



WHICH BIKE?

In the last instalment we gave you a BASIC program for a motorcycle game on the ZX Spectrum (see page 632). Here we provide versions of the same game for two other machines — the Commodore 64 and the BBC Micro.

Unlike the versions of BASIC used by the Spectrum and BBC, Commodore 64 BASIC doesn't have any commands that allow us to plot individual pixels. In the version of the game we give here, we use low resolution characters to draw the path of the 'light cycles'. A reverse-field space character, with POKE code 160, is used: to plot this character to the screen we have to POKE this value to the screen map in memory and specify the colour in the corresponding location in the colour map.

Like the Spectrum version, the Commodore game is unstructured for maximum speed of execution. At those points in the game where speed is unimportant, such as after a collision, some structuring is introduced in the way of

subroutine calls to increment the score and flash the screen.

Because BBC BASIC runs considerably faster than Spectrum or Commodore BASIC, and allows structured modules to be called as procedures, the BBC version of the game is written in a highly structured way. Most versions of BASIC allow structuring by using subroutines, but this slows down execution speed because a search must be made each time a subroutine is called. BBC BASIC, however, makes a note of the location of a procedure when it is first called, and stores this in a reference table.

Commodore 64

```
10 REM C64
15 POKE53281,0:POKE53280,4:REM SCR/BORD COLOUR
20 SC=1024:CO=55296
25 PRINTCHR$(147):REM CLEAR SCREEN
30 X1=2:Y1=12:X2=37:Y2=12
35 DX=1:DN=-1:DM=0:DY=0
40 PRINTCHR$(19)CHR$(158)"PLAYER 1:"S1
52 FORI=1TO8:PRINTCHR$(17):NEXT
54 PRINTTAB(14)CHR$(17):NEXT
55 GETJ$:IFJ$=""THEN57
56 GETA$:IFA$=""THEN55
57 PRINTTAB(14)CHR$(145)"
60 REM MAIN LOOP
70 GETA$
80 IFA$="W"THENDY=-1:DX=0
90 IFA$="X"THENDY=1:DX=0
100 IFA$="A"THENDX=-1:DY=0
110 IFA$="D"THENDX=1:DY=0
120 IFA$="O"THENDM=-1:DM=0
130 IFA$="M"THENDM=1:DM=0
140 IFA$="J"THENDN=-1:DN=0
150 IFA$="L"THENDN=1:DN=0
155 Y1=Y1+DY
156 IFY1<1ORV1>24THENF=0:GOSUB1000:GOTO25
157 X1=X1+DX
158 IFX1<0ORX1>39THENF=0:GOSUB1000:GOTO25
162 Y2=Y2+DN
162 IFY2<1ORY2>24THENF=1:GOSUB1000:GOTO25
164 X2=X2+DM
166 IFX2<0ORX2>39THENF=1:GOSUB1000:GOTO25
167 P1=X1+40*Y1
168 P2=X2+40*Y2
170 IFPEEK(SC+P1)=160THENF=0:GOSUB1000:GOTO25
180 IFPEEK(SC+P2)=160THENF=1:GOSUB1000:GOTO25
190 POKE SC+P1,160
200 POKE CO+P1,160
210 POKE SC+P2,160
220 POKE CO+P2,160
230 GOTO70:REM RESTART LOOP
240
1000 REM SCORE S/R
1020 IF F=1THENS1=S1+1:GOSUB2000:RETURN
1030 S2=S2+1:GOSUB2000:RETURN
1999
2000 REM FLASH SCREEN S/R
2010 FORJ=1TO10
2020 FORI=0TO15
2030 POKE53281,I
2040 NEXTI,J
2045 POKE53281,0
2050 RETURN
```

BBC Micro

```
10 REM BBC
20 MODE1:cycle1=0:cycle2=0
30 PROCinitialise
40 PROCkey
50 PROCborder
60 PROCscore
70 PROCplot
80 PROCkeyboard
90 PROCtest_point
100 GOTO70
110 END
120 DEF PROCborder
130 GCOL0,border
140 MOVE0,0
150 DRAW1279,0
160 DRAW1279,998
170 DRAW0,998
180 DRAW0,0
190 ENDPROC
200 DEF PROCkeyboard
210 REM PLAYER ONE
220 IF INKEY(-51)=-1THEN dx=4:dy=0
230 IF INKEY(-87)=-1THEN dx=-4:dy=0
240 IF INKEY(-66)=-1THEN dx=0:dy=-4
250 IF INKEY(-78)=-1THEN dx=0:dy=4
260 IF INKEY(-67)=-1THEN dx=8:dy=4
270 IF INKEY(-34)=-1THEN dx=0:dn=-4
280 IF INKEY(-55)=-1THEN dn=0:dn=-4
290 IF INKEY(-102)=-1THEN dn=0:dn=-4
300 x=x+dx:y=y+dy:m=m+dn:n=n+dn
310 ENDPROC
320 DEF PROCinitialise
330 x=100:y=498:m=1179:n=498
340 dx=4:dy=0:dn=-4:dn=0
350 col1=1:col2=2:border=3
360 ENDPROC
370 DEF PROCtest_point
380 pixel1=POINT(x,y)
390 pixel2=POINT(m,n)
400 IF pixel1 THEN PROCexplode(x,y,1)
410 IF pixel2 THEN PROCexplode(m,n,2)
420 ENDPROC
430 DEF PROCplot
440 GCOL0,col1:PL0T69,x,y
450 GCOL0,col2:PL0T69,m,n
460 ENDPROC
470 DEF PROCexplode(ex,ey,which)
480 FORI=1TO100
490 MOVEex,ey
500 GCOL0,RND(3)
510 PL0T1,RND(50)-25,RND(50)-25
520 NEXT
530 IF which=2 THEN cycle1=cycle1+1
540 IF which=1 THEN cycle2=cycle2+1
550 PROCinitialise
560 CLS
570 PROCkey
580 PROCborder
590 PROCscore
600 ENDPROC
610 DEF PROCscore
620 PRINTTAB(1,0)"Cycle One":cycle1
630 PRINTTAB(28,0)"Cycle Two":cycle2
640 ENDPROC
650 DEF PROCkey
660 PRINTTAB(8,12)"PRESS ANY KEY TO START"
670 *FX21
680 AB=GET$
690 PRINTTAB(8,12)*
700 ENDPROC
```