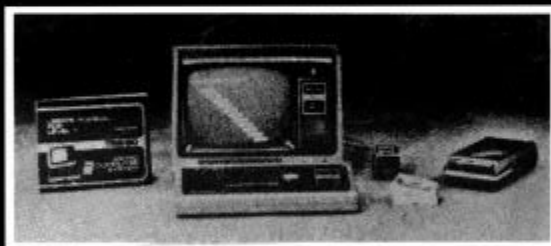


**THE ORIGINAL MAGAZINE FOR
TRS-80™* OWNERS**

H & E COMPUTRONICS INC.

*TRS-80™ IS A TRADEMARK OF TANDY CORPORATION

- PRACTICAL APPLICATIONS
- BUSINESS
- GAMBLING • GAMES
- EDUCATION
- PERSONAL FINANCE
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- NEW PRODUCTS
- SOFTWARE EXCHANGE
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- QUESTIONS AND ANSWERS
- PROGRAM PRINTOUTS
- AND MORE
- END OF THE TRS-80®
- DATA SEPARATOR
- CP/M
- CRYPTTEXT
- ASSEMBLY LANGUAGE FOR BEGINNERS
- BREAKEVEN ANALYSIS
- CLEANUP
- HISTOGRAM



SUPER HARD MODE: The Medium mode with the computer shooting first is SUPER HARD, and this is the toughest mode to beat in SALVO BATTLESHIP. The Medium mode strategy still prevails—the computer shoots randomly until he hits something, and then homes in on it. But when the computer shoots first with 15 random shots, he gets four and five hits too often, and three hits normally. You may have a slim chance of winning if the computer gets less than three hits on the first Salvo. The computer often comes back with one more random Salvo. You will frequently be starting with 10 or 11 shots to the computer's 15. This is the "research" mode for those who wish to try to master the game of SALVO BATTLESHIP.

Prize Winning Debut

At the 1979 National Computer Conference (NCC '79) SALVO BATTLESHIP made its non-commercial debut in the Personal Computer demonstration/contest. The booth demonstrating this new game was crowded all day every day of the show. Individuals, committees and other exhibitors excitedly tried to beat the HARD mode. At the end of the show SALVO BATTLESHIP received a well deserved prize. It was NEW GAME OF THE YEAR 1979 at its NCC '79 debut.

The Sensational Battleship Contest

A few months later at the 1979 National Small Computer Show, the SEMI-SENTIENT SOFTWARE people staged a truly sensational commercial debut. Using three TRS-80 computers, they held a contest in their booth and gave prizes to anyone who could beat SALVO BATTLESHIP in the EXTRA HARD mode. There weren't many winners (only 25 out of 200

contestants) but the booth was packed from before the doors opened (with other exhibitors) until the power was turned off each night. Most of the contest winners chose the game over many more expensive prizes.

A survey was conducted during the contest, and with 99 contestants returning completed questionnaires, the following results were recorded:

I have played a complete game of SALVO BATTLESHIP by SEMI-SENTIENT SOFTWARE and these are my opinions:

I found the game:

Boring (0); Dull (0); So-So (2); Interesting (47); Great Fun (42); Engaging (34); Fascinating (26); Challenging (98); Super-Super (23)

—check all that apply—

I would like to play it again—Yes (92); No (0); Maybe (7)

I would consider buying a TRS-80 as a result of playing this game—Yes (13); No (26); Maybe (29); I already own one (28); Other (3)

As a result of playing this game, I am impressed by the ability of S. S. SOFTWARE to produce software that THINKS—Definitely (66); Somewhat (25); Not at all (4); Blank (4)

High Quality Product

The BATTLESHIP cassettes are high quality, signal enhanced, and recorded on both sides by Cook Laboratories Inc. This company represents the standard in cassette quality. Dealers have praised the negligible return rate for failures and every tape returned so far (only three) has loaded perfectly under test. Any defective cassette will be replaced free of charge.

a fast-action challenge— CLEANUP

by
Doug Schiller

This program will print a playing field that fills with alphanumeric and graphic characters, with a solid border enclosing the screen. The object of CLEANUP is to maneuver a moving line through the field, erasing all of the alphanumeric characters ("knockout" characters) as you go—but!—the line never stops moving, and you lose if you hit any of the graphics-block characters, run into the boundary line, or cross your own path.

When you run the program, a question will be asked:

WHAT DO YOU WANT YOUR DIFFICULTY TO BE (1-100)?

Don't be intimidated by this—start with level 1. The difficulty you choose will determine the number of knockout characters you have to erase—the higher the difficulty, the more you have to clean up (if the level is less than 4, all the knockout characters will be stars). Also, the speed of the moving line will vary with the difficulty level. If you win the game at level 1 the first time you play it, you are going to be a PRO (the highest known score as of September 1979 was 55). Don't expect to do well at first because it takes practice and skill.

You control the moving line with the four arrow keys—Up and Down, Right and Left. When the game begins, you will see a flashing dot on the playing field that indicates where the line will start—press the 'S' key and the dot will stop flashing—press an arrow key, and you're moving. The line will not stop until it crashes into something—even if you have erased all of

the knockout characters (winning the game) the line will keep on moving until it hits a boundary, its own path, or a block character. (At various times there will be signs flashing at the bottom and top of the screen reminding you of the directions.) When the line finally crashes, you will have two options—you can hit the 'S' key to start again at the same level of difficulty, or press (space bar) to exit the game or pick a new level.

Hints

Knockout the knockout characters from the side, because the line moves more slowly and there is more surface area on the side of each character.

Practice making turns. If you turn too slowly, you will probably crash. If you turn too fast, the computer might miss it, so that you crash into yourself.

After you press the 'S' key, you must not press any keys other than the arrows, or the computer will think that you have crashed.

Special Disk Instructions

Here's a couple of added features for disk owners—

After you type in your difficulty level, you are asked whether you want a time limit. If you type in "YES" you will be asked how many minutes you want the game to last. The game will tell you when your time is up, and give you a chance to try again.

If you win, the disk is in, and you have the highest score, you can have the score put on disk as the official record score.

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MATHEMATICAL APPLICATIONS SERVICE™

```
10 '*** ORIGINAL PROGRAM BY DOUG SCHILLER ***
20 CLS: CLEAR 1000: RANDOM
30 DEFINT A-Z: X=0: Y=0: S=0
40 FOR X=1 TO 8: CL$=CL$+"CLEANUP ": NEXT X
50 PRINT@0, CL$: : PRINT@960-64, CL$:
60 FOR X=0 TO 14
70 PRINT@X*64, MID$(CL$, X+1, 1);
80 PRINT@X*64+63, MID$(CL$, X+17, 1);
90 NEXT X
100 CL$="": PRINT@6*64+23, "WELCOME TO CLEANUP";
110 PRINT@8*64+25, "COPYRIGHT 1979";
120 PRINT@10*64+24, "BY DOUG SCHILLER";
130 GOSUB 1230
140 CLS: GOTO 240
150 '***** REM STATEMENTS FOR ADDITIONAL INFORMATION *****
160 'THE ANDROID POINTS HIS FINGER AT THE SCORE
170 'WHEN YOU WIN THE ARM SALUTES
180 'THE HIGHEST WINNING SCORE BY THE AUTHOR IS 55
190 'TO BYPASS THE MAN WITH POINTING ARM ADD LINE :
200 '      8050 GOTO 1240
210 'THE SPEED OF THE LINE IS PROPORTIONAL TO THE DIFFICULTY
220 'TO HAVE THE HIGHEST SPEED EVEN WITH LOW DIFFICULTIES TYPE
230 'AN "S" BEFORE YOUR DIFFICULTY LIKE: S5, S1, S8, ETC.
240 CLS: X=0: Y=0: S=0: TT=0: DIM R(300)
250 Z9$="1": INPUT "WHAT DO YOU WANT YOUR DIFFICULTY TO BE (1-100)"; Z9$
260 IF LEFT$(Z9$, 1) = "S" THEN Z9=VAL(MID$(Z9$, 2, 3)): GR=1
   : ELSE Z9=VAL(Z9$): GR=0
270 PRINT: IF Z9 > 100 OR Z9 < 1 THEN Z9=1
280 L$="N": IF MEM > 12500 AND MEM < 14500 PRINT "DO YOU WANT THE COMPUTER TO
   GIVE YOU A TIME LIMIT SO THAT IF YOU ARE PLAYING WITH A FRIEND
   YOU CAN BOTH HAVE THE SAME AMOUNT OF TIME"; : INPUT L$: PRINT
   : DOS=1: ELSE MB=0: GOTO 330
290 IF LEFT$(L$, 1) <> "Y" AND DOS=1 THEN CMD="T": GOTO 330
300 INPUT "HOW MANY MINUTES DO YOU WANT TO PLAY FOR"; T2: MB=1: CMD="R"
310 DEFFNV=VAL(MID$(TIME$, 10, 2))*3600+VAL(MID$(TIME$, 13, 2))*60+VAL
   (MID$(TIME$, 16, 2)): T1=FNV
320 T2=T2*60: T2=T1+T2
330 CLS: Z9=INT(Z9)
340 FOR Z=1 TO 18: X=RND(126): Y=RND(46): SET(X, Y): FOR W=1 TO 40: NEXT W
   : RESET(X, Y): NEXT Z: SET(X, Z)
350 A1=3*Z9: A2=Z9*2
360 FOR G=1 TO A1
370 R=RND(14)*64+RND(62)+15360: IF PEEK(R) <> 32 THEN 370
380 IF Z9 < 4 THEN P7=42 ELSE P7=RND(63)+32
390 POKER, P7: R(G)=R: NEXT G
400 FOR G=1 TO A2
410 R=RND(14)*64+RND(62)+15360: IF PEEK(R) <> 32 THEN 410
420 POKER, 129+RND(62): NEXT G
430 PRINT@0, STRING$(63, CHR$(131));
440 PRINT@15*64, STRING$(63, CHR$(176));
```

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```
450 SET(126,0):SET(126,47)
460 FORM=0TO47:SET(0,M):SET(127,M):NEXTM
470 IFY<6THENAT=968:CS=176:ELSEAT=8:CS=131
480 PRINT@AT,"PRESS THE 'S' KEY ONCE YOU SEE THE FLASHING DOT";
490 RESET(X,Y):FORM=1TO100:NEXTM:SET(X,Y):FORM=1TO100:NEXTM
500 MV$=INKEY$:IF MV$<>"S"THEN 490
510 PRINT@AT,STRING$(52,CHR$(CS));:SET(X,Y)
520 A$="":B=0:S=0:IFZ9>25THEN 680 ELSEJV=1
530 IFZ9<20JV=2
540 IFZ9<15JV=4
550 IFZ9<10JV=5
560 IFZ9<5JV=6
570 IFZ9<3JV=7
580 IFGR=1THEN 680
590 A$=INKEY$:IFA$<>" "THENB=ASC(A$):S=1
600 FORLV=1TOJV:NEXTLV
610 SET(X,Y):IFB=91THENY=Y-1:GOTO 670 :ELSEIFB=10THENY=Y+1:GOTO 670
620 IFB=9THENX=X+1:GOTO 670 :ELSEIFB=8THENX=X-1:GOTO 670
630 IFA$="S"ANDTR=0THENR=1:A$=""
640 IFA$=""THEN 670
650 SN$="YOU PRESSED A NON-ARROW KEY":AT=(64-LEN(SN$))/2:IFY<6THEN
    AT=AT+960
660 PRINT@AT,SN$;:FORW=1TO600:NEXTW:GOTO 750
670 IFS=1ANDPOINT(X,Y)THEN 750 ELSE 590
680 A$=INKEY$:IFA$<>" "THENB=ASC(A$):S=1
690 SET(X,Y):IFB=9THENX=X+1:GOTO 740 :ELSEIFB=8THENX=X-1:GOTO 740
700 IFB=91THENY=Y-1:GOTO 740 :ELSEIFB=10THENY=Y+1:GOTO 740
710 IFA$="S"ANDTR=0THENR=1:A$=""
720 IFA$=""THEN 740
730 GOTO 650
740 IFS=0ORPOINT(X,Y)=0THEN 680 ELSE S=0:GOTO 750
750 TT=0:S3$="          I AM NOW CALCULATING YOUR SCORE
760 IFY<5THENPRINT@963,S3$;ELSEPRINT@3,S3$;
770 FORM=1TOA1:FF=PEEK(R(M)):IFFF>32ANDFF<128THENTT=TT+1:NEXTM:ELSENEXTM
780 IFTT=0THEN 830
790 S$="SPACE BAR TO CHANGE DIFFICULTY OR 'S' KEY FOR QUICK START"
800 IFY<5THENPRINT@963,S$;ELSEPRINT@3,S$;
810 FOR MM=1 TO 40:RESET(X,Y):FORDD=1 TO 50:NEXT DD:SET(X,Y):FOR
    DD=1 TO 50:NEXT DD:JJ$=INKEY$:IF JJ$<>" " AND JJ$<>
    CHR$(13) AND JJ$<>"S"THEN NEXT MM
820 CLS:PRINT@6*64,"ON LEVEL";Z9;"YOU GOT";A1-TT;"OF THE";A1;
    "CHARACTERS ON THE SCREEN"
830 IFTT=0CLS:GOTO 1160 :ELSE 980
840 IFDOS=1ANDZ9>3THENCLS:INPUT"IS THE DISK HOOKED UP";LV$ELSE 1140
850 IFLEFT$(LV$,1)="N"THENPRINT"SORRY":FORW=1TO800::NEXTW:GOTO 1140
860 CLOSE:PRINT:PRINT"THE PERSON WITH THE HIGHEST SCORE IS:"
    :OPEN"R",1,"CLNFILE/DAT"
870 FIELD 1,30 AS NM$,08 AS DA$,08 AS TI$,04 AS Z9$,205 AS DUMMY$
880 GET1,1:IFLEFT$(DUMMY$,5)<>"DUMMY"THENPRINT:GOTO 910 :ELSE NM$(1)=
    LEFT$(NM$,INSTR(NM$<"*")-1):Z9$,INSTR(2,Z9$," ") -1)
```

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```
890 PRINTNM$(1);". ";NM$(1);" WON ON ";DA$:PRINT"AT ";TI$;" WITH
A DIFFICULTY OF";Z9$(1);".":PRINT
900 IF VAL(Z9$)=>Z9THENPRINT:CLOSE:PRINT"SORRY, BUT YOU DO NOT HAVE
THE HIGH SCORE":FOR W=1 TO 1500:NEXT W:GOTO 1140
910 PRINT"CONGRAGULATIONS!!! YOU NOT ONLY WON, BUT YOU HAVE THE
HIGHEST":PRINT"SCORE. NOW I WANT TO PUT INFORMATION ABOUT
YOU ONTO THE DISK"
920 INPUT"WHAT IS YOUR NAME";J$(1):J$(1)=J$(1)+"*":LSET NM$=J$(1)
930 INPUT"WHAT IS TODAY'S DATE (MM/DD/YY)";J$(1):LSET DA$=J$(1)
940 LINEINPUT"WHAT TIME IS IT NOW (HH:MM:SS)? ";J$(1):LSET TI$=J$(1)
950 Z8$=STR$(Z9):LSET Z9$=Z8$
960 LSET DUMMY$="DUMMY"
970 PUT 1,1:CLOSE:GOTO 1140
980 IF A1<>0 AND TT<>0 THEN 990 ELSE 1140
990 P9=INT(100*(1-TT/A1)+.5):PRINT"YOU ONLY GOT";P9;"%"
1000 DE=25:FOR P=30 TO 6 STEP -1:PRINT@P+512,AN$:FOR W=1 TO DE
:NEXT W,P:DE=10
1010 FOR P=1 TO 5:FOR P2=11 TO 9 STEP -1:PRINT@P2*64+10,AR$(P,P2-8);
:NEXT P2:FOR W=1 TO DE:NEXT W,P
1020 FOR P=11 TO 9 STEP -1:PRINT@P*64+10,AR$(7,P-8);:NEXTP
:FOR W=1 TO 30:NEXT W
1030 FORP=9TO11:PRINT@P*64+10,AR$(5,P-8);" ";:FOR W=1 TO 10:NEXTW,P
1040 FOR P=8 TO 9:FOR P2=11 TO 9 STEP -1:PRINT@P2*64+10,AR$(P,P2-8);
:NEXTP2:FOR W=1 TO 4:NEXT W,P
1050 IF P9>=50 THEN Y9=30:RESET(14,28):RESET(15,29):RESET(18,29)
:RESET(19,28):ELSE Y9=32
1060 SET (26,Y9)
1070 FOR W=1 TO 700:NEXT W:DE=10
1080 FOR P=4 TO 1 STEP -1:FOR P2=9 TO 11:PRINT@P2*64+10,AR$(P,P2-8);
" ":NEXT P2: FOR W=1 TO DE:NEXT W,P
1090 PRINT@11*64+10,CHR$(191);" ";
1100 IF MB<>1THEN 1120
1110 IF FNV>T2 THEN FOR W=1TO 400:NEXTW:CLS:PRINT"YOUR TIME IS UP"
:PRINT:GOTO 1140
1120 IF JJ$="S" THEN X=RND(126):Y=RND(46):A$="":RANDOM:S=0:B=0:ELSE 1140
1130 FOR DD=1 TO 500:NEXTDD:CLS:SET(X,Y):GOTO 360
1140 INPUT"DO YOU WANT TO PLAY AGAIN";Y$:IF LEFT$(Y$,1)<>"N"THEN CLS
:GOTO 250
1150 CLS:PRINT"GOOD-BYE":END
1160 CLS:PRINTCHR$(23):PRINT"FANTASTIC YOU'RE A WINNER":FOR ST=1TO6
:ST$=ST$+"* ":NEXTST:FOR W=1 TO 500:NEXT W
1170 FOR ST=1 TO 13
1180 IF ST/2=INT(ST/2)THENS8=32ELSE S8=191
1190 IF ST/2=INT(ST/2)THEN S$=" "+LEFT$(ST$,9)ELSE S$=ST$
1200 IF ST>9ST$="":S2$=STRING$(32,CHR$(S8)):PRINT@ST*64,S2$:GOTO 1220
1210 PRINT@64*ST,S$;STRING$(20,CHR$(S8));
1220 NEXT ST
1230 PRINT@15*64,"A TRUE HERO";:FOR W=1 TO 1000:NEXT W:GOTO 1470
1240 RESTORE
1250 READ C
```

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```
1260 IF C=-1 THEN 1290
1270 AN$=AN$+CHR$(C+128)
1280 GOTO 1250
1290 FOR J=1 TO 6
1300 FOR X=10 TO 12
1310 FOR P=1 TO 3
1320 READ C
1330 AR$(J,X-9)=AR$(J,X-9)+CHR$(C+128)
1340 NEXT P,X,J
1350 FOR J=7 TO 9
1360 FOR X=1 TO 2
1370 FOR P=1 TO 4
1380 READ C
1390 AR$(J,X)=AR$(J,X)+CHR$(C+128)
1400 NEXT P,X,J
1410 FOR J=1 TO 4:READ RX(J),RY(J):NEXTJ
1420 DATA 48,63,63,63,48,123,62,61,15,62,61,123,56,46,63,29,52,123,63,
42,63,21,63,123,65,42,0,21,65,123,8,14,0,13,4,0,0,0,0,-1
1430 DATA 61,0,0,52,0,0,47,16,0,61,0,0,52,0,0,11,36,16,61,0,0,52,0,0,
11,12,4,61,0,0,52,32,28,3,3,0,61,0,48,12,14,1,0,0,0,61,52,0
14,1,0,0,0,0
1440 DATA 61,0,56,5,12,14,1,0,61,0,0,0,12,12,14,1,61,0,0,0,12,12,12,12
1450 DATA 93,32,96,32,92,31,97,31
1460 RETURN
1470 CLS:PRINT@576+45,AN$
1480 FOR W=1 TO 150:NEXT W
1490 FOR J=1 TO 4
1500 RESET(RX(J),RY(J)):NEXTJ
1510 X1=93:X2=96:Y1=30:Y2=30
1520 FORX=1TO5
1530 SET(X1,Y1):SET(X2,Y2):FOR W=1 TO 50:NEXTW:RESET(X1,Y1):RESET
(X2,Y2):FOR W=1 TO 50:NEXTW,X:GOTO 1600
1540 FOR J=1 TO 6
1550 FOR X=10 TO 12
1560 FOR P=1 TO 3
1570 READ C
1580 AR$(J,X-9)=AR$(J,X-9)+CHR$(C+128)
1590 NEXT P,X,J:RETURN
1600 FOR J=1 TO 6
1610 FOR X=12 TO 10 STEP -1
1620 PRINT@X*64+49,AR$(J,X-9);
1630 NEXT X:FOR W=1 TO 50:NEXTW,J
1640 FOR J=6 TO 1 STEP -1
1650 FOR X=10 TO 12
1660 PRINT@X*64+49,AR$(J,X-9);
1670 NEXT X:FOR W=1 TO 10:NEXTW,J
1680 PRINT@12*64+49,CHR$(191);" ";
1690 FOR W=1 TO 100:NEXTW
1700 K2=K2+1:IFK2=2THENK2=0:CLS:GOTO 840 :ELSE 1600
```