ADBR	= 176772 G	ADCS	= 176770 G	AMMO	000216RG
ANGH1	000154RG	ANGH2	000202RG	ANGL1	000152RG
ANGL2	000200RG	ANGMID	= 000702 G	COMPAR	= ****** G
DAC0	= 176750 G	DAC1	= 176752 G	DAC2	= 176754 G
FIRE	= 001440 G	FLAG1	000132RG	FLAG2	000160RG
GAME1	000222RG	GAME2	000224RG	GRAVTY	= ****** G
GRVFLG	000226RG	HIT1	000204RG	HIT2	000206RG
MASK	= 002100 G	PARM	= ****** G	PC	=%000007
POINT	= ****** G	PTNUM	= ****** G	PTREP	000230RG
RESET	= ****** G	RKTSIZ	= 007000 G	RKT1	= ****** G
RKT2	= ****** G	R0	=%000000	R1	=%000001
R2	=%000002	R3	=%000003	R4	=%000004
R5	=%000005	R6	=%000006	R7	=%000007
SHOTS1	000210RG	SHOTS2	000212RG	SP	=%000006
SPCRST	000020RG	SPCWAR	000000RG	SPC01	000066R
SUNSZ	= 004000 G	TSPEED	000220RG	UPDAT1	= ****** G
UPDAT2	= ****** G	WIN	000214RG	XDISP1	000150RG
XDISP2	000176RG	XSIZE1	000142RG	XSIZE2	000170RG
XVELH1	000146RG	XVELH2	000174RG	XVELL1	000144RG
XVELL2	000172RG	YDISP1	000140RG	YDISP2	000166RG
YSIZE1	000130RG	YSIZE2	000156RG	YVELH1	000136RG
YVELH2	000164RG	YVELL1	000134RG	YVELL2	000162RG
	= 000232R				

END ?

```
; ********************************************************
; *                                                      *
; *                                                      *
; *                    SPACE WAR                         *
; *                    VERSION 5B                        *
; *                        BY                            *
; *          LARRY BRYANT AND BILL SEILER                *
; *                JULY 21, 1974                         *
; *                                                      *
; ********************************************************
         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
                    ;
                    ;
                    ;*******DATA AND ADDRESS CONSTANTS FOR SPCWAR
         176770              ADCS=176770          ;ADDRESS FOR ANALOG TO DIGITAL
                                                  ;CONVERTER STATUS REGISTER
         176772              ADBR=176772          ;ADDRESS FOR A TO D CONVERTER
                                                  ;BUFFER REGISTER
                                                  ;THIS IS A 10 BIT SINGLE
                                                  ;POLARITY A TO D
         176750              DAC0=176750          ;ADDRESS FOR X-AXIS DIGITAL
                                                  ;TO ANALOG CONVERTER
         176752              DAC1=176752          ;ADDRESS FOR Y-AXIS D TO A CONV.
         176754              DAC2=176754          ;ADDRESS FOR Z-BLANKING D TO A C
                                                  ;THE DACS ARE 12 BIT BIPOLAR
                                                  ; D TO A'S
         004000              SUNSZ=2048.          ;COLLISION RADIUS FOR SUN
         002100              MASK=2100            ;COLLISION RADIUS FOR TORPEDOES
                                                  ; AND ROCKETS
         007000              RKTSIZ=7000          ;SIZE OF ROCKETS
         001440              FIRE=800.            ;NUMBER REQUIRED FROM ACCEL
```

```
                                           ; A TO D TO FIRE A TORPEDO
                                           ;NUMBERS FROM 0 TO 800. ARE
                                           ; ACCEL. 800. TO 1024. FIRE A
                                           ; TORPEDO.
           000702              ANGMID=450.  ;NUMBER REQUIRED TO CENTER THE
                                           ; ANGLE ROTATION CONTROLER
                              .TITLE SPCWAR
                              .GLOBL   UPDAT1,UPDAT2,RKT1,RKT2,POINT,COMPAR,AMMO
                              .GLOBL   WIN,HIT1,HIT2,SPCWAR,RESET,GAME1,GAME2
                              .GLOBL   XDISP1,XDISP2,YDISP1,YDISP2,PARM,GRAVTY
                              .GLOBL   XVELL1,XVELL2,YVELL1,YVELL2
                              .GLOBL   XVELH1,XVELH2,YVELH1,YVELH2
                              .GLOBL   FLAG1,FLAG2,ANGL1,ANGL2,GRVFLG,PTREP
                              .GLOBL   ANGH1,ANGH2,XSIZE1,XSIZE2,SPCRST
                              .GLOBL   YSIZE1,YSIZE2,PTNUM,SHOTS1,SHOTS2
                              .GLOBL   MASK,RKTSIZ,TSPEED,FIRE,ANGMID,SPCWAR

                              PAGE     001

                              .GLOBL   DAC0,DAC1,DAC2,ADCS,ADBR,SUNSZ
           000000             .CSECT
000000 012706'SPCWAR: MOV     #SPCWAR,SP          ;SET UP THE STK
       000000
000004 005067         CLR     GAME1              ;NEW SET OF GAMES
       000212
000010 005067         CLR     GAME2              ;NEW SET OF GAMES
       000210
000014 004767'        JSR     PC,PARM            ;CHECK FOR A CHANGE IN PARAMETER
       000000
000020 012767'SPCRST: MOV     #401,ADCS          ;START A TO D FOR ACC1
       000401
       176770
000026 016767         MOV     WIN,HIT1           ;REPLACE ALL SHIELDS
       000162
       000150
000034 016767         MOV     WIN,HIT2           ;  OF BOTH RKTS
       000154
       000144
000042 016767         MOV     AMMO,SHOTS1        ;RESET # OF SHOTS RKT1
       000150
       000140
000050 016767         MOV     AMMO,SHOTS2        ;RESET # OF SHOTS RKT2
       000142
       000134
000056 005067'        CLR     PTNUM              ;CLEAR ALL TORPEDOES
       000000
000062 004767'        JSR     PC,RESET           ;RESET ALL RKT DATA
       000000
000066 012702'SPC01:  MOV     #YSIZE1,R2         ;SET UP POINTER AT RKT DATA
       000130
000072 004767'        JSR     PC,UPDAT1          ;UDATE RKT1 AND FIRE TORPEDOS
       000000
000076 004767'        JSR     PC,UPDAT2          ;UPDATE RKT2 AND FIRE TORPEDOES
       000000
000102 004767'        JSR     PC,GRAVTY          ;DO GRAVITY - MAYBE!
       000000
000106 004767'        JSR     PC,RKT1            ;DRAW ROCKET # ONE
       000000
000112 004767'        JSR     PC,RKT2            ;DRAW ROCKET # TWO
       000000
000116 004767'        JSR     PC,POINT           ;UPDATE AND DRAW TORPEDOES
       000000
000122 004767'        JSR     PC,COMPAR          ;CHECK FOR COLLISIONS OR HITS
       000000
000126 000757         BR      SPC01              ;DO IT ALL AGAIN!!!!!!!!!!!!!
000130 000000 YSIZE1: .WORD   0
```

```
000132 000000 FLAG1:   .WORD    0
000134 000000 YVELL1:  .WORD    0
000136 000000 YVELH1:  .WORD    0
000140 040000 YDISP1:  .WORD    16384.
000142 000000 XSIZE1:  .WORD    0
000144 000000 XVELL1:  .WORD    0
000146 000000 XVELH1:  .WORD    0
000150 040000 XDISP1:  .WORD    16384.
000152 000000 ANGL1:   .WORD    0
```

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```
000154 000000 ANGH1:   .WORD    0
000156 000000 YSIZE2:  .WORD    0
000160 000000 FLAG2:   .WORD    0
000162 000000 YVELL2:  .WORD    0
000164 000000 YVELH2:  .WORD    0
000166 140000 YDISP2:  .WORD    -16384
000170 000000 XSIZE2:  .WORD    0
000172 000000 XVELL2:  .WORD    0
000174 000000 XVELH2:  .WORD    0
000176 140000 XDISP2:  .WORD    -16384.
000200 000000 ANGL2:   .WORD    0
000202 000000 ANGH2:   .WORD    0
000204 000214'HIT1:    .WORD    WIN
000206 000214'HIT2:    .WORD    WIN
000210 000216'SHOTS1:  .WORD    AMMO
000212 000216'SHOTS2:  .WORD    AMMO
000214 000040 WIN:     .WORD    32.
000216 000100 AMMO:    .WORD    64
000220 040000 TSPEED:  .WORD    16384.
000222 000000 GAME1:   .WORD    0
000224 000000 GAME2:   .WORD    0
000226 000000 GRVFLG:  .WORD    0
000230 000000 PTREP:   .WORD    0
       000001          .END
```

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000000 ERRORS

PAL-11S V003A

*S H

*B H

*L T

*T T