



# OUT WITH A BANG

We put the finishing touches to our Mines game for the BBC Micro and the Electron. In particular, we look at the BBC Micro's teletext mode, and use this in our 'end-of-game' screen display. Finally, we conclude the project with a full listing of the program, and give the necessary alternative lines for the game to run on the Electron.

The BBC Micro's graphics mode 7, also known as the teletext mode, has several features that are not present in any other mode. These features are provided for the display of transmitted information from external sources such as Micronet, which can be accessed using the computer and a standard telephone line. The additional graphics features that can be accessed using mode 7 can produce attractive lettered displays with a few simple instructions and, consequently, this mode is an ideal choice for our 'end-of-game' screen.

By using CHR\$ control codes embedded in PRINT statements, we can control the text and background colours, create 'flashing' text and produce double-height characters. We can use the TAB function in the usual way to position text on the 40 by 25 character screen. Seven colours are available and can be selected by the following control codes:

129	red
130	green
131	yellow
132	blue
133	magenta
134	cyan
135	white

## Mind Your Step

These frames from several runs of the game show the mines, the assistant, sniper fire, an explosion and the score and title displays

Whenever mode 7 is used, the text is displayed in white on a black background. The text colour can be changed at any point during a PRINT statement by inserting a control code. For example, the three words of the phrase in the following line will be printed in red, white and blue, respectively:

```
PRINT CHR$(129)"JEUX";CHR$(135);"SANS";
      CHR$(132);"FRONTIERES"
```

It is important, however, to realise that when another line is PRINTed, the default colour (white) will be restored. We must therefore use control codes on each new line, even if we wish to continue PRINTing in the same colour.

As well as being able to select text colour, we can also select background colours. CHR\$(157), followed by the colour we want for the background, allows us to do this. For example, to produce blue letters on a white background, the following combination of control codes are used:

```
PRINT CHR$(132);CHR$(157);CHR$(135);"IN THE
      NAVY"
```

The first control code specifies the colour of the text, the second and third define the background. Both text and background can be made to flash by using a CHR\$(136) control code immediately before the colour code. CHR\$(137) turns this effect off again. For example, we can make the blue letters in the last example flash by using:

```
PRINT CHR$(136);CHR$(132);CHR$(157);
      CHR$(135);"IN THE NAVY"
```

The most impressive feature of mode 7 is its ability to produce double-height characters. CHR\$(141) allows us to do this, but we must also PRINT the same line twice to achieve the correct effect. We can attribute all the other effects to double-height characters. For example, to produce double-

