```
DAC0     = ****** G     DAC1     = ****** G     DAC2     = ****** G
PC       =%000007       R0       =%000000       R1       =%000001
R2       =%000002       R3       =%000003       R4       =%000004
R5       =%000005       R6       =%000006       R7       =%000007
SLINE     000000RG      SL01      000036R       SP       =%000006
         = 000114R

END ?
                   ; ***********************************************************
                   ;
                   ;                    SHORT LINE
                   ;                    (SLINE)
                   ;
                   ;                    VERSION          1D
                   ;
                   ;                    BILL SEILER AUG 17,1974
                   ;
                   ;                    DRAWS SHORT LINES MADE OF 16 POINTS
                   ;                    R2=XINITIAL
                   ;                    R3=YINITIAL
                   ;                    R4=XFINAL
                   ;                    R5=YFINAL
                   ;                    R0=COUNTER
                   ;                    R1=SCRATCH REG.
                   ;
        000000                         R0=%0
        000001                         R1=%1
        000002                         R2=%2
        000003                         R3=%3
        000004                         R4=%4
        000005                         R5=%5
        000006                         R6=%6
        000007                         R7=%7
        000006                         SP=R6
        000007                         PC=R7
                                 .TITLE   SLINE
                                 .GLOBL   SLINE,DAC0,DAC1,DAC2
        000000                   .CSECT
000000 160204 SLINE:   SUB       R2,R4              ;GET DELTA X
000002 160305          SUB       R3,R5              ;GET DELTA Y
000004 006204          ASR       R4
000006 006204          ASR       R4
000010 006204          ASR       R4
000012 006204          ASR       R4                 ;XDELTA/16
000014 006205          ASR       R5
000016 006205          ASR       R5
000020 006205          ASR       R5
000022 006205          ASR       R5                 ;YDELTA/16
000024 012767'         MOV       #2048.,DAC2        ;TURN DOT OFF
       004000
       000000
000032 012700          MOV       #16.,R0            ;CTR = 16
       000020
000036 010201 SL01:    MOV       R2,R1              ;R1=XINITIAL
000040 006201          ASR       R1
000042 006201          ASR       R1
000044 006201          ASR       R1
000046 006201          ASR       R1                 ;THROW OUT 4 BITS
000050 010167'         MOV       R1,DAC0            ;PUT XINITIAL IN DAC0
       000000
000054 010301          MOV       R3,R1              ;R1=YINITIAL
000056 006201          ASR       R1
000060 006201          ASR       R1
000062 006201          ASR       R1
```

```
000064 006201          ASR     R1          ;DUMP 4 BITS
000066 010167'         MOV     R1,DAC1     ;PUT YINITIAL IN DAC1
       000000
000072 005367'         DEC     DAC2        ;TURN DOT ON
       000000
000076 060402          ADD     R4,R2       ;INCREMENT XINITIAL
000100 060503          ADD     R5,R3       ;INCREMENT YINITIAL
000102 005267'         INC     DAC2        ;TURN DOT OFF
       000000
000106 005300          DEC     R0          ;IS CTR ZERO YET?
000110 002352          BGE     SL01        ;NO-THEN DO AGAIN
000112 000207          RTS     PC          ;YES-ALL DONE!
       000001          .END
```

000000 ERRORS

PAL-11S V003A

*S H

*B H

*L T

*T T