**The 'Ball-Pen' Printer**
This represents a new development in printing techniques. The print head holds four specially designed ball point pens. When the PRINT command is given, the paper moves up and down to create the vertical strokes in the character while the pens move sideways to create the horizontal strokes. The advantage of such a system is that it can be used for printing coloured charts and graphs. It also offers higher print quality than the dot matrix method as its characters are formed by single pen strokes. However this system is comparatively slow and the pens need to be replaced regularly if long pieces of text are continually printed
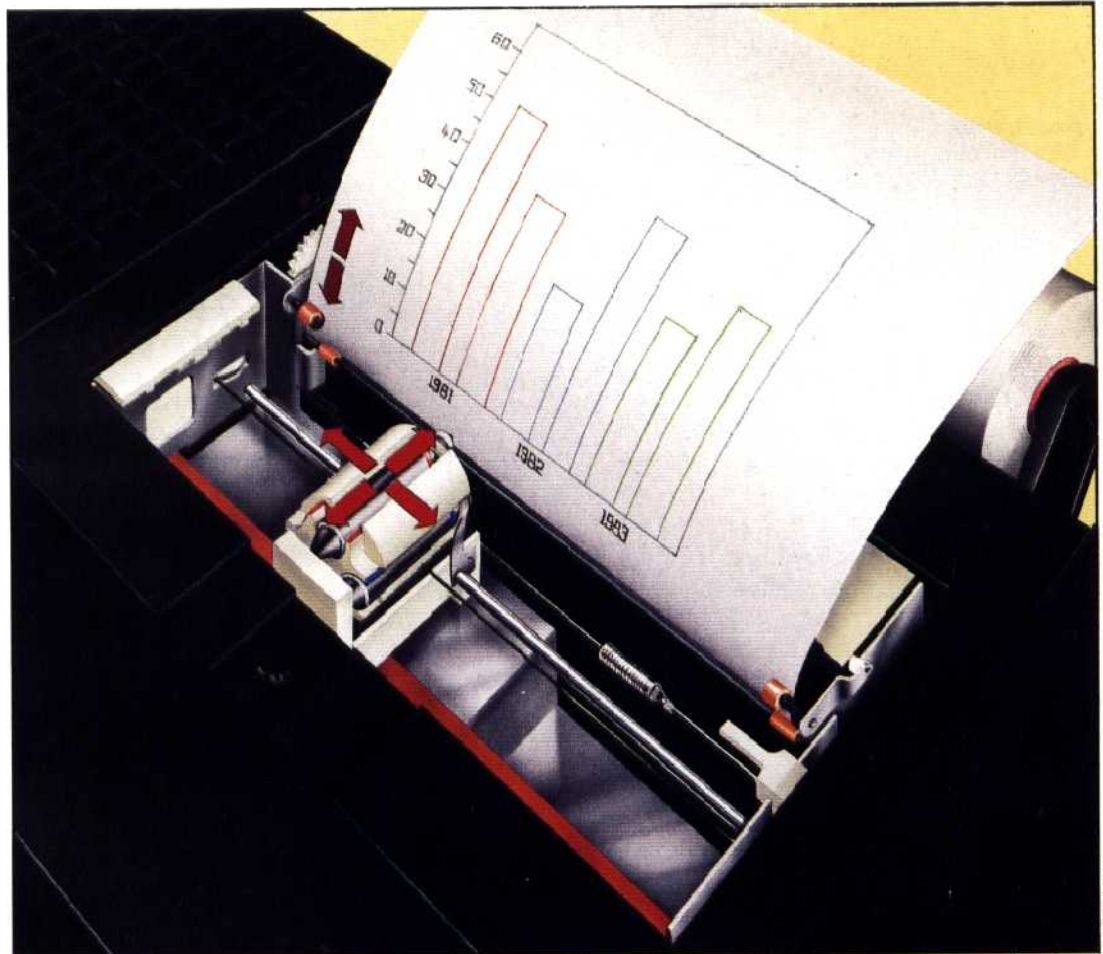
These eject drops of ink that form the shape of the character to be printed. The ink is forced through a nozzle which breaks it up into tiny drops. These drops then pass through an electrode and are given electrical charges. A pair of metal plates then deflects the drops in different directions, so as to form the shape of the character. Ink jet printers are so fast that they can print around 20 metres of characters every second!

An alternative method, the thermal printer, uses heat-sensitive paper. The print head transfers its heat to the paper in such a way that the paper turns black in the area touched to form the appropriate character. Thermal printers are very quiet and fairly fast. One of the most popular is Apple's appropriately-named Silent Type model. Thermal printers are reasonably priced at approximately £300, but you will have to use special heat-sensitive paper that is more expensive than ordinary paper, and the print quality is not as good as that from the daisy wheel.

The Right Interface

When you decide to buy a printer, as well as determining exactly what you want to use it for, in terms of quality and speed, you must also be certain that it can be used with your particular computer. The connecting plug from the printer must be compatible with the computer. The socket for plugging in a printer is usually found on the back of the computer and is called an 'interface'.

The three most common types of interface are Centronics, IEEE488 and RS232. Centronics is also referred to as a 'parallel' interface. Your computer will have an opening carrying at least one of these three interface names.

However, the computer industry is notorious for its incompatibility, and you may find that a printer and a computer using the same connection might still not be compatible. This is because the interface must be set to work at the same speed on both the micro and the printer. This speed is known as the 'baud' rate and is the speed at which bits from the computer's memory can be transferred to the printer. The bits are sent to the printer in one of two ways: either they follow each other down a single wire, as in the RS232 interface ('serial' method) or they are transmitted together down several wires, as in Centronics and IEEE488 interfaces ('parallel' method).

Printers use two main methods of handling paper. Paper can be fed one sheet at a time as with a typewriter. Alternatively it can be 'tractor'-fed with the two sprockets catching the paper in perforated holes on each side of the sheet; in much the same way as a camera moves the film from frame to frame. Tractor or sprocket-fed paper is more convenient as you can leave the printer to feed itself with paper. However, this method will not accept headed paper which must be fed into the printer one sheet at a time.

When buying a printer, you should decide what you wish to use it for and then choose the best model that you can afford for your computer.