



The playing area:

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10 REM          SURAWARTA
20 REM          by Paul Robson
30 REM          The Astrad User, Feb. 89
40 REM
50 REM GET INITIAL INPUTS
60 DIM scr(48,26),tk(58),cr(64)
70 ON ERROR GOTO 2020
80 ts(1)=0:ts(2)=0:tg2=0
90 MODE 1:INK 0,13:INK 1,0:BORDER 13
100 LOCATE 3,12:PEN 1:PAPER 0
110 PRINT"HOW MANY COUNTERS LEFT TO WIN? (0-9)":GOSUB 1
120:cv=VAL(k$)
130 SOUND 1,50,15,7
140 LOCATE 12,12:PRINT"ROUNDS PER GAME? (ODD 1-9)"
150 GOSUB 1720:tg=VAL(k$):IF tg/2=INT tg\2 THEN 140
160 REM Select first player. Clear playing area and ini-
tialise starting positions
170 r2=INT(RND*1)+1:pl=r2:IF r2=1 THEN r2=192:r3=336 ELSE r2
=192:r3=96
180 GOSUB 1740:GOSUB 1960
190 FOR f=1 TO 6:FOR g=1 TO 6
200 scr(f,g)=0:NEXT g,f:pp(1)=12
210 pp(2)=12:GOSUB 1490:x=r2:y=r3
220 INK 0,0:INK 1,6:INK 2,26:INK 3,2:INK 4,24:INK 5,6:INK
6,9:INK 7,15:INK 8,7:INK 9,26:INK 10,26:BORDER 0
230 GOSUB 1780
240 REM START
250 x2=x:y2=y:GOSUB 1560
260 IF scr(h,v)=0 THEN pe=3-pl:p2=x:p3=y:p4=143:p5=p4:G
OSUB 1690
270 IF scr(h,v)=pl THEN pe=pl:pa=3-pl:GOSUB 1590:GOSUB
1690
280 IF scr(h,v)=3-pl THEN pe=3-pl:pa=6:GOSUB 1590:GOSUB
1690
290 IF INKEY(11)=0 AND y<336 THEN y=y+48:GOSUB 1280
300 IF INKEY(14)=0 AND y>96 THEN y=y-48:GOSUB 1280
310 IF INKEY(4)=0 AND x<426 THEN x=x+48:GOSUB 1280
320 IF INKEY(28)=0 AND x>192 THEN x=x-48:GOSUB 1280
330 IF INKEY(18)=0 AND y<336 AND x>192 THEN y=y+48:x=x-
48:GOSUB 1280
340 IF INKEY(13)=0 AND y<336 AND x<426 THEN y=y+48:x=x+
48:GOSUB 1280

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340 IF INKEY(13)=0 AND x<192 AND y>96 THEN y=y-48:x=x-4
8:GOSUB 1280
350 IF INKEY(5)=0 AND x(426 AND y>96 THEN y=y-48:x=x+48
:GOSUB 1280
360 IF INKEY(12)=0 AND mov=0 THEN GOSUB 1330:GOTO 390
370 IF INKEY(12)=0 AND mov=1 THEN GOSUB 1370
380 IF INKEY(18)=0 THEN GOSUB 1500:IF scr(h,v)=pl THEN
GOSUB 410
390 CALL ck:GOTO 230
400 REM get direction
410 IF h=1 AND v=1 OR h=6 AND v=1 OR h=1 AND v=6 OR h=6
AND v=6 THEN RETURN
420 PRINT#1,"WHICH WAY?";:INK 9,0
430 GOSUB 1500:h5=h:v5=v:r=1
440 IF INKEY(11)=0 THEN t=vt2=1:t3=-1:t4=-1:dir=1:GOTO
490
450 IF INKEY(14)=0 THEN t=vt2=6:t3=1:t4=1:dir=3:GOTO 4
90
460 IF INKEY(12)=0 THEN t=ht2=1:t3=-1:t4=-1:dir=4:GOTO
540
470 IF INKEY(4)=0 THEN t=ht2=6:t3=1:t4=1:dir=2:GOTO 54
0
480 GOTO 440
490 FOR f=t TO t2 STEP t3
500 IF scr(h,ft4)<0 OR h=1 OR h=6 THEN no=1:GOTO 630
510 REM Check square is clear
520 tk(r)=(h+3)*48:tk(r+1)=(8-f)*48
530 r=r+2:NEXT:GOTO 580
540 FOR f=t TO t2 STEP t3
550 IF scr(ft4,v)<0 OR v=1 OR v=6 THEN no=1:GOTO 630
560 tk(r)=(f+3)*48:tk(r+1)=(8-v)*48
570 r=r+2:NEXT
580 IF f=7 AND dir=2 THEN h=6 ELSE IF f=7 AND dir=3 THE
N v=6 ELSE IF f=0 AND dir=1 THEN v=1 ELSE IF f=0 AND di
r=4 THEN h=1
590 RESTORE 2040:FOR g=1 TO 16:READ b,c,d
600 IF b=f AND c=h AND d=v THEN 610 ELSE FOR s=1 TO 8:R
EAD b:NEXT s,g
610 FOR k=1 TO 4:READ b,type
620 ON type GOSUB 1050,1060,1110,1140
630 IF no THEN no=0:st="YOU CAN'T!":INK 9,26:GOSUB 1710
:GOSUB 1570:FOR f=1 TO 50:SOUND 129,20+f,0,0,1:NEXT:GOT
O 1440
640 IF ok THEN ok=0:GOSUB 2000:GOTO 670
650 NEXT k
660 REM Move piece and capture opponent
670 INK 10,0:pe=3-pl:pa=3-p2:tk(r-2)
680 p3=tk(r-1):p4=252:p5=253:GOSUB 1690
690 r=1:TAG:WHILE tk(r)<0
700 b=tk(r):c=tk(r+1)
710 pempl:pa=3:GOSUB 1630:GOSUB 1690
720 SOUND 129,70,0,0,1,2
730 pe=3:p2=b:p3=c:p4=143:p5=p4:GOSUB 1690
740 RESTORE 2210:FOR m=1 TO 16:READ a1,a2,a3,a4,a5:IF a
1=16:tk(r) AND a2=16:tk(r+1) AND a3=16:tk(r+2) AND a4=
16:tk(r+3) THEN GOSUB 900:GOTO 760
750 NEXT
760 r=r+2:WEND
770 SOUND 129,50,0,0,2,2,15:INK 9,26:INK 10,26
780 pempl:pa=3:GOSUB 1630:GOSUB 1690
790 REM Adjust screen array to new positions
800 scr(b/48-3,(c/48))=pl:scr(h5,v5)=0
810 pp(3-p)=pp(3-p)-1:GOSUB 1710
820 IF pp(3-p)=cw THEN 850
830 GOTO 1460
840 REM Game over
850 tq2=tg2+1:ts(pl)=ts(pl)+1
860 IF pl=1 THEN PEN#1,1:PRINT#1," RED WINS"; ELSE PEN#
1,2:PRINT#1,"WHITE WINS";
870 GOSUB 1700
880 s=71:s2=89:FOR q=1 TO 2:FOR f=1 TO 3:SOUND 7,s,4,0,
1:SOUND 7,0:NEXT:SOUND 7,s2,100,0,1:s=80:s2=95:NEXT
890 CALL ck:CALL &B818:PEN#1,0:CLS#1
900 IF pl=1 THEN r2=192:r3=336 ELSE r2=192:r3=96
910 IF tq2<tg THEN CALL ck:GOSUB 2000:GOSUB 1050:GOTO 1
80
920 IF pl=1 THEN s#="RED WINS" ELSE s#="WHITE WINS"
930 MODE 0:PEN pl:LOCATE 8-pl,10:PRINT s#
940 LOCATE 6,16:PRINT"BY";ts(pl);"TO";ts(3-p)
950 RESTORE 2410:FOR f=1 TO 29:READ note,dur:SOUND 7,no
te*3,dur,0,2:SOUND 7,0,15:NEXT
960 LOCATE 7,25:PRINT"ANY KEY":CALL &B818:GOTO 80
970 REM Move piece around corner lines
980 mk=a5*8-7:FOR s=1 TO 2:a2=cr(mk)
990 a3=cr(mk+1):FOR f=1 TO 32:pempl:pa=0
1000 p2=a2:p3=a3:p4=254:p5=255:GOSUB 1690
1010 a2=a2+cr(mk+2):a3=a3+cr(mk+3)
1020 pe=0:pa=0:p2=a2:NEXT:mk=mk+4:NEXT
1030 p3=a3:p4=143:p5=p4:GOSUB 1690:RETURN
1040 REM Check capture path is clear
1050 FOR f=1 TO 6:GOSUB 1170
1060 IF no OR ok THEN RETURN
1070 NEXT:RETURN
1080 FOR f=1 TO 6:GOSUB 1220
1090 IF no OR ok THEN RETURN
1100 NEXT:RETURN
1110 FOR f=6 TO 1 STEP -1:GOSUB 1170
1120 IF no OR ok THEN RETURN
1130 NEXT:RETURN
1140 FOR f=6 TO 1 STEP -1:GOSUB 1220
1150 IF no OR ok THEN RETURN
1160 NEXT:RETURN
1170 IF b=v5 AND f=h5 THEN 1200
1180 IF scr(f,b)=pl THEN no=1:RETURN
1190 IF scr(f,b)=3-pl THEN ok=1:GOTO 1200
1200 tk(r)=(f+3)*48:tk(r+1)=(8-b)*48

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1210 r#:=2:RETURN
1220 IF b#5 AND f#5 THEN 1250
1230 IF scr (b,f)=p1 THEN no#1:RETURN
1240 IF scr (b,f)=3-p1 THEN ok#1:GOTO 1250
1250 tk(r)=(b+3)*48:tk(r+1)=(b-f)*48
1260 r#:=2:RETURN
1270 REM Rub out/redraw
1280 GOSUB 1570
1290 pe#3:GOSUB 1620:GOSUB 1690
1300 IF scr (h,v)=p1 THEN pe#p1:GOSUB 1610:GOSUB 1690
1310 IF scr (h,v)=3-p1 THEN pe#3-p1:GOSUB 1610:GOSUB 1690
1320 RETURN
1330 GOSUB 1560:IF scr (h,v)=0 OR scr (h,v)=3-p1 THEN RET
URN
1340 x#x:y#y:mov#1
1350 SOUND 129,2000,0,0,1
1360 CALL ck:CALL 58018:RETURN
1370 REM 5 pressed
1380 IF x#x3 AND y#y3 THEN mov#0:SOUND 129,p1*20,0,0,1:
GOTO 1440
1390 GOSUB 1560:IF scr (h,v) < 0 THEN m#=" TRY AGAIN":GOS
UB 1650:RETURN
1400 IF x#x3 AND y#y3-48 OR x#x3 AND y#y3+48 OR y#y3 AN
D x#x3-48 OR y#y3 AND x#x3+48 OR x#x3-48 AND y#y3-48 OR
x#x3+48 AND y#y3+48 OR x#x3-48 AND y#y3+48 OR x#x3+48
AND y#y3-48 THEN 1410 ELSE m#=" TOO FAR":GOSUB 1660:RE
TURN
1410 SOUND 129,p1*20,0,0,1
1420 GOSUB 1580:scr (h,v)=0:GOSUB 1560:scr (h,v)=p1:x2#x:
y2#y:pe#3:p2#x3
1430 p3#y3:p4=143:p5#p4:GOSUB 1690
1440 pe#p1:pa#3:p2#x:p3#y:p4#254:p5#255
1450 GOSUB 1690
1460 IF p1=1 THEN p1=2:x=192:y=96 ELSE IF p1=2 THEN p1=
1:x=192:y=336
1470 mov#0:RETURN
1480 REM counters
1490 FOR y=288 TO 336 STEP 48:FOR x=192 TO 432 STEP 48:
GOSUB 1560:scr (h,v)=1
1500 pe#1:pa#3:GOSUB 1590:GOSUB 1690:NEXT x,y:FOR y=96
TO 144 STEP 48
1510 FOR x=192 TO 432 STEP 48
1520 GOSUB 1560:scr (h,v)=2
1530 pe#2:GOSUB 1590:GOSUB 1690
1540 NEXT x,y:RETURN
1550 REM calc h,v
1560 h#x/48-3:v#0-(v/48):RETURN
1570 h#x2/48-3:v#0-(y2/48):RETURN
1580 h#x3/48-3:v#0-(y3/48):RETURN
1590 p2#x:p3#y:p4=254:p5#255:RETURN
1600 REM calc pen, paper and symbols
1610 pa#3:p2#x2:p3#y2:p4=254:p5#255:RETURN
1620 p2#v2:p3#y2:p4=143:p5#p4:RETURN
1630 p2#b:p3#c:p4#254:p5#255:RETURN
1640 REM PRINT messages
1650 GOSUB 1560:pe#scr (h,v):pa#3:p2#x:p3#y:p4#254:p5#25
5:x#x3:y#y3:GOSUB 1690:GOTO 1670
1660 pe#3:pa#3:p2#x:p3#y:p4#143:p5#p4:GOSUB 1690:x#x3:y
#y3
1670 PRINT#1,m#;:AFTER 150 GOSUB 2000:RETURN
1680 REM print symbols
1690 PEN pe:PAPER pa:CALL a:TAG:MOVE p2,p3:PRINT CHR#(p
4):MOVE p2,p3-16:PRINT CHR#(p5):TAGOFF:RETURN
1700 LOCATE 18,5:PEN 1:PAPER 0:PRINT USING" ":ts(1):LOC
ATE 18,21:PEN 2:PRINT USING" ":ts(2):RETURN
1710 FOR f=1 TO 50:tk(f)=0:NEXT:RETURN
1720 k#=INKEY$:IF k#="0" OR k#"9" THEN 1720 ELSE RETUR
N
1730 REM screen and symbols set-up
1740 FOR f#0 TO 15:INK f,0:NEXT: BORDER 0
1750 SYMBOL 254,0,0,24,60,60,126,126,126:SYMBOL 255,126
,126,126,60,60,24,0,0
1760 SYMBOL 252,24,60,126,126,126,219,219,255:SYMBOL 25
3,255,231,195,90,126,126,60,24
1770 ENW 1,1,15,1,3,-1,1,5,0,1,12,-1,5:ENW 2,3,5,1,15,-
1,5:ENT 2,5,1,15
1780 MODE 0
1790 FOR y=178 TO 398 STEP 220
1800 FOR x=128 TO 352 STEP 224
1810 MOVE x,y:DRAW# 176,0,4:DRAW# 0,-176:DRAW# -176,0:D
RAW# 0,176:NEXT x,y
1820 FOR y=128 TO 360 STEP 232:FOR x=168 TO 400 STEP 23
2:MOVE x,y:DRAW# 84,0:DRAW# 0,-88:DRAW# -84,0:DRAW# 0,8
8:NEXT x,y
1830 FOR x#82 TO 322 STEP 48:MOVE 284,x:DRAW# 242,0,4:M
OVE 284,x-2:DRAW# 242,0:MOVE 284,x+2:DRAW# 242,0:NEXT
1840 FOR x#286 TO 446 STEP 48:MOVE x,322:DRAW# 0,-242:M
OVE x+4,322:DRAW# 0,-242:NEXT
1850 FOR y#96 TO 336 STEP 48:FOR x#192 TO 432 STEP 48
1860 PLOT x,y,3:MOVE x,y:TAG:PRINT CHR#(143):MOVE x,y-
16:PRINT CHR#(143):NEXT x,y:TAGOFF
1870 WINDOW#2,19,19,8,18:PAPER #2,0:PEN #2,7:PRINT#2,"S
C O R E S";
1880 n#1::#9:FOR g#1 TO 3:FOR f#15 TO 11 STEP -2
1890 n#STR#(n):LOCATE g,f:PEN 1:PRINT RIGHT#(n#,1)
1900 IF i#9 THEN i#10 ELSE i#9
1910 n#n+3:NEXT:n#n-8:NEXT
1920 MOVE 28,212:DRAW# 36,0,9:DRAW# 0,-24:DRAW# -36,0:D
RAW# 0,24:PEN 9:LOCATE 2,18:PRINT"E":MOVE 20,136:DRAW
48,0:DRAW# 0,-32:DRAW# -48,0
1930 DRAW# 0,32:RESTORE 2300:FOR f#1 TO 64:READ xscr(f)
#x:NEXT
1940 RETURN
1950 REM set up machine code
1960 MEMORY 39000:ck=39992:a=40000

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1970 FOR f=39992 TO 40011
1980 READ a$:POKE f,VAL("%"+a$):NEXT
1990 WINDOW#1,6,15,25,25:PAPER #1,0:FEN #1,0
2000 CLS#1:MOVE 128,2:DRAW# 176,0,4:DRAW# 0,62:MOVE# 48
,0:DRAW# 0,-62:DRAW# 176,0:MOVE x,y
2010 RETURN
2020 INK 0,15:INK 1,0:BORDER 15:FEN 1:PAPER 0:MODE 1:PR
INT CHR$(7);"Error in line";ERL:END
2030 REM look-up tables for edge positions
2040 DATA 0,2,1,2,1,5,2,5,3,2,4,0
2050 DATA 3,1,3,1,4,2,4,3,3,4
2060 DATA 0,4,1,3,3,3,2,4,1,4,4,0
2070 DATA 5,1,2,3,2,2,5,1,5,4
2080 DATA 7,6,2,5,2,5,3,2,4,2,1,7
2090 DATA 6,3,4,2,4,3,3,4,3,1
2100 DATA 7,6,4,4,4,3,3,3,2,4,1,7
2110 DATA 6,5,5,4,2,3,2,2,5,1
2120 DATA 7,5,6,5,3,2,4,2,1,5,2,7
2130 DATA 4,6,4,3,3,4,3,1,4,1
2140 DATA 7,3,6,4,1,4,4,3,3,3,2,7
2150 DATA 2,6,5,1,5,4,2,3,2,2
2160 DATA 0,1,5,2,4,2,1,5,2,5,3,0
2170 DATA 1,4,3,4,3,1,4,2,4,3
2180 DATA 0,1,3,3,2,4,1,4,4,3,3,0
2190 DATA 1,2,2,2,5,1,5,4,2,3
2200 REM look-up for row/column and direction of travel
2210 DATA 12,18,15,21,1,12,15,18,21
2220 DATA 1,15,21,12,18,2,18,21,12,15
2230 DATA 2,21,21,27,15,3,24,21,27,18
2240 DATA 3,27,18,24,21,4,27,15,21,21,4
2250 DATA 27,12,21,6,5,27,9,24,6,5,24
2260 DATA 6,27,9,6,21,6,27,12,6,18,6,12
2270 DATA 12,7,15,6,12,9,7,12,9,15,6,8
2280 DATA 12,12,18,6,8
2290 REM data for array DR
2300 DATA 136,266,0,4,136,394,4,0
2310 DATA 268,394,-4,0,136,394,0,-4
2320 DATA 364,394,4,0,488,394,0,-4
2330 DATA 488,266,0,4,488,394,-4,0
2340 DATA 488,164,0,-4,488,36,-4,0
2350 DATA 368,36,4,0,488,36,0,4
2360 DATA 268,36,-4,0,136,36,0,4
2370 DATA 136,164,0,-4,136,36,4,0
2380 REM machine code and music data
2390 DATA FS,CD,09,88,38,FB,F1,C9,CD,93
2400 DATA 88,CD,DE,88,CD,99,88,C3,E4,88
2410 DATA 47,5,47,5,47,5,60,5,45,5,45,5
2420 DATA 45,5,53,5,40,5,40,5,40,5,47,5
2430 DATA 0,0,88,5,88,5,60,5,60,40,63
2440 DATA 40,63,5,63,5,53,5,53,40,60,40
2450 DATA 47,10,47,10,53,10,60,50,71
2460 DATA 100,47,200

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