Listing zu »Grafik«

```
100 REM ********************************
110 REM *                              *
120 REM *        Grafikprogramm        *
130 REM *     für Schneider CPC 464    *
140 REM *                              *
150 REM *   (c) 1984 by Gerhard Weber  *
160 REM *                              *
170 REM *         Schloerplatz 1       *
180 REM *      8480 Weiden i.d.OPf.    *
190 REM *                              *
200 REM *     Version vom 01.11.1984   *
210 REM *                              *
220 REM ********************************
230 '
240 '
250 '
1000 ON BREAK GOSUB 1170:ON ERROR GOTO 1
130
1010 MODE 1
1020 INK 0,1:INK 1,24:INK 2,18:INK 3,6:B
ORDER 0:fa=2
1030 DIM fb(3):fb(0)=1:fb(1)=24:fb(2)=18
:fb(3)=6
1040 WINDOW#1,1,40,1,1:WINDOW#0,1,40,1,1
1050 CLS:LOCATE 1,5
1060 CLG 3
1070 CLS #1
1080 GOSUB 29000:GOSUB 28000
1090 KEY DEF 72,1,&F0:KEY DEF 73,1,&F1:K
EY DEF 74,1,&F2:KEY DEF 75,1,&F3
1100 KEY DEF 76,0,&E0:KEY DEF 77,0,&D
1110 KEY 128,"speed key 20,4"+CHR$(13)
1120 xx=320:yy=200:fu=1
1130 GOSUB 26000
1140 ON fu GOSUB 13000,14000,18000,16000
,15000,19000,17000,20000,23000,21000,220
00,24000,25000
1150 GOTO 1130
1160 a$=INKEY$:IF a$="" THEN 1160
1170 MODE 2:SPEED KEY 20,4:KEY DEF 9,1,2
24,224,224:END
10000 REM Joystick abfragen
10010 flag = 0:SPEED KEY 7,2:rialt=-1:ri
=-1
10020 a$=INKEY$:IF a$=CHR$(13) THEN flag
 =1:RETURN
10030 IF a$=CHR$(&E0) THEN xa=xx:ya=yy:r
i=4:RETURN
10040 joy0=JOY(0) AND 15: IF joy0 THEN 1
0150
10050 IF a$="" OR a$<CHR$(&F0) OR a$>CHR
$(&F3) THEN aa=(aa+1) MOD 30:sw1=MAX(sw1
+(aa>20),2):GOTO 10020
10060 GOSUB 12000: ri=ASC(a$)-&F0:IF ri
= rialt THEN sw1=MIN(sw1*1.2,10) ELSE ri
alt=ri:sw1=2
10070 sw=INT(sw1):aa=1
10080 ON ri+1 GOSUB 10100,10110,10120,10
130
10090 GOSUB 11000:FOR i=1 TO warte:a$=IN
KEY$:NEXT:warte=warte ö 2:IF raus=0 THEN
 GOTO 10020 ELSE RETURN
10100 yy=yy+sw:IF yy>383 THEN yy=383:RET
URN ELSE RETURN
10110 yy=yy-sw:IF yy<0 THEN yy=0:RETURN
ELSE RETURN
10120 xx=xx-sw:IF xx<0 THEN xx=0:RETURN
ELSE RETURN
10130 xx=xx+sw:IF xx>639 THEN xx=639:RET
URN ELSE RETURN
10140 RETURN
10150 GOSUB 12000:IF joy0 AND 1 THEN GOS
UB 10100
10160 IF joy0 AND 2 THEN GOSUB 10110
10170 IF joy0 AND 4 THEN GOSUB 10120
10180 IF joy0 AND 8 THEN GOSUB 10130
10190 IF joy0 = rialt THEN sw1=MIN(sw1*1
.1,10) ELSE rialt=joy0:sw1=2:warte=10
10200 sw=INT(sw1):aa=1:GOTO 10090
11000 REM Fadenkreuz setzen
11010 a1=TEST(xx,yy)  :a2=TEST(xx+6,yy):
a3=TEST(xx+8,yy):a4=TEST(xx-6,yy)
11020 a5=TEST(xx-8,yy):a6=TEST(xx,yy+6):
a7=TEST(xx,yy+8):a8=TEST(xx,yy-6)
11030 a9=TEST(xx,yy-8):
11040 PLOT xx,yy,fa  :PLOT xx+6,yy,fa:PL
OT xx+8,yy,fa:PLOT xx-6,yy,fa
11050 PLOT xx-8,yy,fa:PLOT xx,yy+6,fa:PL
OT xx,yy+8,fa:PLOT xx,yy-6,fa
11060 PLOT xx,yy-8,fa:IF a1=fa THEN PLOT
 xx,yy,(fa+1) MOD 4
11070 RETURN
12000 REM Fadenkreuz loeschen
12010 PLOT xx,yy,a1:PLOT xx+6,yy,a2:PLOT
 xx+8,yy,a3:PLOT xx-6,yy,a4:PLOT xx-8,yy
,a5
12020 PLOT xx,yy+6,a6:PLOT xx,yy+8,a7:PL
OT xx,yy-6,a8:PLOT xx,yy-8,a9:RETURN
13000 REM Linie
13010 raus = 1:GOSUB 11000:LOCATE#1,40,1
:PRINT#1,CHR$(24)"e"CHR$(24);
13020 GOSUB 10000:a1=fa:IF flag =1 THEN
raus =0 :GOSUB 12000:LOCATE#1,40,1:PRINT
#1," ";:RETURN
13030 IF ri<>4 THEN 13020
13040 raus=0 :LOCATE#1,40,1:PRINT#1," ";
:GOSUB 10000:IF flag=0 THEN raus=1:LOCAT
E#1,40,1:PRINT#1,CHR$(24)"e"CHR$(24);:GO
TO 13020
13050 IF flag =1 THEN raus =0 :GOSUB 120
00: RETURN ELSE STOP
13060 RETURN
14000 REM Gerade
14010 GOSUB 31000:IF flag THEN RETURN
14030 MOVE xx1,yy1:DRAW xa,ya,fa
14040 GOTO 14010
14050 RETURN
15000 REM Viereck
15010 GOSUB 31000:IF flag THEN RETURN
15040 xmin=MIN(xx1,xa):xmax=MAX(xx1,xa):
ymin=MIN(yy1,ya):ymax=MAX(yy1,ya)
15050 MOVE xmin,ymin : DRAW xmax,ymin,fa
 : DRAW xmax,ymax,fa : DRAW xmin,ymax,fa
 : DRAW xmin,ymin,fa
15060 GOTO 15010
15070 RETURN
16000 REM Strahlen
16010 GOSUB 11000:GOSUB 10000:GOSUB 1200
0:IF flag THEN RETURN
16020 xx1=xa:yy1=ya
16030 GOSUB 30000:GOSUB 11000:GOSUB 1000
0:GOSUB 12000:GOSUB 30600:IF flag THEN R
ETURN
16040 MOVE xx1,yy1:DRAW xa,ya,fa:GOTO 16
030
16050 RETURN
17000 REM Kreis
17010 GOSUB 31000:IF flag THEN RETURN
17030 rr=SQR((xa-xx1)^2+(ya-yy1)^2):DEG:
MOVE xx1+rr,yy1
17040 FOR i=0 TO 360 STEP 10: DRAW xx1+r
r*COS(i),yy1+rr*SIN(i),fa : NEXT
17050 DRAW xx1+rr,yy1,fa:xx=xx1:yy=yy1
17060 GOTO 17010
17070 RETURN
18000 REM Streckenzug
18010 GOSUB 11000:GOSUB 10000:GOSUB 1200
0:IF flag=1 THEN RETURN
18020 xx1=xa:yy1=ya
18030 GOSUB 30000:GOSUB 11000:GOSUB 1000
0:GOSUB 12000:GOSUB 30600:IF flag=1 THEN
 RETURN
18040 MOVE xx1,yy1:DRAW xa,ya,fa:GOTO 18
020
18050 RETURN
19000 REM Viereck füllen
19010 GOSUB 31000:IF flag THEN RETURN
19040 xmin=MIN(xx1,xa):xmax=MAX(xx1,xa):
ymin=MIN(yy1,ya):ymax=MAX(yy1,ya)
19050 FOR i = xmin TO xmax STEP 2: MOVE
i,ymin : DRAW i,ymax,fa : NEXT
19060 GOTO 19010
19070 RETURN
20000 REM Vollkreis
20010 GOSUB 11000:GOSUB 10000:GOSUB 1200
0:IF flag=1 THEN RETURN
20020 xx1=xa:yy1=ya:GOSUB 30000:GOSUB 11
000:GOSUB 10000:GOSUB 12000:GOSUB 30600:
IF flag=1 THEN RETURN
20030 rr=SQR((xa-xx1)^2+(ya-yy1)^2)
20040 FOR i=0 TO rr STEP 2: yy2=SQR(rr^2
```

```
-i^2): MOVE xx1-i,yy1-yy2:DRAW xx1-i,yy1
+yy2,fa
20050 MOVE xx1+i,yy1-yy2:DRAW xx1+i,yy1+
yy2,fa : NEXT:xx=xx1:yy=yy1
20060 GOTO 20010
20070 RETURN
21000 REM Punkt setzen
21010 GOSUB 11000:GOSUB 10000:GOSUB 1200
0:IF flag=1 THEN RETURN
21020 PLOT xa,ya,fa:GOTO 21010
21030 RETURN
22000 REM Text
22010 GOSUB 11000:GOSUB 10000:GOSUB 1200
0:IF flag=1 THEN RETURN
22020 SPEED KEY 20,4
22030 CLS #1:PRINT#1,"Text ";
22040 text$=""
22050 a$=INKEY$:IF a$="" THEN 22050
22060 IF a$=CHR$(13) THEN PLOT 639,399,f
a:MOVE xa,ya:TAG:PRINT text$;:TAGOFF:PLO
T 639,399,0:RETURN
22070 IF a$=CHR$(127) AND text$ <>"" THE
N text$=LEFT$(text$,LEN(text$)-1):PRINT#
1,CHR$(8);" ";CHR$(8);
22080 IF a$<" " OR a$>CHR$(126) THEN 220
50
22090 IF LEN(text$)>25 THEN 22050
22100 text$=text$+a$:PRINT#1,a$;
22110 GOTO 22050
22120 RETURN
23000 REM Dreieck
23010 GOSUB 11000:GOSUB 10000:GOSUB 1200
0:IF flag=1 THEN RETURN
23020 xx1=xa:yy1=ya
23030 GOSUB 30000:GOSUB 11000:GOSUB 1000
0:GOSUB 12000:IF flag=1 THEN GOSUB 30600
:RETURN
23040 xx2=xa:yy2=ya
23050 GOSUB 30100:GOSUB 11000:GOSUB 1000
0:GOSUB 12000:GOSUB 30500:IF flag=1 THEN
 RETURN
23060 rr=SQR((xx1-xx2)^2+(yy1-yy2)^2):IF
 rr=0 THEN MOVE xx1,yy1:DRAW xa,ya,fa:GO
TO 23010
23070 FOR i=0 TO rr STEP 0.5: MOVE xx1+i
*(xx2-xx1)/rr,yy1+i*(yy2-yy1)/rr
23080 DRAW xa,ya,fa:NEXT
23090 rr=SQR((xx1-xa)^2+(yy1-ya)^2):IF r
r=0 THEN 23010
23100 FOR i=0 TO rr STEP 0.5: MOVE xx1+i
*(xa-xx1)/rr,yy1+i*(ya-yy1)/rr
23110 DRAW xx2,yy2,fa:NEXT
23120 GOTO 23010
24000 REM Farbmenü
24010 CLS #1
24020 FOR i=0 TO 3:PAPER#1,i:PRINT#1,SPA
CE$(10);:NEXT
24030 PAPER#1,0:PEN#1,1
24040 FOR i=10 TO 40 STEP 10:LOCATE#1,i,
1:PRINT#1," ";:NEXT:LOCATE#1,10*fa+10,1:
PRINT#1,CHR$(242);
24050 a$=INKEY$:IF a$="" THEN 24050
24060 IF a$=CHR$(13) THEN RETURN
24070 IF a$=CHR$(&E0) THEN RETURN
24080 a=ASC(a$): IF a<&F0 OR a>&F3 THEN
24050
24090 ON a-&F0+1 GOTO 24110,24130,24150,
24170
24100 STOP
24110 fb(fa)=fb(fa)-1:IF fb(fa)<0 THEN f
b(fa)=0
24120 INK fa,fb(fa):GOTO 24050
24130 fb(fa)=fb(fa)+1:IF fb(fa)>26 THEN
fb(fa)=26
24140 INK fa,fb(fa):GOTO 24050
24150 fa=fa-1:IF fa<0 THEN fa=0
24160 GOTO 24040
24170 fa=fa+1:IF fa>3 THEN fa=3
24180 GOTO 24040
24190 RETURN
25000 REM Hilfsfunktionen
25010 aw=1
25020 CLS#1:RESTORE 25000:FOR i=1 TO 4:R
EAD w$
25030 IF i=aw THEN PRINT#1,CHR$(24);w$;C
HR$(24); ELSE PRINT#1,w$;
25040 NEXT
25050 DATA"Speichern ","Laden      ","Lös
chen    ","Drucken    "
25060 SPEED KEY 20,4
25070 a$=INKEY$:IF a$=""THEN 25070
25080 a=ASC(a$):IF a=&E0 OR a=&F2 OR a=&
F3 OR a=13 THEN 25090 ELSE 25070
25090 IF a=&E0 THEN 25130
25095 IF a=13 THEN RETURN
25100 IF a=&F3 THEN aw=MIN(aw+1,4)
25110 IF a=&F2 THEN aw=MAX(aw-1,1)
25120 GOTO 25020
25130 ON aw GOTO 25200,25600,25400,27000
25140 RETURN
25150 RETURN
25200 REM Bild auf Cassette abspeichern
25210 CLS#1:PRINT#1,"Bitte REC und PLAY
drücken, dann Taste":
25220 a$=INKEY$:IF a$="" THEN 25220
25225 IF a$=CHR$(13) THEN CLS#1:PRINT#1,
"Aufzeichnung abgebrochen":: RETURN
25230 SPEED WRITE 1:CLS#1
25240 SAVE "!picture1",B,&C000,&4000
25250 CLS#1:PRINT#1,"Bild aufgezeichnet"
25260 SAVE "!picture2",B,&C000,&4000
25270 RETURN
25400 REM Bild loeschen
25410 CLG fa:RETURN
25420 RETURN
25600 REM Bild von Cassette laden
25610 CLS#1:PRINT#1,"Bitte PLAY drücken,
 dann andere Taste";
25620 a$=INKEY$:IF a$="" THEN 25620
25625 IF a$=CHR$(13) THEN CLS#1:PRINT#1,
"Bild laden abgebrochen":: RETURN
25630 LOAD "!",&C000
25640 RETURN
26000 REM Hauptmenü
26010 LOCATE#1,40,1:PRINT#1,CHR$(242);
26020 LOCATE#1,1,1:PRINT#1,LEFT$(sy$,3*(
fu-1));CHR$(24);MID$(sy$,3*fu-2,3);CHR$(
24);MID$(sy$,3*fu+1);
26030 SPEED KEY 20,4
26040 a$=INKEY$:IF a$=""THEN 26040
26050 a=ASC(a$):IF a=&E0 OR a=&F2 OR a=&
F3 OR a=13 THEN 26060 ELSE 26040
26060 IF a=&F3 THEN fu=fu+1
26070 IF fu>13 THEN fu=1
26080 IF a=&F2 THEN fu=fu-1
26090 IF fu<1 THEN fu=13
26100 LOCATE#1,1,1:PRINT#1,LEFT$(sy$,3*(
fu-1));CHR$(24);MID$(sy$,3*fu-2,3);CHR$(
24);MID$(sy$,3*fu+1);CHR$(242);
26110 IF a=&F2 OR a=&F3 THEN 26040
26120 LOCATE#1,40,1:PRINT#1," ";:RETURN
27000 REM Bild ausdrucken
27010 CLS#1:INPUT#1,"Breite (max.639)";b
br
27020 IF bbr<100 OR bbr>639 THEN 27010
27030 bho=bbr*0.6*72/80:bho=6*INT((bho+3
)/6)
27040 xf=640/bbr:yf=384/bho
27050 CLS#1:INPUT#1,"normal oder invers
";ni$:ni$=LOWER$(LEFT$(ni$,1))
27060 IF ni$<>"n" AND ni$<>"i" THEN 2705
0
27070 CLS#1:PRINT#1,"Breite =";bbr;"  Hö
he =";bho;"    ";ni$;
27080 bbr=bbr-1:bho=bho-1
27090 fmax=MAX(fb(0),fb(1),fb(2),fb(3))
27100 fmin=MIN(fb(0),fb(1),fb(2),fb(3))
27110 IF fmax=fmin THEN CLS#1:PRINT#1,"F
arbfehler: Alle Farben gleich":FOR i=1
TO 1000:NEXT:RETURN
27120 FOR i=0 TO 3:fc(i)=(fb(i)-fmin)/(f
max-fmin):NEXT
27130 IF ni$="i" THEN FOR i=0 TO 3:fc(i)
=1-fc(i):NEXT
27135 WIDTH 255:PRINT#8,CHR$(27)"T12":CH
R$(27)">";
27140 FOR y=bho TO 0 STEP -6:ya=y*yf:v2=
yf+yf:y3=v2+yf:y4=y2+y2:y5=y3+y2
27150  PRINT#8,CHR$(27)"S";RIGHT$(STR$(1
0001+bbr),4);
27160  FOR x=0 TO bbr
27170   xa=x*xf
27180   IF fc(TEST(xa,ya))>RND THEN pu=1
 ELSE pu=0
27190   IF fc(TEST(xa,ya-yf)) > RND THEN
 pu=pu OR 2
```

```
27200    IF fc(TEST(xa,ya-y2)) > RND THEN
 pu=pu OR 4
27210    IF fc(TEST(xa,ya-y3)) > RND THEN
 pu=pu OR 8
27220    IF fc(TEST(xa,ya-y4)) > RND THEN
 pu=pu OR 16
27230    IF fc(TEST(xa,ya-y5)) > RND THEN
 pu=pu OR 32
27240    PRINT#8,CHR$(pu);
27250  NEXT:PRINT#8:IF INKEY$=CHR$(&E0)
THEN y=-1
27260 NEXT:PRINT#8
27270 RETURN
28000 REM Statuszeile definieren
28010 RESTORE 28000:sy$=""
28020 FOR i=1 TO 39:READ x:sy$=sy$+CHR$(
x):NEXT
28030 DATA 150,154,153,146,154,152,194,1
54,192,253,254,255,32,232,32
28040 DATA 32,233,32,32,230,32,32,231,32
,32,214,32,32,46,32,32,84,32
28050 DATA 32,70,32,32,72,32
28060 CLS#1:PRINT#1,sy$;:RETURN
29000 REM Umlaute und Tastatur definiere
n
29010 SYMBOL AFTER 90
29020 SYMBOL 91,&DB,&3C,&66,&66,&7E,&66,
&66,0:REM Ae
29030 SYMBOL 92,&66,&3C,&66,&66,&66,&66,
&3C,0:REM Oe
29040 SYMBOL 93,&66,&42,&66,&66,&66,&66,
&3C,0:REM Ue
29050 SYMBOL 123,&CC,0,&78,&C,&7C,&CC,&7
6,0:REM ae
29060 SYMBOL 124,&66,0,&3C,&66,&66,&66,&
3C,0:REM oe
29070 SYMBOL 125,&66,0,&66,&66,&66,&66,&
3E,0:REM ue
29080 SYMBOL 126,&3C,&66,&66,&6C,&66,&66
,&6C,0:REM ss
29090 KEY DEF 17,1,123,91,27
29100 KEY DEF 22,1,124,92,28
29110 KEY DEF 19,1,125,93,29
29120 KEY DEF 26,1,126,94,0
29130 SYMBOL 253,0,0,0,0,7,&3F,&7F,0
29140 SYMBOL 254,0,1,30,&70,&3F,&C0,255,
0
29150 SYMBOL 255,30,&E0,0,&7E,128,0,254,
0
29160 SYMBOL 214,24,24,60,60,&7E,&7E,255
,0
29170 KEY DEF 15,0,&30,128:KEY DEF 9,0,2
24,224,224
29180 RETURN
```

```
30000 REM Punkt 1 markieren
30010 x15=TEST(xx1,yy1)     :x19=TEST(xx1
+2,yy1+2):x13=TEST(xx1+2,yy1-2)
30020 x11=TEST(xx1-2,yy1-2):x17=TEST(xx1
-2,yy1+2)
30030 PLOT xx1,yy1,fa     :IF x15=fa THEN
 PLOT xx1 , yy1 , (fa+1) MOD 4
30040 PLOT xx1+2,yy1+2,fa:IF x19=fa THEN
 PLOT xx1+2,yy1+2,(fa+1) MOD 4
30050 PLOT xx1+2,yy1-2,fa:IF x13=fa THEN
 PLOT xx1+2,yy1-2,(fa+1) MOD 4
30060 PLOT xx1-2,yy1-2,fa:IF x11=fa THEN
 PLOT xx1-2,yy1-2,(fa+1) MOD 4
30070 PLOT xx1-2,yy1+2,fa:IF x17=fa THEN
 PLOT xx1-2,yy1+2,(fa+1) MOD 4
30080 RETURN
30100 REM Punkt 2 markieren
30110 x25=TEST(xx2,yy2)     :x29=TEST(xx2
+2,yy2+2):x23=TEST(xx2+2,yy2-2)
30120 x21=TEST(xx2+2,yy2-2):x27=TEST(xx2
-2,yy2+2)
30130 PLOT xx2,yy2,fa     :IF x25=fa THEN
 PLOT xx2 , yy2 , (fa+1) MOD 4
30140 PLOT xx2+2,yy2+2,fa:IF x29=fa THEN
 PLOT xx2+2,yy2+2,(fa+1) MOD 4
30150 PLOT xx2+2,yy2-2,fa:IF x23=fa THEN
 PLOT xx2+2,yy2-2,(fa+1) MOD 4
30160 PLOT xx2-2,yy2-2,fa:IF x21=fa THEN
 PLOT xx2-2,yy2-2,(fa+1) MOD 4
30170 PLOT xx2-2,yy2+2,fa:IF x27=fa THEN
 PLOT xx2-2,yy2+2,(fa+1) MOD 4
30180 RETURN
30500 PLOT xx2,yy2,x25:PLOT xx2+2,yy2+2,
x29:PLOT xx2+2,yy2-2,x23
30510 PLOT xx2-2,yy2-2,x21:PLOT xx2-2,yy
2+2,x27
30600 PLOT xx1,yy1,x15:PLOT xx1+2,yy1+2,
x19:PLOT xx1+2,yy1-2,x13
30610 PLOT xx1-2,yy1-2,x11:PLOT xx1-2,yy
1+2,x17
30620 RETURN
31000 REM Parameter holen
31010 GOSUB 11000:GOSUB 10000:GOSUB 1200
0:IF flag THEN RETURN
31020 xx1=xa:yy1=ya:GOSUB 30000
31030 GOSUB 11000:GOSUB 10000:GOSUB 1200
0:GOSUB 30600
31040 RETURN
65530 WIDTH 255
65531 PRINT#8,CHR$(&1D);"A";STRING$(119,
"B");"C";STRING$(23,"B");"AB";CHR$(30);
65532 LIST -65529,#8
```

Listing zu »Grafik« (Schluß)