Buying a NOTEBOOK

Good things in small packages. A notebook PC is a portable computer of roughly the same dimensions as a sheet of A4 paper but about two inches thick. The term 'notebook' has almost universally superseded the older designation 'laptop', which referred to machines that, while portable, could actually be quite bulky and heavy.

Why buy a notebook?

Apart from using it to impress your friends and colleagues, there are two good reasons for buying a notebook PC:
○ To compute 'on the move', in which case a notebook's light weight and battery power are essential.
○ Space might be limited in the home or office where the computer is to be used. If your computing has to done on the kitchen table or in the living room, it's a pain putting away a full-size computer every time you finish using it. A notebook can be stored on a bookshelf or popped away in a cupboard.

Buying tips

○ It's harder, and more expensive, to upgrade notebooks than desktop PCs, so don't cut corners. Buy the most powerful machine you can afford and its useful life will be prolonged.
○ For mobile computing, select a lightweight model of rugged construction, preferably with a lithium ion or nickel metal hydride battery.
○ Manufacturers keep prices low by selling models without floppy disk drives. This also keeps the weight down. There's nothing wrong with this if the notebook is to be your second computer; otherwise, get one with a built-in floppy disk drive.
○ Never buy a notebook PC without trying it out. The keyboard and the display are your means of communicating with your PC. You must feel comfortable with both of them.
○ Check both the battery life and also the recharge time. Some notebooks offer a fast-charge facility.

PCMCIA

Although PCMCIA is an ugly acronym (difficult to say and even harder to remember what it stands for) the concept is simple. PCMCIA slots are built into notebook computers. They accept credit-card-sized accessories, such as extra memory or hard disks, that can be simply plugged in, without having to use any tools. Because PCMCIA accessories draw minute amounts of power from the host computer, they are small, light, portable and generally more expensive than their full-size equivalents.

These days, you shouldn't really buy a notebook unless it has at least one of these slots. There are two sizes: Type II slots are 3-4mm thick and take accessories such as memory and modems – the thicker Type III slots take bulkier devices like miniature hard disks. Most notebooks come with slots for two slim PCMCIA Type II devices but, because they are mounted together, the same space can instead be used for a single Type III accessory.

If you really have to know, PCMCIA stands for Personal Computer Memory Card International Association!

What to look for

The technical specifications of notebook PCs are comparable to those of desktop models, so you should make sure to buy the right type of processor, the right amount of memory and a hard disk big enough for your needs. Unless you are buying an obsolete model at a reduced price, this means you should not consider anything less than a 486 25MHz processor, 4Mb of memory and a 120Mb hard disk. (For an explanation of what these figures mean, see our guide to buying a PC on preceding pages.)

Two other important considerations are the type of screen and, for mobile computing, the quality of the battery system. Bear in mind, though, that if you're buying a notebook just because it's small and easy to move around the house or office, you'll use mains power most of the time, so you can safely ignore the battery's capabilities.

Battery technology

All notebooks use rechargeable batteries. The cheapest type of battery pack is nickel cadmium (Nicad), widely used on cheaper notebooks with mono screens. Nickel metal hydride (NiMH) batteries are more expensive but can power a PC for longer. The most expensive batteries are lithium ion (Li-ion). These not only last longer than either of the other types, they are also lighter.
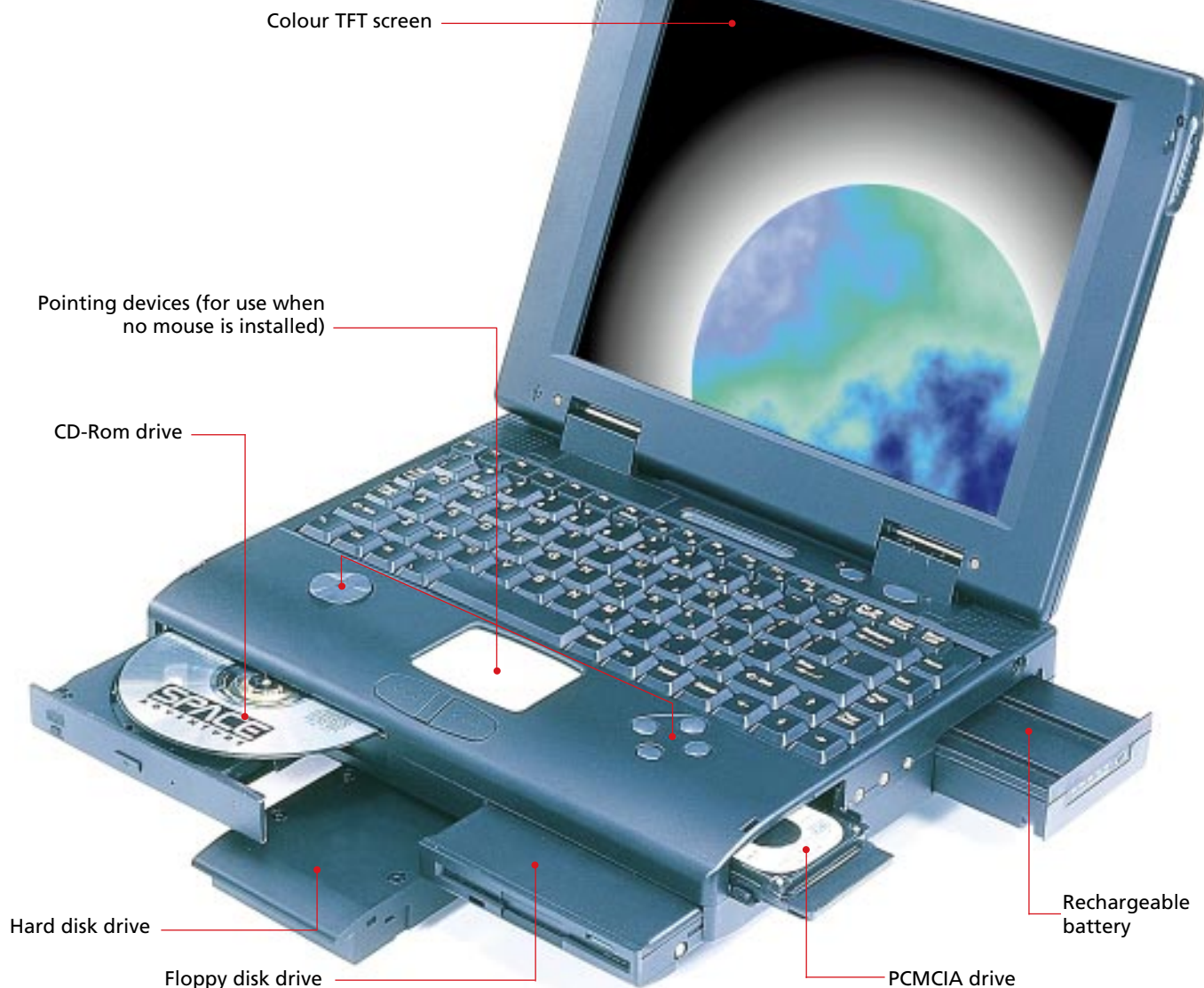
Before buying a notebook, ask how long it takes to fully charge the battery from flat, and whether it is possible to use the PC during the charging process. Look for a fast recharge time of three hours or less.

Types of screen

Screens are of three main types: mono, passive-matrix (colour) or active-matrix (also colour). As a rule of thumb, a passive-matrix colour screen will cost several hundred pounds more than a mono model and active colour (sometimes called a TFT display) will cost another thousand pounds on top of this. Active colour screens are as good as conventional full-size displays but in addition to being expensive, they also deplete the computer's batteries much faster. Passive-matrix colour screens vary in quality but the best of them can produce colour almost as good as an active (TFT) display. Where they fall down is in the speed of updating the display. Moving objects tend to blur or, in worst cases, disappear altogether.

Mono screens suffer from the same defect and also from an effect called banding. This is a set of ▶

Colour TFT screen

Pointing devices (for use when no mouse is installed)

CD-Rom drive

Hard disk drive

Floppy disk drive

PCMCIA drive

Rechargeable battery

ghostly lines that appear vertically down the screen.

You should try out a notebook before you buy it and see if you can live with the screen.

Add-ons/accessories

Desktop PCs differ from notebooks in that they are very modular and there's so much unused space inside them that it's easy to add accessories internally. Notebook PCs have virtually no spare space

and, in any case, attaching extra devices would put too great a strain on the batteries. This leaves three ways of attaching accessories such as modems and hard disks to a notebook:

1 Buy the accessory in its own case with its own power supply. The disadvantage with this approach is that your neat, portable PC soon becomes a mass of cables, boxes and power supplies – and thereby ceases to be portable.

2 The second alternative is to use

PCMCIA devices. See the explanatory box on the preceding page.

3 An expensive solution is to buy a docking station, which is a mains-powered home for your notebook when you are at your desk. It also provides room for full-size PC accessories such as sound cards and CD-Rom drives. Although you can save money by buying full-size add-ons instead of notebook-specific products, the docking stations themselves can cost several hundred pounds.

What you can get for your money

	Rock-bottom**	Standard	Superior	Top-class
Price*	£500-£700	£800-£1,200	£1,200-£2,500	£2,500-£5,500
Processor	386SX/25 to 486SX/25	486DX/33 to 486DX4/75	486DX4/75 to Pentium 75	Pentium 75 to 120
Hard disk	60-120Mb	100-240Mb	170-540Mb	540Mb-1Gb
Ram	2-4Mb	4-8Mb	8Mb	8-16Mb
Screen	mono	passive colour	passive colour or TFT	active colour (TFT)
Battery	Nicad	Nicad	NiMH or Lithium	Lithium
PCMCIA	no	one slot	two slots	two slots
Possible extra features			modem, expansion-base connector	modem, sound card, expansion-base connector, CD-Rom drive, Scsi interface

NOTES: * Prices quoted exclude VAT and they are those current at the time of writing – April 1996. **The 'rock-bottom' category comprises discontinued models available by mail order or from some warehouses.