

# Buying a Laptop

## A Guide by Laurence Fenn

When buying a laptop, you should consider the following:

- What do you want to use your laptop for? Think about you might do in the future as well as what you want to do now.
- How much time will you spend using the laptop on the move - long periods of time regularly, or just the occasional hour or two?
- What software will you need to run - now and in the future?
- How much memory do you need for current and future use?
- What external devices do you want to be able to connect to your laptop? How many ports will you need to do this, and do you know what type you need?
- How much money are you willing to spend on the laptop?

A laptop tends to be stuck with the capability it starts with. It's easy enough to upgrade a desktop PC with more memory, better graphics, additional hard drives, and so on. With a laptop, you're much more limited. You might be able to add a bit more memory, and some let you upgrade the hard drive - but in both cases it will be costly. External components can be plugged in via USB sockets, but suddenly you're a lot less mobile. Have a clear idea of what you want from your laptop and set yourself a budget, then stick to it. Don't be swayed by a salesperson to get a model that is twice as expensive as what you are prepared to pay. It's their job to get you to spend as much money as possible in their store; it's your job to buy the laptop that you want for the price you want.

## Advantages

- **Portability.** The number one reason why people get laptops is because they can take it anywhere - the beach, on a trip, the garden or the bathroom. If you're constantly on the go, a laptop will come in very handy.
- **Size and Weight.** If you have limited space you may struggle to fit a monitor, keyboard, mouse and PC in the area you want to work. Laptops are lighter and much more compact than any PC or Mac system, so they'll help you save space. And when you're not using it, you can fold it up and store it away.

## Disadvantages

Laptops sure are neat and compact, but not perfect.

- **Technology.** Because a laptop is pretty compact, the most recent technology that's been developed for desktops has yet to be made into tinier forms and successfully crammed into laptops. So laptops are always a step behind desktops when it comes to capability and efficiency.
- **Comfort perks.** You're going to have to sacrifice decent sound devices, keyboard comfort, and a mouse for the sake of portability. The whole idea is to carry around as little as possible so all the components will be as small as possible. This means they may not be as powerful as their full sized version.
- **Upgrading (forget about it).** If you're planning on adding stuff onto your computer, get yourself a desktop and not a laptop. While upgrading a laptop is not entirely impossible, anybody who knows anything about computers will tell you that it's never easy. Simply adding extra memory or a bigger hard drive often involves undoing several screws and could invalidate any warranty you may have if you don't send it back to a manufacturer to do it for you. Even if you do decide to upgrade, you're still limited in the selection of extra equipment; most laptops require that you install parts manufactured by the same company.

## Battery power

Laptops are powered by a special rechargeable battery, as well as the mains. Batteries come with different life spans - if you will be on the move a lot you should consider buying one with a long life (as close as possible to 10 hours) or invest in a spare battery.

There are three main types of batteries:

- **Li+**. Most people get Lithium-ion (Li+) batteries. These batteries range in quality; batteries with a high milliampere (mAh) and high voltage measurements are best.
- **NiMH**. If you're cheap, a nickel metal-hydride (NiMH) battery will do. However, be aware that they'll require you to recharge them every hour or so.
- **NiCad**. This probably won't be an option, but if a dealer does try to sell you a nickel cadmium (NiCad) battery, run out the door screaming. NiCads are the worst batteries in existence (because of their requirements for recharging), and no decent human being should have to deal with them.

A four to five hour runtime is probably a reasonable goal for a battery run. Physically smaller screens tend to translate into greater battery life. Battery sizes can vary from model to model.

## Wireless networking

Laptops with Wi-Fi (Wireless Fidelity) technology allow you to access broadband internet wirelessly around your home. There are also an increasing amount of public 'Wi-Fi hotspots' that provide access while you're out and about.

## Modem

Normally built into the computer, a modem allows data to be transmitted over phone lines via a plug into a telephone socket. It sends and receives data and fax transmissions and connects to the internet for email and net browsing. Modem speeds are measured in kilobytes per second (Kbps). Most PCs come with a modem of 56Kbps. Some laptops will have a modem built in, whilst others may have a PC card (known as a PCIMCIA).

## Ports

In order to be able to connect and communicate with other devices and to send and receive various types of information, a laptop needs a number of input and output channels, known as ports. There are a number of different types of port:

- **Parallel**. Typically used to connect to a printer or a scanner. This type of port is gradually being phased out and replaced with USB.
- **Serial ports**. Mostly used for connecting to external modems and handheld computers/PDAs.
- **Universal Serial Bus (USB)**. The modern method of connecting printers, scanners and other USB peripherals like digital cameras and handheld computers. Unless you have a wireless connection to a desktop PC, or a built-in CD/DVD writer, you will probably use a flash drive that plus into the USB port to transfer files.
- **Firewire/IEEE 1394**. A very fast method of file transfer, much quicker than even USB speeds. To make use of this, both your computer and accessory will need a Firewire/IEEE 1394 port. This is essential when transferring video images to and from digital camcorders.

Ideally, your laptop should have sufficient ports of the right type for the accessories you intend to plug into it. However, if it doesn't, it is possible to buy a docking station which would increase the number of ports.

## Sound cards and speakers

Most laptops are equipped with sound cards and speakers so they can play CDs. However, audio quality is often poorer than that of a desktop computer. A headphone socket will let you listen to music without disturbing others, or plugging in external speakers, but don't expect to be able to do everything audio wise that you use your desktop PC for.

## Carrying case

Laptops are more fragile than desktop computers and can be easily knocked or dropped. A carrying case, normally sold as an extra, provides much-needed protection and is a worthwhile investment. The case should ideally be padded and waterproof and have space for accessories such as discs and cables.

## Mouse

Instead of a traditional mouse, laptops are fitted with an integral 'input device' - a trackball, trackpoint or touch-pad - together with buttons mirroring the functions of the right and left buttons on a mouse. Some people prefer to buy a conventional mouse as well; check your laptop has a port to enable you to plug it in. Older laptops and PCs use a PS/2 socket (round) whilst newer machines will use a USB socket.

- **Touchpad.** A touchpad is a square-shaped surface located below the space bar of a laptop keyboard. It is touch-sensitive and you navigate the screen by moving your finger around the box, as if you were drawing. The majority of laptops sport a touchpad as their input device. A touchpad can be a bit tough to get used to (you have to be careful not to let your thumb fall on it while typing, or it'll move the cursor), but they work quite nicely.
- **Pointing stick or rubberized nipple.** This input device is a tiny rubber nub that sticks out of the keyboard right between the G, H, and B keys, and it responds to pressure from your index finger. So you navigate the cursor by applying pressure in the direction you want the arrow to go (similar to a joystick). Sounds easy, but most people find pointing sticks very frustrating to use - the slightest touch causes the arrow to go flying across the screen.
- **Pen or touch sensitive screen.** Some types of laptops, known as Tablet PCs, use a pen to move the mouse pointer on the screen. These pens transmit wirelessly but do require a battery and can be very expensive to replace if lost. Other models may have a touch sensitive screen, so you can just touch the screen and drag the pointer around.

## Display

There are two types of displays (that is, screen images) to choose between: active-matrix (a.k.a. thin-film transistor or TFT) and passive-matrix (or dual-scan). Huh? Here's a translation:

- **Active-Matrix (TFT).** Go for an active-matrix display if you've got some dough to spare. It'll be worth it. Pictures come out sharper and moving images play out smoother. In fact, nowadays most laptops come with active-matrix displays because they're so commonly preferred.
- **Passive-Matrix (Dual-Scan).** This is the older and cheaper display. Images that run on this display react more slowly. It's not a pretty sight, but if you're strapped for money, it's tolerable. If you need a laptop purely for word processing, it won't prove disastrous.

To figure out what type of display you're dealing with on a laptop, move the cursor very quickly across the screen. If the cursor disappears while moving, the display is passive-matrix, and if you can keep your eye on it, it's active. With desktop PCs the video card can be replaced, and is usually made by one of the major video card manufacturers, like nVidia or ATi. Both produce specialised versions for laptops which are built in.

## CPU

Centrino laptops are built with a collection of power-saving chips from Intel. Centrino is just a brand, but it is brand built around the promise of longer battery life and it generally delivers on that promise. Sometimes inexpensive models are built with desktop chips that consume a great deal more power than a mobile chip would. You don't want to wind up with a 30-minute battery life. If you stick with a Centrino-branded laptop, you should be on safe ground. Don't be fooled by new technology keywords like dual core. All PCs (laptops or desktops) can do more than one task at a time. Of course there is a limit as to how many different tasks you can do, but the more work the laptop does (whether it uses a fancy processor chip or not) the more power it will use, which will drain the battery life.

## Software

Most software that runs on desktop PC will run on a laptop. As with most new PCs, the operating system will usually come preinstalled, which at the moment is Windows XP. Drivers for the integrated hardware will be specially written for the laptop environment and are usually not the same as the driver for same piece of hardware in a desktop PC. Some higher spec laptops may have 64 bit versions of the operating system, specially written to work with the hardware. Note that software must be specially written to take advantage of 64-bit technology (most PCs are 32-bit) so regular software will not take advantage of the capability, or may not work at all. The laptop will need a CD or DVD drive of course if you want to install software, or a CD or DVD writer if you want to transfer files from the laptop to another computer.