRONG
 (3)  016434  000443                          443
 (1)  016436  042766  000020  000002          BIC     #20,2(SP)       ;CLEAR THE T-BIT IF IT IS SET
 (1)  016444  005337  000434          8$:     DEC     @#TEMP1
 (1)  016450  001340                          BNE     1$              ;IF THE SUB TEST HAS BEEN EXECUTED 30 TIMES
 (1)                                                                  ;THEN GO TO THE END OF THE TEST
 (1)
 (1)  016452  010277  162024                  MOV     R2,@TTYOUT      ;RESTORE TTY INTERUPT VECTOR
 (1)  016456  005012                          CLR     (R2)
 (1)  016460  022626                  EASH:   CMP     (SP)+,(SP)+     ;RESTORE THE STACK POINTER
 (1)  016462  021527  000307                  CMP     (R5),#307       ;CHECK THE TEST NUMBER
 (1)  016466  001403                          BEQ     .+10
 (3)  016470  004767  000414                  JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
 (3)                                                                  ;TEST IS IN WRONG SEQUENCE
 (3)  016474  000444                          444
 (1)  016476  005215                          INC     (R5)
```

```
 6156                                   ;*****************************************************************
  (1)                                   ;TEST:310       TEST THAT EIS ABORTS PROPERLY WHEN INTERUPTED
  (2)                                   ;*****************************************************************
  (1)
  (1)  016500  132737  000040  000421  TST310: BITB    #40,@#$ENVM     ;IF TYPE OUTS HAS BEEN SUPPRESSED
  (1)  016506  001116                         BNE     EMUL+2          ;THEN SKIP THIS TEST
  (1)  016510  013702  000502                 MOV     @#TTYOUT,R2
  (1)  016514  012722  016572                 MOV     #RTA310,(R2)+   ;SET INTERUPT VECTOR TO RTA310
  (1)  016520  012712  000340                 MOV     #340,(R2)       ;AND THE INTERUPT PSW AS 340
  (2)  016524                                 MTPS    #10
  (2)  016524  106427                         .WORD   106400!..C
  (1)  016530  012737  000030  000434         MOV     #30,@#TEMP1     ;PREPARE TO EXECUTE THIS SUB TEST 30 TIMES
  (1)  016536  012704  077777                 MOV     #77777,R4       ;PLACE THE MULTIPLIER IN R4
  (1)  016542  012700  177777                 MOV     #-1,R0          ;AND THE MULTIPLICAND IN R0
  (1)  016546  012701  100001                 MOV     #100001,R1      ;AND THE LOWER PART OF THE RESULT IN R1
  (1)  016552  112777  000015  161724         MOVB    #15,@$TPB       ;OUT PUT A "CR"
  (1)  016560  112777  000100  161720         MOVB    #100,@$TPS      ;ENABLE TTY INTERUPT
  (1)  016566  070004                 RTMUL:  MUL     R4,R0           ;MULTIPLY R0 BY R4
  (1)  016570  000776                         BR      RTMUL           ;STAY IN THE LOOP UNTIL INTERUPTED
  (1)  016572  105077  161710         RTA310: CLRB    @$TPS           ;CLEAR TTY INTERUPT
  (1)  016576  022716  016566                 CMP     #RTMUL,(SP)     ;IS THE RETURN ADDRESS = RTMUL
  (1)  016602  001415                         BEQ     4$              ;IF SO THEN GO TO 4$
  (1)  016604  012777  000015  161672  1$:    MOV     #15,@$TPB       ;OTHERWISE OUT PUT A "CR"
  (1)  016612  105777  161670         2$:    TSTB    @$TPS           ;LOOP HERE UNTIL DONE COMES ON
  (1)  016616  100375                         BPL     2$
  (1)  016620  012777  000015  161656         MOV     #15,@$TPB       ;OUT PUT ANOTHER "CR"
  (1)  016626  012777  000100  161652         MOV     #100,@$TPS      ;ENABLE TTY INTERUPT
  (1)  016634  000002                         RTI
  (1)  016636  020427  077777         4$:    CMP     R4,#77777       ;CHECK R4 TO CONTAIN PROPER DATA
  (1)  016642  001403                         BEQ     6$
  (3)  016644  004767  000240                 JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                 ;R4 WAS CHANGED DURING THE EXECUTION OF
  (3)  016650  000445                         445
  (1)                                                                 ;THE INSTRUCTION
  (1)  016652  020027  177777         6$:    CMP     R0,#-1          ;CHECK R0 TO CONTAIN PROPER DATA
  (1)  016656  001403                         BEQ     8$
  (3)  016660  004767  000224                 JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                 ;R0 CONTAINS WRONG VALUE
  (3)  016664  000446                         446
  (1)  016666  020127  100001         8$:    CMP     R1,#100001      ;CHECK R1 FOR THE PROPER DATA
  (1)  016672  001403                         BEQ     10$
  (3)  016674  004767  000210                 JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                 ;R1 CONTAINS WRONG VALUE
  (3)  016700  000447                         447
  (1)  016702  032766  000360  000002  10$:    BIT     #360,2(SP)      ;CHECK THE PSW BEFORE INTERUPT
  (1)  016710  001406                         BEQ     12$
  (3)  016712  004767  000172                 JSR     PC,$HLT         ;SEEN AN ERROR, GO TO TH HALT ROUTINE
  (3)                                                                 ;PSW IS WRONG
  (3)  016716  000450                         450
  (1)  016720  042766  000020  000002         BIC     #20,2(SP)       ;CLEAR THE T-BIT IF IT IS SET
  (1)  016726  005337  000434         12$:    DEC     @#TEMP1
  (1)  016732  001324                         BNE     1$              ;IF THE SUB TEST HAS BEEN EXECUTED 30 TIMES
  (1)                                                                 ;THEN GO TO THE END OF THE TEST
  (1)
  (1)  016734  010277  161542                 MOV     R2,@TTYOUT      ;RESTORE TTY INTERUPT VECTOR
  (1)  016740  005012                         CLR     (R2)
```

```
(1)  016742  022626                    EMUL:  CMP   (SP)+,(SP)+   ;RESTORE THE STACK POINTER
(1)  016744  021527  000310                 CMP   (R5),#310     ;CHECK THE TEST NUMBER
(1)  016750  001403                         BEQ   .+10
(3)  016752  004767  000132                 JSR   PC,$HLT       ;SEEN AN ERROR, GO TO TH HALT ROUTINE
(3)                                                             ;TEST IS IN WRONG SEQUENCE
(3)  016756  000451                         451
(1)  016760  005215                         INC   (R5)
```

```
 6158                                   ;*****************************************************************
  (1)
  (1)                                   .SBTTL  END OF PASS ROUTINE
  (1)
  (1)                                   ;*INCREMENT THE PASS NUMBER ($PASS)
  (1)                                   ;*TYPE "END PASS"
  (1)                                   ;*IF THERES A MONITOR GO TO IT
  (1)                                   ;*IF THERE ISN'T JUMP TO BEGIN
  (1)                                   ;*IF IT IS DESIRED TO HAVE A BELL INDICATE THE "END OF PASS" LOCATION
  (1)                                   ;*$ENDMG CAN BE CHANGED TO 7.
  (1)
  (1)  016762                           $EOP:
  (1)  016762  010701                           SCOPE
  (1)  016764  005267  161416                   INC     $PASS           ;;INCREMENT THE PASS NUMBER
  (1)  016770  042767  100000  161410           BIC     #100000,$PASS   ;;DON'T ALLOW A NEG. NUMBER
  (1)  016776  005327                           DEC     (PC)+           ;;LOOP?
  (1)  017000  000001                   $EOPCT: .WORD   1
  (1)  017002  003015                           BGT     $DOAGN          ;;YES
  (1)  017004  012737                           MOV     (PC)+,@(PC)+    ;;RESTORE COUNTER
  (1)  017006  000001                   $ENDCT: .WORD   1
  (1)  017010  017000                           $EOPCT
  (1)  017012  000004  017042                   TYPE    ,$ENDMG         ;;TYPE "END PASS"
  (1)  017016                           $GET42:
  (1)
  (1)  017016  013700  000042                   MOV     @#42,R0         ;;GET MONITOR ADDRESS
  (1)  017022  001405                           BEQ     $DOAGN          ;;BRANCH IF NO MONITOR
  (1)  017024  000005                           RESET                   ;;CLEAR THE WORLD
  (1)  017026  004710                   $ENDAD: JSR     PC,(R0)         ;;GO TO MONITOR
  (1)  017030  000240                           NOP                     ;;SAVE ROOM
  (1)  017032  000240                           NOP                     ;;FOR
  (1)  017034  000240                           NOP                     ;;ACT11
  (1)  017036                           $DOAGN:
  (1)  017036  000137  000600                   JMP     @#BEGIN         ;;RETURN
  (1)  017042  005015  047105  020104   $ENDMG: .ASCII  <15><12>/END PASS/
  (1)  017050  040520  051523
  (1)  017054     377     377     000   $ENULL: .BYTE   -1,-1,0          ;;NULL CHARACTER STRING
  (1)          017060                           .EVEN
 6159
 6164  017006  000004                   ENDCT:  4
 6168
 6169
 6170                                   ;*****************************************************************
 6171
 6172                                   .SBTTL  POWER FAIL ROUTINE
 6173
 6174  017060  012737  017070  000024   $PWRDN: MOV     #$PWRUP,@#24
 6175  017066  000000                           HALT
 6176
 6177  017070  012706  000600           $PWRUP: MOV     #BEGIN,SP       ;RESTORE THE SP
 6178  017074  012737  017060  000024           MOV     #$PWRDN,@#24
 6179  017102  000004  000516                   TYPE    ,POWER          ;GO AND TYPE "POWER"
 6180  017106  000753                           BR      $DOAGN
```

```
6185
6186                                    ;*      HALT ROUTINE
6187                                    ;*      ------------
6188                                    ;*
6189                                    ;*
6190                                    ;*      PROGRAM COMES HERE ON ENCOUNTERING ANY ERROR
6191                                    ;*
6192
6193  017110  017637  000000  000402  $HLT:   MOV     @(SP),@#$FATAL  ;PLACE THE ERROR NUMBER AT LOCATION $FATAL
6194  017116  032737  020000  000422          BIT     #20000,@#$SWREG ;HAS THE OPERATOR ASKED TO SUPRESS ERROR TYPE OUTS
6195  017124  001046                          BNE     6$
6196  017126  000004  000510                  TYPE    ,$CRLF          ;GO AND TYPE A CR, LF, FOLLOWED BY 3 SPACES
6197  017132  010046                          MOV     R0,-(SP)        ;SAVE R0
6198  017134  112767  000002  161307          MOVB    #2,$TPCNT       ;ALLOW TYPE OUTS OF PC AND ERROR NUMBER
6199  017142  016600  000002                  MOV     2(SP),R0        ;BRING THE RETURN PC IN R0
6200  017146  162700  000004                  SUB     #4,R0
6201  017152  112737  000006  000450  2$:     MOVB    #6,@#TYPCNT     ;ALLOW TYPE OUT OF 6 DIGITS
6202  017160  005046                          CLR     -(SP)
6203  017162  000241                  4$:     CLC
6204  017164  006100                          ROL     R0
6205  017166  006116                          ROL     (SP)            ;BRING THE C BIT FROM R0 IN (SP)
6206  017170  052716  000060                  BIS     #60,(SP)        ;PREPARE TO TYPE IT OUT
6207  017174  004767  000130                  JSR     PC,$TPCHR       ;AND GO TO OUT PUT A CHARACTER
6208  017200  005016                          CLR     (SP)
6209  017202  006100                          ROL     R0
6210  017204  006116                          ROL     (SP)
6211  017206  006100                          ROL     R0
6212  017210  006116                          ROL     (SP)
6213  017212  105367  161232                  DECB    TYPCNT          ;HAS ALL THE SIX CHARACTERS BEEN TYPED ?
6214  017216  001361                          BNE     4$              ;IF NOT THEN REPEAT FROM 4$
6215  017220  005726                          TST     (SP)+           ;RESTORE STACK POINTER
6216  017222  017600  000002                  MOV     @2(SP),R0       ;PREPARE TO OUT PUT THE ERROR NUMBER
6217  017226  000004  000512                  TYPE    ,$CRLF+2        ;GO AND TYPE 3 SPACES
6218  017232  105367  161213                  DECB    $TPCNT          ;IF BOTH PC AND ERROR NUMBER HAS NOT BEEN
6219  017236  001345                          BNE     2$              ;REPORTED THEN REPEAT FROM 2$
6220  017240  012600                          MOV     (SP)+,R0        ;RESTORE R0
6221  017242  105767  161152          6$:     TSTB    $ENV            ;IF WE ARE NOT UNDER APT. THEN GO TO
6222  017246  001403                          BEQ     8$              ;8$
6223  017250  005237  000400                  INC     @#$MSGTY        ;OTHERWISE INFORM APT. ABOUT SEEING THE ERROR
6224  017254  000777                          BR      .               ;AND LOOP
6225  017256  005737  000422          8$:     TST     @#$SWREG        ;IS IT REQUIRED TO HALT ON ERROR ?
6226  017262  100001                          BPL     10$             ;IF NOT THEN GO TO 10$
6227  017264  000000                          HALT
6228  017266  062716  000002          10$:    ADD     #2,(SP)         ;ADJUST THE RETURN ADDRESS
6229  017272  000207                          RTS     PC              ;AND RETURN
```

```
                                        ;*      TYPE OUT ROUTINE
                                        ;*      ----------------
                                        ;*
                                        ;*
                                        ;*      THIS ROUTINE IS USED TO TYPE ASCIZ MESSAGES
                                        ;*
                                $TYPE:  MOV     R0,-(SP)        ;SAVE R0
                                        MOV     @2(SP),R0       ;GET THE ADDRESS OF THE ASSCIZ STRING
                                2$:     MOVB    (R0)+,-(SP)     ;PUSH THE CHARACTER TO BE TYPED ONTO STACK
                                        BNE     4$              ;BRANCH IF IT IS NOT THE TERMINATOR
                                        TST     (SP)+
                                        MOV     (SP)+,R0        ;OTHERWISE RESTORE THE STACK AND R0
                                3$:     ADD     #2,(SP)         ;ADJUST THE RETURN PC
                                        RTI                     ;AND RETURN

                                4$:     JSR     PC,$TPCHR       ;GO TO TYPE A CHARACTER
                                        TST     (SP)+           ;RESTORE THE STACK POINTER
                                        BR      2$              ;AND RETURN TO 2$

                                $TPCHR: BITB    #40,@#$ENVM     ;HAS THE CONSOLE OUTPUTS BEEN SUPPRESSED?
                                        BNE     4$              ;IF SO THEN RETURN FROM THE SUBROUTINE VIA 4$
                                2$:     TSTB    @$TPS           ;IS THE PRINTER AVAILABLE?
                                        BPL     2$              ;IF NOT THEN LOOP HERE
                                        MOVB    2(SP),@$TPB     ;OUT PUT THE CHARACTER
                                4$:     RTS     PC
                                .END
```

```
A      = 017060          6161#   6166
ABASE  = 000000          4990
ACDW1  = 000000          4990
ACDW2  = 000000          4990
ACPUOP= 000000           4990
ADDW0  = 000000          4990
ADDW1  = 000000          4990
ADDW10= 000000           4990
ADDW11= 000000           4990
ADDW12= 000000           4990
ADDW13= 000000           4990
ADDW14= 000000           4990
ADDW15= 000000           4990
ADDW2  = 000000          4990
ADDW3  = 000000          4990
ADDW4  = 000000          4990
ADDW5  = 000000          4990
ADDW6  = 000000          4990
ADDW7  = 000000          4990
ADDW8  = 000000          4990
ADDW9  = 000000          4990
ADEVCT= 000000           4990
ADEVM  = 000000          4990
AENV   = 000000          4990
AENVM  = 000000          4990
AFATAL= 000000           4990
AMADR1= 000000           4990
AMADR2= 000000           4990
AMADR3= 000000           4990
AMADR4= 000000           4990
AMAMS1= 000000           4990
AMAMS2= 000000           4990
AMAMS3= 000000           4990
AMAMS4= 000000           4990
AMSGAD= 000000           4990
AMSGLG= 000000           4990
AMSGTY= 000000           4990
AMTYP1= 000000           4990
AMTYP2= 000000           4990
AMTYP3= 000000           4990
AMTYP4= 000000           4990
APASS  = 000000          4990
APRIOR= 000000           4990
ASHA     016332          6154#
ASWREG= 000000           4990
ATESTN= 000000           4990
AUNIT  = 000000          4990
AUSWR  = 000000          4990
AVECT1= 000000           4990
AVECT2= 000000           4990
BEGIN    000600          5348    5352#   5355    6158    6177
COUNT    000430          4995#   4996    5353*   5411*   5415    5447*   5451    5482*   5486    5517*   5521    5553*   5558
                         5590*   5594    5705*   5734*   5743    5777*   5785    5820*   5828
DUMMY  = 000000          4970#   5943    5944    5945    5946    5947    5948    5949
EASH     016460          6154#
EMUL     016742          6156#
```

```
ENDCT   017006          6164#
ENT176  005030          5930    5937#
ENT51   002422          5667    5671#
ERRNM = 000452          4971#   5410#   5414#   5446#   5450#   5481#   5485#   5516#   5520#   5552#   5556#   5589#   5593#
                        5673#   5679#   5680#   5681#   5682#   5683#   5684#   5685#   5686#   5687#   5688#   5733#   5737#
                        5741#   5745#   5776#   5780#   5784#   5787#   5819#   5823#   5827#   5830#   5939#   5943#   5944#
                        5945#   5946#   5947#   5948#   5949#   5950#   5956#   5957#   5958#   5959#   5960#   5961#   5962#
                        5963#   5964#   5965#   6078#   6079#   6080#   6081#   6082#   6083#   6084#   6085#   6086#   6087#
                        6088#   6089#   6090#   6091#   6092#   6093#   6094#   6095#   6100#   6101#   6102#   6103#   6104#
                        6105#   6106#   6107#   6108#   6109#   6120#   6121#   6122#   6123#   6124#   6125#   6126#   6127#
                        6128#   6129#   6130#   6131#   6132#   6133#   6134#   6135#   6136#   6141#   6142#   6143#   6144#
                        6145#   6146#   6147#   6148#   6149#   6150#   6154#   6156#
F       = 000063        4972#   5679#   5680#   5681#   5682#   5683#   5684#   5685#   5686#   5687#   5688#
N       = 000311        4973#   5943#   5944#   5945#   5946#   5947#   5948#   5949#   5950#   5956#   5957#   5958#   5959#
                        5960#   5961#   5962#   5963#   5964#   5965#   6078#   6079#   6080#   6081#   6082#   6083#   6084#
                        6085#   6086#   6087#   6088#   6089#   6090#   6091#   6092#   6093#   6094#   6095#   6100#   6101#
                        6102#   6103#   6104#   6105#   6106#   6107#   6108#   6109#   6120#   6121#   6122#   6123#   6124#
                        6125#   6126#   6127#   6128#   6129#   6130#   6131#   6132#   6133#   6134#   6135#   6136#   6141#
                        6142#   6143#   6144#   6145#   6146#   6147#   6148#   6149#   6150#   6154#   6156#
NEGAT   002022          5427    5462    5497    5532    5569    5605    5609#
PC    =%000007          4974#   5410*   5414*   5428*   5446*   5450*   5463*   5481*   5485*   5498*   5516*   5520*   5533*
                        5552*   5556*   5570*   5589*   5593*   5607*   5619*   5623*   5627*   5634*   5640*   5646*   5652*
                        5659*   5665*   5670*   5673*   5679*   5680*   5681*   5682*   5683*   5684*   5685*   5686*   5687*
                        5688*   5733*   5737*   5741*   5745*   5776*   5780*   5784*   5787*   5819*   5823*   5827*   5830*
                        5939*   5943*   5944*   5945*   5946*   5947*   5948*   5949*   5950*   5956*   5957*   5958*   5959*
                        5960*   5961*   5962*   5963*   5964*   5965*   6078*   6079*   6080*   6081*   6082*   6083*   6084*
                        6085*   6086*   6087*   6088*   6089*   6090*   6091*   6092*   6093*   6094*   6095*   6100*   6101*
                        6102*   6103*   6104*   6105*   6106*   6107*   6108*   6109*   6120*   6121*   6122*   6123*   6124*
                        6125*   6126*   6127*   6128*   6129*   6130*   6131*   6132*   6133*   6134*   6135*   6136*   6141*
                        6142*   6143*   6144*   6145*   6146*   6147*   6148*   6149*   6150*   6154*   6156*   6158*   6207*
                        6229*   6251*   6260*
POWER   000516          5027#   6179
PSWORD  000432          4997#   4998    5404*   5408    5440*   5444    5475*   5479    5510*   5514    5546*   5550    5583*
                        5587    5679*   5680*   5681*   5682*   5683*   5684*   5685*   5686*   5687*   5688*   5727*   5731
                        5770*   5774    5813*   5817    5943*   5944*   5945*   5946*   5947*   5948*   5949*   5950*   5956*
                        5957*   5958*   5959*   5960*   5961*   5962*   5963*   5964*   5965*   6078*   6079*   6080*   6081*
                        6082*   6083*   6084*   6085*   6086*   6087*   6088*   6089*   6090*   6091*   6092*   6093*   6094*
                        6095*   6100*   6101*   6102*   6103*   6104*   6105*   6106*   6107*   6108*   6109*   6120*   6121*
                        6122*   6123*   6124*   6125*   6126*   6127*   6128*   6129*   6130*   6131*   6132*   6133*   6134*
                        6135*   6136*   6141*   6142*   6143*   6144*   6145*   6146*   6147*   6148*   6149*   6150*
REG01   003444          5713#   5843
REG1    001042          5426    5429#
REG2    001204          5461    5464#
REG23   003646          5754    5757#
REG3    001346          5496    5499#
REG4    001506          5531    5534#
REG45   004044          5796    5799#
REG5    001652          5568    5571#
RESTRT  000222          5348#
RITSH   004252          5755    5797    5841    5844#
RTASH   016326          6154#
RTA307  016340          6154#
RTA310  016572          6156#
RTMUL   016566          6156#
R0    =%000000          5344*   5345*   5346    5365*   5366*   5367*   5368*   5398*   5576*   5577    5721*   5806*   5807
                        6156*   6158*   6197    6199*   6200*   6204*   6209*   6211*   6216*   6220*   6242    6243*   6244
```

```
                        6247*
R1      =%000001        5396*  5398   5434*  5536*  5557   5572*  5594   5596   5800*  5828   5831   5945*  5948*
                        6081*  6084*  6088*  6092*  6095*  6122*  6125*  6129*  6132*  6135*  6156*
R2      =%000002        5433*  5434   5469*  5714*  5742   5764*  6154*  6156*
R3      =%000003        5468*  5469   5504*
R4      =%000004        5503*  5504   5540*  5755*  5763*  5764   5797*  5807*  5841*  5844   5850*  6154*  6156*
R5      =%000005        5352*  5354*  5415   5418*  5420   5425   5451   5453*  5455   5460   5486   5488*  5490
                        5495   5521   5523*  5525   5530   5536   5539*  5540   5557*  5558   5560*  5562   5567
                        5572   5577*  5596*  5597*  5599   5604   5613   5620   5624   5628   5635   5641   5647
                        5653   5660   5666   5671   5679*  5630*  5681*  5682*  5683*  5684*  5685*  5686*  5687*
                        5688*  5714   5720*  5721   5742*  5743   5746*  5747   5753   5785   5788*  5789   5795
                        5800   5831*  5832*  5833   5839   5851   5857   5861   5865   5873   5880   5885   5891
                        5899   5904   5910   5915   5922   5929   5937   5943*  5944*  5945*  5946*  5947*  5949*
                        5949*  5950*  5956*  5957*  5958*  5959*  5960*  5961*  5962*  5963*  5964*  5965*  6078*
                        6079*  6080*  6081*  6082*  6083*  6084*  6085*  6086*  6087*  6088*  6089*  6090*  6091*
                        6092*  6093*  6094*  6095*  6100*  6101*  6102*  6103*  6104*  6105*  6106*  6107*  6108*
                        6109*  6120*  6121*  6122*  6123*  6124*  6125*  6126*  6127*  6128*  6129*  6130*  6131*
                        6132*  6133*  6134*  6135*  6136*  6141*  6142*  6143*  6144*  6145*  6146*  6147*  6148*
                        6149*  6150*  6154*  6156*
SCOPE = 010701          4976*  6078   6079   6080   6081   6082   6083   6084   6085   6086   6087   6088   6089
                        6090   6091   6092   6093   6094   6095   6100   6101   6102   6103   6104   6105   6106
                        6107   6108   6109   6120   6121   6122   6123   6124   6125   6126   6127   6128   6129
                        6130   6131   6132   6133   6134   6135   6136   6141   6142   6143   6144   6145   6146
                        6147   6148   6149   6150   6158
SCOPE1= 010701          4977*  5392   5419   5464   5489   5499   5524   5561   5571   5598   5679   5680   5681
                        5682   5683   5684   5685   5686   5687   5688   5757   5799   5943   5944   5945   5946
                        5947   5948   5949   5950   5956   5957   5958   5959   5960   5961   5962   5963   5964
                        5965
SCOPE3= 010703          4978*  5429   5454   5534   5713
SP      =%000006        4975*  5355*  5675   5941   6154*  6156*  6177*  6193   6197*  6199   6202*  6205*  6206*
                        6208*  6210*  6212*  6215   6216   6220   6228*  6242*  6243   6244*  6246   6247   6248*
                        6252   6259
START   000700          5392*  5608   5612
SW09  = 001000          4979*
SW10  = 002000          4980*
SW11  = 004000          4981*
SW12  = 010000          4982*
S0      000452          5011*
S1      000454          5012*  5013   5677   5681   5953   5956   5958
S10     000476          5021*  6139   6142
S11     000500          5022*
S2      000456          5013*  5678   5680   5954   5957
S3      000460          5014*
S4      000462          5015*
S5      000464          5016*  5017   6097   6100   6102
S6      000466          5017*  6098   6101
S7      000470          5018*
S8      000472          5019*
S9      000474          5020*  5021   6138   6141   6143
TEMP1   000434          4999*  5000   5369*  5393   5430   5465   5500   5535   5573   5609*  5615*  5630*  5637*
                        5655*  5668*  5706*  5715   5758   5801   5845*  5853*  5867*  5875*  5882*  5887*  5893*
                        5924*  5931*  6154*  6156*
TEMP2   000436          5001*  5002   5370*  5396   5400   5423*  5433   5436   5458*  5468   5471   5493*  5503
                        5506   5528*  5539   5542   5565*  5576   5579   5602*  5610*  5616*  5622*  5626*  5631*
                        5638*  5643*  5649*  5656*  5662*  5707*  5716   5759   5802   5846*  5894*  5901*  5912*
                        5917*  5925*  5932*
```

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TEMP3   000440          5003#   5004    5371#   5412    5424#   5448    5459#   5483    5494#   5518    5529#   5554    5566#
                        5591    5603#   5611#   5617#   5632#   5639#   5644#   5650#   5657#   5663#   5708#   5720    5723
                        5749#   5763    5766    5791#   5806    5809    5835#   5847#   5859#   5863#   5868#   5888#   5895#
                        5906#   5913#   5918#   5933#
TEMP4   000442          5005#   5006    5372#   5408    5444    5479    5514    5550    5587    5618#   5633#   5645#   5651#
                        5658#   5664#   5669#   5709#   5735    5752#   5778    5794#   5821    5838#   5948#   5854#   5869#
                        5876#   5902#   5907#   5919#   5934#
TEMP5   000444          5007#   5710#   5738    5751#   5781    5793#   5824    5837#   5849#   5870#   5877#   5883#   5896#
                        5920#   5926#
TEMP6   000446          5008#   5711#   5731    5774    5817    5855#   5871#   5878#   5889#   5897#   5908#   5927#   5935#
TST160  004306          5756    5798    5842    5851#
TST161  004334          5852    5857#
TST162  004352          5858    5861#
TST163  004370          5862    5865#
TST164  004432          5866    5873#
TST165  004470          5874    5880#
TST166  004514          5881    5885#
TST167  004544          5886    5891#
TST170  004602          5892    5899#
TST171  004626          5900    5904#
TST172  004654          5905    5910#
TST173  004676          5911    5915#
TST174  004734          5916    5922#
TST175  004770          5923    5929#
TST176  005046          5943#
TST177  005142          5944#
TST200  005236          5945#
TST201  005336          5946#
TST202  005432          5947#
TST203  005526          5948#
TST204  005626          5949#
TST205  005722          5950#
TST206  006046          5956#
TST207  006150          5957#
TST210  006252          5958#
TST211  006354          5959#
TST212  006454          5960#
TST213  006554          5961#
TST214  006654          5962#
TST215  006756          5963#
TST216  007060          5964#
TST217  007160          5965#
TST220  007260          6078#
TST221  007354          6079#
TST222  007450          6080#
TST223  007544          6081#
TST224  007644          6082#
TST225  007740          6083#
TST226  010034          6084#
TST227  010134          6085#
TST230  010230          6086#
TST231  010324          6087#
TST232  010420          6088#
TST233  010520          6089#
TST234  010614          6090#
TST235  010710          6091#
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TST236  011004          6092#
TST237  011104          6093#
TST240  011200          6094#
TST241  011274          6095#
TST242  011410          6100#
TST243  011504          6101#
TST244  011600          6102#
TST245  011674          6103#
TST246  011766          6104#
TST247  012060          6105#
TST250  012152          6106#
TST251  012246          6107#
TST252  012342          6108#
TST253  012434          6109#
TST254  012526          6120#
TST255  012634          6121#
TST256  012742          6122#
TST257  013054          6123#
TST260  013162          6124#
TST261  013270          6125#
TST262  013402          6126#
TST263  013510          6127#
TST264  013616          6128#
TST265  013724          6129#
TST266  014036          6130#
TST267  014144          6131#
TST270  014252          6132#
TST271  014364          6133#
TST272  014472          6134#
TST273  014600          6135#
TST274  014670          6136#
TST275  014770          6141#
TST276  015076          6142#
TST277  015204          6143#
TST300  015312          6144#
TST301  015416          6145#
TST302  015522          6146#
TST303  015626          6147#
TST304  015734          6148#
TST305  016042          6149#
TST306  016146          6150#
TST307  016252          6154#
TST310  016500          6156#
TST37   002050          5428    5463    5498    5533    5570    5607    5613#
TST40   002104          5614    5620#
TST41   002120          5621    5624#
TST42   002136          5625    5628#
TST43   002172          5629    5635#
TST44   002224          5636    5641#
TST45   002256          5642    5647#
TST46   002310          5648    5653#
TST47   002346          5654    5660#
TST50   002376          5661    5666#
TST51   002454          5679#
TST52   002534          5680#
TST53   002614          5681#
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TST54   002674          5682#
TST55   002752          5683#
TST56   003030          5684#
TST57   003106          5685#
TST60   003166          5686#
TST61   003246          5687#
TST62   003324          5688#
TTYOUT  000502          5023#   6154*   6156*
TYPCNT  000450          5009#   6201*   6213*
TYPE    = 000004        4983#   6158    6179    6196    6217
$APTHD  000430          4992#   4994
$CPUOP  000426          4990#
$CRLF   000510          5026#   6196    6217
$DEVCT  000410          4990#   5344
$DOAGN  017036          6158#   6180
$ENDAD  017026          4968    6158#
$ENDCT  017006          6158#   6162
$ENDMG  017042          6158#
$ENULL  017054          6158#
$ENV    000420          4990#   5363    6221
$ENVM   000421          4990#   6154    6156    6255
$EOP    016762          6158#
$EOPCT  017000          6158#
$ETABL  000420          4990#
$ETEND  000430          4990#   4992
$FATAL  000402          4990#   6193*
$GET42  017016          6158#
$HD     = 000003        4951
$HIBTS  000430          4992#
$HLT    017110          5410    5414    5446    5450    5481    5485    5516    5520    5552    5556    5589    5593    5673
                        5679    5680    5681    5682    5683    5684    5685    5686    5687    5688    5733    5737    5741
                        5745    5776    5780    5784    5787    5819    5823    5827    5830    5939    5943    5944    5945
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$MSG2D  000414          4990#
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$PASS   000406          4990#   5394    5431    5466    5501    5537    5574    5718    5761    5804    6159*
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$PWRDN  017060          5343    6174#   6178
$PWRUP  017070          6174    6177#
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$SVPC   = 001000        4968#
$SWR    = 160000        4951#   6158
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$TESTN  000404          4990#   5352
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$TPCHR  017330          6207    6251    6255#
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$TSTM   000434           4992#
$TYPE   017274           4987   6242#
$UNIT   000412           4990#
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                         5515   5519   5546#  5551   5555   5583#  5588   5592   5672   5679#  5680#  5681#  5682#
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                         6149#  6150#  6154#  6156#
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ENDCOM    986#
ERROR    5068#  5410  5414  5446  5450  5481  5485  5516  5520  5552  5556  5589  5593  5673  5679
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         6146  6147  6148  6149  6150  6154  6156
ESCAPE   1097#
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         6148  6149  6150
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MULT     3466#
NEWTST   1030#
POP      1483#  4949#
PUSH     1475#  4949#
REPORT   4437#
SETUP     801#
SKIP     1131#
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STARS     895#  4950#  4956  4960  4968  4990  4992  6154  6156  6158  6170
TYPBIN   1419#
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TYPNAM   1177#
TYPNUM   1356#
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.EQUAT    168#
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.$CMTA    586#
.$DB2D   3666#
.$DB2O   3790#
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.$ERRO   1947#
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.$MULT   3504#
.$POWE   3223#
.$RAND   3286#
.$RDDE   2919#
.$RDOC   2827#
.$READ   2613#
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.$SAVE   2995#
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DVKABA.SRC CROSS REFERENCE TABLE -- PERMANENT SYMBOLS

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ASHC    5721  5723  5764  5766  5807  5809  5943  5944  5945  5946  5947  5948  5949  5950  5956
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ASL     5424  5459  5494  5529  5566  5603
BEQ     5364  5409  5413  5445  5449  5480  5484  5515  5519  5551  5555  5588  5592  5605  5672
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BGE     5422  5457  5492  5527  5564  5601  5748  5790  5834
BGT     6158
BIC     6135  6136  6154  6156  6158
BIS     6154  6206
BIT     5394  5431  5466  5501  5537  5574  5718  5761  5804  6154  6156  6194
BITB    5363  6154  6156  6255
BNE     5347  5395  5417  5426  5432  5452  5461  5467  5487  5496  5502  5522  5531  5538  5559
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CLC     5717  5750  5760  5792  5803  5836  5943  5944  5945  5946  5947  5948  5949  5950  5956
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CLR     5345  5353  5359  5370  5372  5404  5440  5475  5510  5546  5583  5615  5617  5622  5657
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CLRB    6154  6156
CMP     5346  5412  5415  5420  5425  5448  5451  5455  5460  5483  5486  5490  5495  5518  5521
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CMPB    5408  5444  5479  5514  5550  5587  5679  5680  5681  5682  5683  5684  5685  5686  5687
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DEC     5632  5662  5876  5894  5906  5918  5925  6154  6156  6158
DECB    6213  6218
DIV     6120  6121  6122  6123  6124  6125  6126  6127  6128  6129  6130  6131  6132  6133  6134
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IOT     4983
JMP     5348  5427  5462  5497  5608  5612  5843  6158
JSR     5410  5414  5428  5446  5450  5463  5481  5485  5498  5516  5520  5533  5552  5566  5570
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MOV     5343  5344  5352  5354  5355  5365  5366  5367  5368  5369  5371  5393  5396  5430  5433
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MOVB    6154  6156  6198  6201  6244  6259
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NOP     6158
RESET   6158
ROL     5751  5752  5793  5794  5837  5838  6204  6205  6209  6210  6211  6212
RTI     6154  6156  6249
RTS     5619  5623  5627  5634  5640  5646  5652  5659  5665  5670  5850  5856  5860  5864  5872
        5879  5884  5890  5898  5903  5909  5914  5921  5928  5936  6229  6260
SUB     6200
TST     5675  5941  6215  6225  6246  6252
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.ASCII  6158
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L09


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        6148    6149    6150    6154    6156
.PAGE   4942    4944    4954    4988    5341    5378    5679    5681    5683    5685    5687    5692    5943    5945    5947
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        6148    6149    6150    6155    6157    6184    6233
.REPT   4624    4962
.SBTTL  4968    4990    4992    5339    5376    5690    6068    6111    6152    6158    6172    6182    6231
.TITLE  4951
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        6143    6144    6145    6146    6147    6148    6149    6150    6154    6156    6158

ERRORS DETECTED:  0
DEFAULT GLOBALS GENERATED:  0

*,DVKABA/CRF=DVKABA.SML,DVKABA.SRC
RUN-TIME:  41 54 6 SECONDS
RUN-TIME RATIO: 330/102=3.2
CORE USED:  31K  (61 PAGES)
```

M09

Spooler runtime 13 Seconds, 56 KCS, 373 disk reads, 1 disk writes, 115 pages