Expansion Boards
In its most basic form, the IBM PC hardly challenges much longer established machines such as the Apple II, but when expanded by the addition of (left to right) a colour graphics board, a memory expansion board and a sophisticated input/output controller, the machine starts to look much more like a serious personal computer for business use

Disk Drives
The machine comes fitted with only one single-sided, single density disk drive, but this can be progressively upgraded to double-sided double density

Disk Controller Boards

Power Supply
The IBM PC uses Intel's 8088 microprocessor, which has 16-bit addressing but only 8-bit data transfer

IBM PC Software
One of the chief reasons for buying an IBM PC — and the major reason why so many computer manufacturers around the world have copied it almost exactly — is the choice of commercial software available. It runs under the control of PC-DOS (disk operating system), developed by Microsoft on the basis of CP/M, though a number of alternatives are available — CP/M-86 and the UCSD p-system, for example — and between them these operating systems support a wide variety of languages, such as COBOL, FORTRAN, PASCAL and BASIC. The range of commercial software is as broad as that for any microcomputer system available, and includes a variety of word processors, spreadsheets, databases and business packages. In addition, because the IBM PC in the United States is regarded as much more of a home computer than it is in the rest of the world, there are a large number of games from US software houses
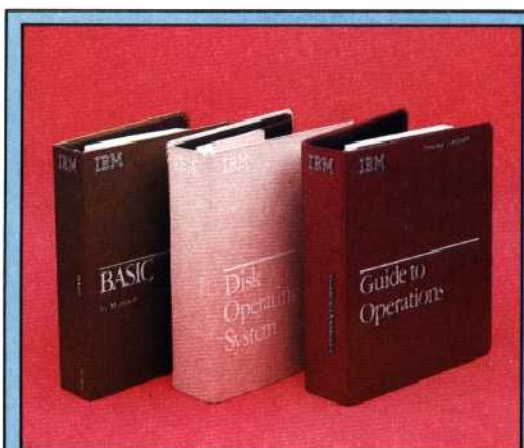
output facilities. As a result most purchasers find that they have to add at least a multi-function card, which costs as much as many home computers.

The graphics are impressive but are not supplied with the machine; the user needs a graphics card. This is available in two versions — monochrome and colour — and consists of a large block of memory (to hold the screen image) and electronic components that produce the video signal. The cards are controlled by the main CPU, although a new type of display card is emerging that has a specialised video display processor. This frees the main processor from the task of updating the screens and so speeds up the process. It is, unfortunately, very expensive.

The PC has expansion slots, but there are only five and so careful thought has had to be given as to how they are to be used. The result is that virtually no 'cheap and cheerful' cards offering limited functions at a low price are available — almost all of them are large, complex and capable of performing many different jobs, often simultaneously, and they are expensive. Since the IBM PC isn't much use without such enhancements, their cost should be taken into account when considering purchase of the machine.

There are, of course, alternative models of the PC — such as the hard-disk XT version — which have many of these facilities provided as standard, but the prices are much higher. In fact, they are comparable with that of Apple's Lisa, a much more advanced machine.

Proving that even IBM isn't immune to fashion, the PC has been revamped as a 'portable', but at a minimum weight of 14kgs (30lbs) this is stretching the term. The remodelling involves replacing the two standard-height disk drives with the double-sided drive, which then leaves one of the apertures available for a 9in amber monitor. A lighter and smaller version of the keyboard clips over the face of the machine, and it is housed in a new case.