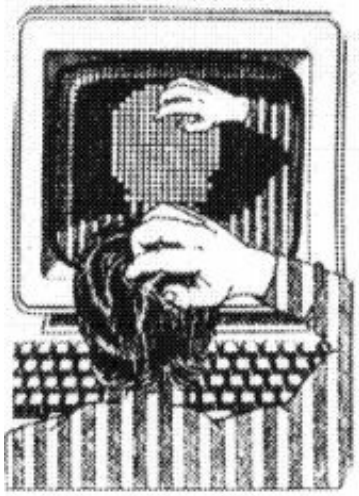


APC
AUG 85

VZ-200 instant colour

This short machine code routine will turn the screen the colour you have put in the data — instantly!!

To call the machine code routine type X=USR (0) where needed in your program.

To get different colours you change the underlined number in the data.

The numbers for the different colours are:

0=GREEN 170=BLUE
85=YELLOW 255=RED

A Willows

```
00010 FORI=-28687 TO -28674
00020 READA:POKEI,A
00030 NEXT
00040 DATA33,0,112,17,1,1,2,1
      ,255,7,54,85,237,176,201
00050 POKE30862,241:POKE30863,143
```

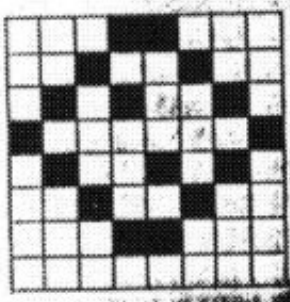
VZ USER GRAPHICS

```
1000 A=44800:B=65536
1010 READ C:IF C=1THEN
     1070ELSEPOKEA-B,C
     :A=A+1:GOTO1010
1020 DATA245,197,213,
     229,33,0,0,17,0,0
1030 DATA14,8,26,119,
     35,19,26,119,6,31
1040 DATA35,5,120,254,
     0,194,20,175,19,13
1050 DATA121,254,0,
     194,12,175,241,193
1060 DATA209,225,
     201,-1
1070 POKE30862,0:POKE
     30863,175:RETURN
```

This routine will provide any VZ programmers with the ability of creating their own definable high resolution characters in 8x8 pixels.

For example

00000011	11000000
00001100	00110000
00110011	00001100
11000000	00000011
00110000	11001100
00001100	00110000
00000011	11000000
00000000	00000000



Refer to the technical manual for more details on high resolution graphics.

To activate this routine, you simply poke the starting address of the code for your user definable graphic into the memory location 44808/9 and the screen position of your user definable graphic into the memory location 44805/6.

Sample Program

```
5 GOSUB 1000
10 FOR T=45000 TO
   45015
20 READ S:POKE
   T-65536,S
30 NEXT T
40 POKE 44808-65536,
   200:POKE 44809-
   65536,175
50 POKE 44805-65536,
   0:POKE 44806-
   65536,112
60 MODE(1):X=USR(0)
70 GOTO 70
1080 DATA 3,192,12,48,
   51,12,192,3,48
1090 DATA 204,12,48,3,
   192,0,0
```

SEPT 85
APC

REAL TIME CLOCK

The following set of subroutines can be used to implement timing on any VZ-200.

```
100 'X=TIME & STOP
105 POKE 30845,201
110 X=PEEK(LC)+256*
    PEEK(LC+1)
120 RETURN
130 'ZERO & DISSABLE
140 POKE 30845,201:POKE
    LC,0:POKE LC+1,0
150 RETURN
160 'SET UP TIME ROUTINE
170 GOSUB 130:
180 L=30816:RESTORE
190 READ X
200 IF X>0, POKE
    L,X:L=L+1:GOTO 190
210 POKE 30846,96:POKE
    30847,120
220 DATA 42,104,120,35,34,
    104,120,201,-1
230 LC=30824
240 RETURN
250 'START TIME
205 POKE 30845,195
210 RETURN
```

The subroutine at 150 is used to set up a simple machine code program which increments locations 30824 and 30825 every time the VZ-200 interrupt routine is executed, which is 50 times every second. When the time is read by calling the subroutine at line 100, the value returned in X should be divided by 50 to read the number of seconds since the timer was started.

To start timing, use GOSUB 200. To zero the timeclock, use GOSUB 130.

To read the time without stopping the clock, use GOSUB 110.

To read the time and stop the clock, use GOSUB 100.

Be sure that before you use any of these subroutines, you do a GOSUB 150 to set up the right routines. Your main program should not use the variable LC as this is used in these timing programs.

C Griffin

JAN 86
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