

DAC0	= ***** G	DAC1	= ***** G	DAC2	= ***** G
PC	=%000007	POINT	000000RG	PTNUM	000160RG
PTREP	= ***** G	PT01	000014R	PT02	000026R
PT03	000044R	PT04	000072R	PT05	000126R
PT06	000152R	R0	=%000000	R1	=%000001
R2	=%000002	R3	=%000003	R4	=%000004
R5	=%000005	R6	=%000006	R7	=%000007
SP	=%000006		= 001162R		

END ?

\*\*\*\*\*

;

;

SUBROUTINE POINT

;

;

VERSION 4B

;

;

UPDATES THEN DISPLAYS THE TORPEDOS

;

THE NUMBER OF TORPEDOES ARE IN PTNUM

;

R0=COUNTER

;

R1=SCRATCH REG.

;

R2=POINT STK

;

R3=DAC CTK

;

R4=SHIFT COUNTER

;

R5=SHIFT POINTER

;

;

\*\*IMPORTANT THIS MUST BE THE LAST SUBROUTINE

;

WHEN LINKING. POINT USES THE REMAINDER OF

;

CORE FOR STORAGE OF TORPEDO DATA. SYSTEMS WITH

;

ONLY 4K SHOULD LIMIT NUMBER OF TORPEDOES.

;

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 POINT

.GLOBL POINT,PTNUM,PTREP,DAC0,DAC1,DAC2

.CSECT

000000 012702'POINT: MOV #PTNUM,R2 ;SET UP TORP PTR

000160

000004 012200 MOV (R2)+,R0 ;SET UP TORP CTR

000006 012767' MOV #2047.,DAC2 ;TURN THE DOT ON

003777

000000

000014 005300 PT01: DEC R0 ;ARE THERE ANY MORE TORPS?

000016 100455 BMI PT06 ;NO-SO GET OUT

000020 062212 ADD (R2)+,(R2) ;YES-UPDATE Y OF TORP

000022 102023 BVC PT04 ;IF NO OVERFLOW SKIP

000024 005742 TST -(R2) ;BACK PTR UP ONE WORD

000026 005767'PT02: TST PTREP ;ARE TORPS REAPPEARING?

000000

000032 003370 BGT PT01 ;YES-SKIP DELETE STEP

000034 005367 DEC PTNUM ;NO-REMOVE ONE FROM TORP COUNT

000120

000040 010004 MOV R0,R4 ;SET UP SHIFT CTR

000042 010205 MOV R2,R5 ;SET UP SHIFT PTR

000044 005304 PT03: DEC R4 ;ARE ALL TORPS MOVED UP?

000046 100762 BMI PT01 ;YES-GO DRAW THE REST

000050 016525 MOV 8.(R5),(R5)+ ;NO-WELL MOVE THEM

000010

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000054 016525      MOV      8. (R5), (R5)+
000010

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000060 016525      MOV      8. (R5), (R5)+
000010
000064 016525      MOV      8. (R5), (R5)+      ; 4 WORDS MOVED!
000010
000070 000765      BR        PT03              ; GO CHK FOR MORE
000072 012201 PT04:  MOV      (R2)+, R1          ; PUT Y IN WORK REGISTER
000074 006201      ASR      R1
000076 006201      ASR      R1
000100 006201      ASR      R1
000102 006201      ASR      R1              ; DISPOSE OF 4 BITS
000104 005267'    INC      DAC2              ; TURN THE DOT OFF
000000
000110 010167'    MOV      R1, DAC1              ; PUT Y IN DAC1
000000
000114 062212      ADD      (R2)+, (R2)          ; UPDATE X OF TORP
000116 102003      BVC      PT05              ; IF NO OVERFLOW THEN SKIP
000120 162702      SUB      #6, R2              ; MOVE PTR BACK 3 WORDS
000006
000124 000740      BR        PT02              ; GO MOVE UP ARRAY
000126 012201 PT05:  MOV      (R2)+, R1          ; PUT X IN WORK REGISTER
000130 006201      ASR      R1
000132 006201      ASR      R1
000134 006201      ASR      R1
000136 006201      ASR      R1              ; DITCH 4 BITS
000140 010167'    MOV      R1, DAC0              ; PUT X IN DAC0
000000
000144 005367'    DEC      DAC2              ; TURN THE DOT ON
000000
000150 000721      BR        PT01              ; GO CHK FOR MORE TORPS
000152 005267' PT06:  INC      DAC2              ; TURN DOT OFF FOR FINISH
000000
000156 000207      RTS      PC                  ; ALL DONE!!!!!!!!!!!!!!!!!!!!!!
000160 000000 PTNUM:  .WORD    0
001162      . = . +512.
000001      . END

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000000 ERRORS

PAL-115 V003A

\*5