4 Screen modes and ruler

So far everything in this book can be done in screen mode 7, which is probably the mode in which your BBC Microcomputer will start up (ie unless you have arranged for it to start otherwise).

There are in fact eight possible screen modes, and VIEW will work in any of them. In practice most people use `MODE 3` since its 74-character line is very suitable for laying out typewritten material.

Mode	Characters	Lines	Mode	Characters	Lines
MODE 0	74	31	MODE 1	34	31
MODE 2	34	31	MODE 3	74	24
MODE 4	34	31	MODE 5	16	31
MODE 6	34	24	MODE 7	34	24

To switch to another mode, type MODE followed by the mode number and `RETURN`.

You should be aware of the computer's memory if you are to use VIEW effectively, and the mode you are in affects the amount of memory available for text. Switch to command mode by pressing `ESCAPE` and you will see the amount of free memory shown in the form `Bytes free ...`

This shows the amount of memory left for you to use after the text already there is taken into account. A byte is a unit of memory, equivalent to a single character on the screen. However, the different screen modes themselves take up different amounts of memory.

If you start in `MODE 7`, you have about 25000 bytes of memory to play with, whereas `MODE 3` only allows you about 10000 and in `MODE 0` you are down to about 6000 words before you start.

On balance `MODE 3` probably offers the most useful compromise. As a rough guide, a typical A4 page takes about 2000 bytes.

4.1 The ruler

For some time now you will have been aware of the ruler, and of its functions in limiting the length of the line when you are typing in or formatting text. Below is the default ruler you will see in MODE 3:

```
FJ .......*.......*.......*.......*.......*.......*.......*.......*.......*.<
   _
****************************************************************************
```

The ruler you see when you first switch on is the default ruler, ie it is the ruler the system gives you unless you request something different. In fact you may insert a ruler into your text whenever you wish, up to a maximum of 128 rulers in any one document, and you may make them all up differently.

As we mentioned in chapter 3, the dots in the ruler are there mainly to remind you that the line is a ruler; the asterisks are TAB stops, and the angle bracket on the right is the margin stop.

Try calling up a default ruler yourself, by holding down **CTRL** and pressing function key **f7** for DEFAULT RULER.

Modifying the default ruler can be done in much the same way as modifying text. You place the cursor on it by means of the arrow keys, and use such commands as INSERT CHARACTER (to lengthen the ruler) or DELETE CHARACTER (to shorten it).

Try the following to show how this works.

Get into MODE 3 by returning to command mode and typing

MODE 3 **RETURN**

Switch to text mode and call up a default ruler (function key **f7** with **CTRL**).

Now type the following paragraph:

```
Formatting  relates  the  length  of  the text lines to the current ruler.
Press FORMAT MODE to turn on  (F  is  displayed at top left). Press FORMAT
MODE again to turn off (nothing is displayed). In  format  mode, when text
is  typed  in,  any  word  which overflows the right margin is transferred
whole to the following line.
```

Having typed this (or anything else if you prefer) move the cursor up to your default ruler and shorten the ruler. You can do this with DELETE CHARACTER (function key f9) but make sure you leave the right margin intact - this is the < at the end.

Now move the cursor on to the top line of the paragraph and press FORMAT BLOCK (function key `f0`). Suddenly the whole paragraph is reset to a different line length, like this:

```
Formatting  relates  the  length of
the  text  lines  to   the  current
ruler. Press FORMAT MODE to turn on
(F is displayed at top left). Press
FORMAT MODE  again  to  turn  off
(nothing  is  displayed). In format
mode, when text  is  typed  in, any
word  which  overflows  the  right
margin  is transferred whole to the
following line.
```

This method works equally well with justified and unjustified text. Try a few more line lengths for yourself.

Whatever you do with the rulers, remember the basic rule: *the system obeys the last ruler above the line that the cursor is on*.

4.2 Do-it-yourself rulers

Since you are allowed as many as 128 rulers in any document you can feel free to use rulers wherever it is convenient to do so. Modifying the default ruler is often the best way to start, but having modified it once you may feel it easier to make another adjustment to your modified ruler, rather than start from scratch with another default ruler.

Copying the current ruler can be done quite simply by holding down **SHIFT** and pressing **COPY**. The copy ruler will appear on the line where the cursor is.

Alternatively if you want something quite unlike the default ruler you may find it easiest to make up your own ruler. To do this first place the cursor on the line where you want it; then hold down **CTRL** and press function key **f8** (MARK AS RULER). Two dots appear in the margin and you can make up your own ruler to the right of these.

Whenever you are making up your own ruler or modifying an existing or default ruler, you should always make sure that the finished product actually looks like a ruler. For example, it would be possible to make a perfectly valid ruler consisting simply of two dots in the left margin and a margin stop on the right, but it would also be fatally easy to delete such a ruler by mistake, spoiling all the text under

it. So fill it in with dots at least.

We also suggest that you do not alter the left margin except for a special purpose which will be mentioned later in this book.

4.3 Further experiments with rulers

Try out what happens if you have a very long ruler. Try extending the ruler beyond the right-hand edge of the screen, using INSERT CHARACTER key and filling up the spaces with dots.

If you then type in text, as the cursor reaches the right-hand edge of the screen, the text to the left disappears and you find yourself typing on into blackness.

What has happened is that the screen has moved to the right over the 'page', as described in the last chapter.

In fact you may construct a ruler which is up to 132 characters wide. However you should remember that the end product of word processing is printing words onto paper, so you have to make sure that your printer can handle a line of this length.