

## 1

### Choosing a Laptop

7

A Brief History of Laptops	8
Laptops v. Desktops	10
Types of Laptops	11
Laptop Jargon Explained	12
Size and Weight	14
Getting Comfortable	15
Carrying a Laptop	18
Keyboard and Mouse	19
Using an External Mouse	20
Ports and Slots	21
The Wonder of Wireless	22
Cleaning a Laptop	23
Choosing a Carry Case	24
Spares and Accessories	25

## 2

### Around a Laptop

27

Opening Up	28
Turning On	29
Start Button	30
Start Menu	31
Shutting Down and Sleeping	34
Mobility Center	35
Adjusting Screen Resolution	36
Adjusting Text	38
Adjusting Volume	40
Loading CDs and DVDs	41
Devices and Printers	42
Pen Drives	44

# 3

## Battery Issues

45

Types of Battery	46
Power Consumption	47
Battery Management	48
Charging the Battery	51
Removing the Battery	52
Dead and Spare Batteries	53
Battery Troubleshooting	54

# 4

## Laptop Software

55

Around Windows 7	56
Getting Started	57
Aero Experience	58
Using Windows 7 Basic	61
The Taskbar	63
Windows Explorer	66
Windows Live Essentials	67
Gadgets	69
Downloading Music	71
Windows Media Center	72
Windows Media Player	74
Viewing Photos	76
Editing Photos	78
Downloading Home Movies	79
Writing a Letter	80
Creating a Spreadsheet	81

# 5

## Internet and Email

83

Connecting to the Internet	84
Downloading New Browsers	86
Around the Web	87
Shopping on your Laptop	90
Booking a Vacation	92
Researching Family History	94
Using Email	95

## 6

### Sharing with your Family

97

About Multiple Users	98
Managing your own Account	100
Adding Family Users	102
Parental Controls	104

## 7

### Being Mobile

109

Transporting your Laptop	110
Keeping your Laptop safe	111
Temperature Extremes	112
Dealing with Water	113
Power Sockets	114
Airport Security	115
Mobile Working	116
Connecting on the Road	118
Virtual Private Network	119
Connecting in the Office	120
Downloading on the Road	122
Making Telephone Calls	125

## 8

### Laptop Networking

129

What is a Network?	130
Network and Sharing Center	132
Types of Networks	135
Joining Two Computers	137
Hardware for a Network	138
Creating a Cable Network	140
Connecting More Computers	141
Viewing a Network	142
Viewing Computers	143
Sharing a Network	144
File Sharing	145
Saving Files	146
Network Security	148

Homegroups	150
Sharing a Printer	154

## 9

### Going Wireless

155

Going Wireless	156
Equipping your Laptop	157
Setting up a Wireless Router	158
Connecting to the Internet	160
Connecting to a Network	162
Wi-Fi Networking	164
About Hotspots	165

## 10

### Troubleshooting

167

Protecting Against Viruses	168
Using a Firewall	170
Windows Defender	172
User Account Controls	174
Action Center	175
Updating Software	176
Backing Up	178
Restoring Files	181
System Restore	184

### Index

187

# 1

# Choosing a Laptop

*More and more computer users are now turning to laptops instead of desktop computers, because of their convenience and portability. This chapter looks at some of the issues to consider when buying a laptop and how to ensure you buy the right one for your needs. It also covers the elements of a laptop and some of the accessories you can use to improve your laptop experience.*

- 8** A Brief History of Laptops
- 10** Laptops v. Desktops
- 11** Types of Laptops
- 12** Laptop Jargon Explained
- 14** Size and Weight
- 15** Getting Comfortable
- 18** Carrying a Laptop
- 19** Keyboard and Mouse
- 20** Using an External Mouse
- 21** Ports and Slots
- 22** The Wonder of Wireless
- 23** Cleaning a Laptop
- 24** Choosing a Carry Case
- 25** Spares and Accessories

# A Brief History of Laptops

Modern computers have come a long way since the days of mainframe computers that took up entire rooms and were generally only the domain of large educational establishments or government organizations. Before microprocessors (the chips that are used to run modern-day computers) these mainframe computers were usually operated by punch-cards: the operators programmed instructions via holes in a punch-card and then waited for the results, which could take hours or days.

The first personal computers, i.e. ones in which all of the computing power was housed in a single box, started to appear in the early 1970s and the first machine that bore any resemblance to modern personal computers was called the Datapoint 2200. The real breakthrough for personal computers came with the introduction of microprocessors – small chips that contained all of the necessary processing power for the computer. After this the industry expanded at a phenomenal rate with the emergence of major worldwide companies such as Microsoft, Apple, IBM, Dell and Intel.

## Don't forget



Apple have an excellent range of laptops, running their OS X operating system. However, the majority of this book deals with “IBM-compatible” laptops, as they are known. These types of laptops run on the Windows operating system, with the latest being Windows 7.

But even as soon as personal computers were being developed for a mass-market audience, there was a concerted drive to try and create a portable computer so that people could take their own computer with them wherever they went. Even in the fast moving world of technology the timescale for shrinking a computer from the size of a large room to the size of a small briefcase was a dramatic one.

## First portable computers

With most types of technology we are obsessed with the idea of making the item as small as possible, whether it is a music player, a telephone or a computer. However, the first portable computers bore little resemblance to the machines that we now know as laptops. At the beginning of the 1980s there were a few portable computers released, but most of these were bulky, had very small screens and could not run on internal batteries. The most popular of these was called the Osborne 1, which was released in 1981. Although this was the size of a small suitcase and had a minuscule amount of computing power compared with modern machines, it proved a big success as it enabled people to carry their computer around with them for the first time and use it in a mobile environment.

...cont'd

The machine that first used the term “laptop” was called the Gallian SC, which was developed in 1983 and introduced in 1984. This had the big advantage of being able to run on an internal battery and it was also one of the first portable computers that appeared with the now-universal “clamshell” design, where the monitor folded down over the keyboard.

In the late 1980s companies such as Kyocera, Tandy, Olivetti, NEC, IBM, Toshiba, Compaq and Zenith Data Systems began developing fast and more powerful laptops and it is in this period that the growth of laptops really began to take off.

In 1991 Apple introduced its PowerBook range of laptops, versions of which continue to be very successful, and in 1995 the introduction of Windows 95 provided an operating system that could be used in all IBM-compatible laptops.

Laptops have now become an integral part of the computer market and in some areas sales have outstripped those of desktop computers. Although the power and speed of laptops is not quite the same as that of the most powerful desktops, they are still more than capable of comfortably meeting the computing needs of most computer users. Add to this their portability (which has reached a stage in terms of size and weight such that you no longer need to worry about doing yourself an injury in order to carry one around) and it is clear why laptops have become so popular.

There are now a wide range of laptops on the market, which go by a variety of terms such as notebooks or ultraportables, and their power and versatility ensure that they are an excellent option for anyone who wants to have significant computing power at their fingertips wherever they are.

### Wireless laptops

One of the major recent developments in terms of laptops has been the use of wireless technology in terms of accessing the Internet. This means that laptop users can access the Internet from a variety of locations such as hotels, airports and even buses and trains. This is done by connecting to Wi-Fi zones that offer wireless access to local network providing a connection to the Internet. This has enabled a true mobile computing revolution.

Don't forget



Because of their size and weight, the first portable computers, such as the Osborne 1, were known rather unflatteringly as “luggables”.

Don't forget



Some of the most recent laptops have touch screen technology. This means that commands can be input by touching the screen as an alternative to using the keyboard and mouse. The Windows 7 operating system also has the facility for working with touch screen laptops.

# Laptops v. Desktops

When considering buying a laptop computer one of the first considerations is how it will perform in comparison with a desktop computer. In general, you will pay more for a laptop with similar specifications to a desktop. The reason for this is purely down to size: it is more expensive to fit the required hardware into a laptop than the more generous physical capacity of a desktop computer. However, with modern computing technology and power, even laptops with lower specifications than their desktop cousins will be able to handle all but the most intensive computing needs of most home and business users. The one situation where laptops will have to have as high a specification as possible is if you are going to be doing a lot a video downloading and editing, such as converting and editing old family movies.

Some of the issues to consider when looking at the differences between laptops and desktops are:

- **Portability.** Obviously, laptops easily win over desktops in this respect but when looking at this area it is worth thinking about how portable you actually want your computer to be. If you want to mainly use it in the home then you may think that a desktop is the answer. However, a laptop gives you portability in the home too, which means that you can use your computer in a variety of locations within the home and even in the garden, if desired
- **Power.** Even the most inexpensive laptops have enough computing power to perform most of the tasks that the majority of users require. However, if you want to have the same computing power as the most powerful desktops, then you will have to pay a comparatively higher price
- **Functionality.** Again, because of their size, desktops have more room for items such as DVD writers, multi-card readers and web-cams. These can be included with laptops but this can also increase the price and the weight of the laptop. Some of these items come as standard on new laptops, such as DVD writers, while others have to be specified to be included at the time of purchase. When buying a laptop from an online supplier you can usually customize your laptop to meet your own needs

## Don't forget



Another issue with laptops is battery power, which is required to keep them operating when they are removed from a mains electrical source. Obviously, this is not an issue that affects desktops.

# Types of Laptops

To meet the needs of the different groups who use laptops there are several variations that are available:

- **Netbooks.** These are the latest entry into the world of portable computing. These are very small, light machines with screens in the range of 7-11 inches. They have considerably less power than standard laptops and are used mainly for Web browsing or email. They also take advantage of 'cloud computing' i.e. software stored on the Web rather than on individual computers
- **Ultratables (also known as subnotebooks).** These are very small, but powerful, laptops and are generally favored by business users. They have screens that are less than 12 inches (measured diagonally from corner to corner) and they usually weigh less than 1.7 kg. In addition, their keyboards are usually smaller than full-size ones. Ultratables tend to be significantly more expensive than more standard sized laptops
- **Small laptops.** These are the smallest type of fully-featured laptops. They have screens of 12-14 inches (measured diagonally from corner to corner) and weigh 2-3 kg. They are a good option if you are going to be using your laptop a lot for traveling. Although a 12-inch screen may sound very small they are actually surprisingly effective
- **Mid-range laptops.** These are the most common types of laptops as they have a good combination of size, weight and power. They generally have screens that are approximately 15 inches (measured diagonally from corner to corner) and weigh 2.8-3.5 kg. These are an excellent option for using in the home and also while traveling
- **Desktop replacements.** These are large, heavier laptops that can be used in the home instead of a desktop computer. They are faster and more powerful than other types of laptops but the downside is that they are not as portable. They generally have screens that are 17 inches (measured diagonally from corner to corner) and weigh approximately 4-8 kg. Although these types of machines are very powerful, one of their main functions is for playing the latest computer games or watching movies

## Don't forget



A lot of the weight in a laptop is taken up by peripheral devices such as DVD writers, card readers and web-cams. The more of these that a laptop has the heavier it is likely to be.

## Hot tip



Try and compare small and mid-range laptops side by side. You may not see much physical difference in size.

# Laptop Jargon Explained

Since laptops are essentially portable computers, a lot of the jargon is the same as for a desktop computer. However, it is worth looking at some of this jargon and the significance it has in terms of laptops.

- **Processor.** Also known as the central processing unit, or CPU, this refers to the processing of digital data as it is provided by programs on the computer. The more powerful the processor, the quicker the data is interpreted
- **Memory.** This closely relates to the processor and is also known as random-access memory, or RAM. Essentially, this type of memory manages the programs that are being run and the commands that are being executed. The greater the amount of memory there is, the quicker programs will run. With more RAM they will also be more stable and less likely to crash. In the current range of laptops, memory is measured in megabytes (Mb) or gigabytes (Gb)
- **Storage.** This refers to the amount of digital information that the laptop can store. In the current range of laptops storage is measured in gigabytes. There are no external signs of processor or memory on a laptop but the details are available from within the Computer option, which is accessed from the Start button (see Chapter 2 for details about the Start button)

## Don't forget



Memory can be thought of as a temporary storage device as it only keeps information about the currently-open programs. Storage is more permanent as it keeps the information even when the laptop has been turned off.



- **Optical drive.** This is a drive on the laptop that is capable of reading information from, and copying it onto, a disc such as a CD or a DVD. Most modern laptops have internal optical drives such as CD writers or DVD writers
- **Connectivity.** This refers to the different types of media device to which the laptop can be connected. These include card readers for cards from digital cameras, USB devices such as music players and FireWire devices such as digital video cameras

## ...cont'd

- **Graphics card.** This is a device that enables images, video and animations to be displayed on the laptop. It is also sometimes known as a video card. The faster the graphics card, the better the quality the relevant media will be displayed at. In general, very fast graphics cards are really only needed for intensive multimedia applications such as video games or videos
- **Wireless.** This refers to a laptop's ability to connect wirelessly to a network, i.e. another computer or an Internet connection. In order to be able to do this, the laptop must have a wireless card, which enables it to connect to a network or high-speed Internet connection
- **Ports.** These are the parts of a laptop into which external devices can be plugged, using a cable such as a USB or a FireWire. They are usually located on the side of the laptop and there can be two or three of each
- **Pointing device.** This is the part of the laptop that replaces the traditional mouse as a means of moving the cursor on the screen. Most pointing devices are in the form of a touch pad, where a finger on a pad is used to move the cursor. An external mouse can also be connected to a laptop and used in the conventional way
- **Web-cam.** This is a type of camera that is fitted into the laptop and can be used to take stills photographs or communicate via video with other people



### Hot tip



External optical drives can be connected to a laptop with a USB cable.

### Don't forget



For more on using wireless technology see Chapter 9.

### Don't forget



USB stands for Universal Serial Bus and is a popular way of connecting external devices to computers.

## Size and Weight

The issues of size and weight are integral to the decision to buy a laptop. In addition to getting a machine with enough computing power it is also important to ensure that the screen is large enough for your needs and that it is light enough for you to carry around comfortably.

### Size

The main issue with the size of a laptop is the dimension of the screen. This is usually measured in inches, diagonally from corner to corner. The range for the majority of laptops currently on the market is approximately 12–15 inches, with some more powerful models going up to 17 inches and above. When compared side by side, a 15-inch laptop and a 12-inch one look like this:

#### Beware



Looking at material on a smaller screen can be more tiring on the eyes as, by default, it is displayed proportionally smaller than on a larger screen. It is possible to change the size of the screen display, but this will lead to less material being displayed on the screen. See Chapter 2 to see how to change the screen display size.



When considering the size of screen it is important to think about how you are going to use your laptop:

- If you are going to use it mainly for functions such as letter writing and sending email then a smaller screen might suffice
- If you are going to use it mainly for functions such as surfing the Web or editing and looking at photographs then you may feel more comfortable with a larger screen

### Weight

Unless you are buying a laptop to replace a desktop, weight should not be too much of an issue as most models are similar in this respect. However, make sure you physically feel the laptop before you buy it.

# Getting Comfortable

Since you will probably be using your laptop in more than one location, the issue of finding a comfortable working position can be a vital one, particularly as you cannot put the keyboard and monitor in different positions as you can with a desktop computer. Whenever you are using your laptop try and make sure that you are sitting in a comfortable position, with your back well supported, and that the laptop is in a position where you can reach the keyboard easily and also see the screen without straining.

Despite the possible temptation to do so, avoid using your laptop in bed, on your lap or where you have to slouch or strain to reach the laptop properly:



## Seating position

The ideal way to sit at a laptop is with an office-type chair that offers good support for your back. Even with these types of chairs it is important to maintain a good body position so that your back is straight and your head is pointing forwards.

If you do not have an office-type chair, use a chair with a straight back and place a cushion behind you for extra support and comfort as required.



Don't forget



Working comfortably at a laptop involves a combination of a good chair, good posture and good laptop positioning.

Hot tip



If possible, the best place to work at a laptop is at a dedicated desk or workstation.

Hot tip



One of the advantages of office-type chairs is that the height can usually be adjusted, and this can be a great help in achieving a comfortable position.

...cont'd

### Laptop position

When working at your laptop it is important to have it positioned so that both the keyboard and the screen are in a comfortable position. If the keyboard is too low then you will have to slouch or strain to reach it:



If the keyboard is too high, your arms will be stretching. This could lead to pain in your tendons:

**Beware**



Take regular breaks when working with a laptop and stop working if you experience aches, or pins and needles in your arms or legs.



The ideal setup is to have the laptop in a position where you can sit with your forearms and wrists as level as possible while you are typing on the keyboard:



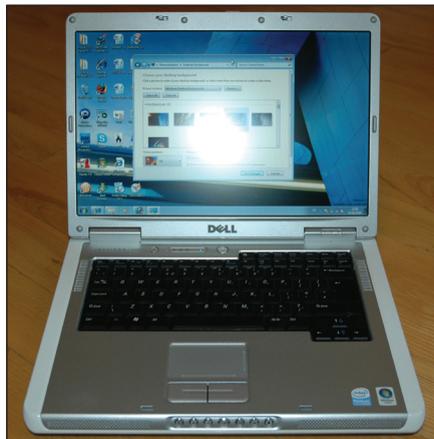
...cont'd

## Adjusting the screen

Another factor in working comfortably at a laptop is the position of the screen. Unlike with a desktop computer, it is not feasible to have a laptop screen at eye level, as this would result in the keyboard being in too high a position. Instead, once you have achieved a comfortable seating position, open the screen so that it is approximately 90 degrees from your eye line:



One problem with laptop screens is that they can reflect glare from sunlight or indoor lighting:



If this happens, either change your position, or block out the light source using some form of blind or shade. Avoid squinting at a screen that is reflecting glare as this will make you feel uncomfortable and quickly give you a headache.

**Don't forget**



Find a comfortable body position and adjust your laptop's position to this, rather than vice versa.

**Beware**



Most modern laptops have screens with an anti-glare coating. However, even this will not be very effective against bright sunlight that is shining directly onto the screen.

## Carrying a Laptop

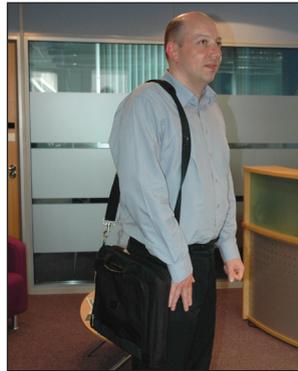
As laptops are designed for mobility, it is safe to assume that they will have to be carried around at some point. Because of the weight of even the lightest laptops, it can be uncomfortable to carry a laptop for any length of time. To try and minimize this, it is important to follow a few rules:

### Beware



If you are carrying your laptop for any length of time make sure that you take regular breaks, otherwise you may cause yourself an injury.

- Carry the laptop with a carry case that is designed specifically for this task
- Carry the laptop on one side of your body and move it from side to side if necessary



### Beware



If you place your laptop with another piece of luggage, make sure that you keep it with you at all times, so as to minimize the chance of theft or loss.

- Do not cross the strap over your shoulders and try not to carry too many other items at the same time



If you are traveling with your laptop you might be able to incorporate it into your luggage, particularly if it can be moved on wheels.

# Keyboard and Mouse

Laptops have the same basic data input devices as desktop computers, i.e. a keyboard and a mouse. A laptop keyboard is very similar to a desktop one, although it is best to try the action of the keys before you buy a particular laptop, to ensure that they are not too “soft”, i.e. that there is enough resistance when they are pressed.

One of the main differences between a laptop and a desktop computer is the mouse (or pointing device) that controls the on-screen cursor. In the early days of laptops, some of them had a small control stick to move the cursor. However, these have almost universally been replaced by touch pads, which are small, sensitive, square or rectangular pads that are activated by stroking a finger over them to move the cursor. It sometimes takes a bit of practice to get used to them but after a little experience they can be as effective as a traditional mouse. When using a keyboard or touch pad, avoid having your fingers too high:



Instead, keep your hands and fingers as flat as possible over the keyboard and the touch pad:



**Don't forget**



Another method of moving the cursor is a track ball, which is a small, in-built, sphere that can be rolled with a finger to move the cursor.

**Don't forget**

It is certainly worth persevering with a laptop's touch pad or track ball, even if it seems very frustrating at first. Once you have found the correct pressure to apply, it will become a lot easier to control.

**Don't forget**

Most laptops currently on the market can have a mouse attached via a USB port, provided you also buy/have a USB-type mouse.

## Using an External Mouse

Not everyone likes touch pads or track balls as a means of moving the cursor on a laptop and it is true they can sometimes be slightly fiddly and prone to erratic movement if the control is too jerky. The good news is that it is perfectly possible to use a conventional mouse with a laptop to move the cursor.

A mouse can be connected to a laptop via one of the suitable sockets (ports) at the back of the laptop. These are usually in the form of a round serial port or a USB port:



Once the mouse has been connected to the laptop it can be used in exactly the same way as with a desktop computer. In some cases it is possible to add a wireless mouse, which can be used without the need for a cable:

