PLAIN ENGLISH AND JARGON-FREE

DEC 2009
£5.99
www.computeractive.co.uk

The Computer active

FREE CD INSIDE
WINDOWS 7 STARTER KIT

ULTIMATE GUIDE TO

WINDOWS 7

Upgrade • Explore • Take charge

HOW TO:

- ✔ Choose which version is right for you
- ✔ Install Windows 7 on your computer
- ✔ Master all the great new features
- ✔ Fix performance & compatibility issues
- ✔ Keep your PC safe & secure

...and more inside

100 PAGES packed with step-by-step guides, hints, tips & more

ON THE DISC

- Microsoft Windows Live Essentials
- Microsoft Security Essentials
- AVG Anti-Virus Free Edition 9

Plus: 16 how-to video workshops

Alienware AURORA

Most Powerful Upgradeable Micro ATX Latest Extreme Intel Core i7 975 Overclocked CPU
NVIDIA GTX 260 Dual Graphics Card / NVIDIA SLI or ATI CrossfireX Graphics Card
Up to 24GB of DDR3 1333MHz 64bit OS Shock-proof Black Resin enclosure
Up to 2TB3 7200RPM HDD Liquid cooling system
4 controllable lighting zones

allpowerful.com

ADRENALIN ON A CHIP.
ONLY FROM INTEL®

SMALL YET DEADLY.

ALIENWARE® | ALL POWERFUL

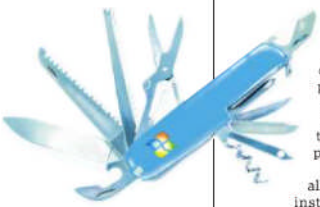
Intel® Core™ i7 processor Extreme. Processing Power for Ultimate Performance.

From the Editor

New versions of software are released all the time and, by and large, nobody bats an eyelid. But whenever a new version of Microsoft Windows arrives it's a different matter altogether. Indeed, if the guys at Microsoft had it their way, we should have all been holding our own launch parties on 22 October when the latest version, Windows 7, was released to the public. Have a look at the company's extraordinarily cheesy promotional video at ***www.snipca.com/x482*** if you don't believe us.

Embarrassing PR aside, there's a good reason a new version of Windows is something to get excited about. Your computer wouldn't even run if it weren't for Windows (or an equivalent operating system). Windows is the glue that holds your PC's hardware together and the platform for nearly everything you do on your computer. It has evolved from a fairly basic user interface with a small number of built-in tools to a world-conquering, massively multi-tasking computer system, with whizzy 3D graphical effects everywhere you look and a wealth of useful tricks up its sleeve – all aimed at making your every experience with your PC easier and more pleasant.

If you're slightly sceptical about Windows 7, however, you have every right to be; after all, Microsoft's track record isn't exactly blemish-free and you don't have to look back too far to find an example of where the company went wrong. Windows 7's direct antecedent – Windows Vista – garnered precious few fans on its release in 2007. But while many of the criticisms aimed at Vista were perfectly justified, the software also had its share of good points.



Thankfully, everything good about Vista has been retained for Windows 7 and almost everything that was bad about it has been tweaked or discarded. Here at Computeractive we have been using it for a while now and the general consensus is that Windows 7 is a vast improvement on its predecessors in virtually every way. It's fast, responsive, intelligent, full of useful features and, most importantly, simple to use. And, while we're not proposing that you should throw a party in its honour, we would suggest that there are plenty of reasons to celebrate Windows 7's release.

In this Ultimate Guide we've got easy-to-understand guides to all the most important aspects of Windows 7, from buying and installing it to setting up email, media players and more, with plenty of problem-solving advice along the way.

With this Ultimate Guide at your side, our aim is to make sure your transition to Windows 7 is as smooth as possible. We would love to hear your thoughts on Windows 7, so write to us at ***letters@computeractive.co.uk***.

Jonathan Parkyn
Editor
The Computeractive Ultimate Guide to Windows 7

Computeractive Conte

Issue 11 December 2009

Features

EDITORIAL
Editor Jonathan Parkyn
Consulting Editor Paul Allen
Group Production Editor Debbie Oliver
Production Editor Lindsay Parish-Jones
Senior Sub Editor Harry Burrows
Sub Editor Craig Harris
Art Editor Alex Westthorp
Contributors Paul Allen, Orestis Bastounis, James Bennett, Nick Brake, Scott Colvey, Anthony Dhanendran, Dinah Greek, Tom Royal, Tim Smith, Will Stapley, Kelvyn Taylor, Mark Wilson, Mike Williams

ADVERTISING
Sales Manager
Paul Harvey 020 7316 9308
Major Client Manager
Natalie Forsdike
Client Manager
Maria Theocharides-Andreou

MARKETING AND CIRCULATION
Marketing Manager Louise Newland
Marketing Executive
Rahila Ehsan
Group Circulation Manager
Helen Knight
Circulation Executive
Laura Kelly

PRODUCTION
Production Manager
Cathy Mahoney
Production Controller
Ryan Griffiths

PUBLISHING
Group Publisher
Dylan Armbrust

OVERSEAS LICENSING
Computeractive Ultimate Guides are available for international licensing. Please contact Joanna Mitchell at joanna.mitchell@incisivemedia.com for more information

For issues regarding copyright, call 020 7316 9465

Printed and finished by Polestar UK Print Ltd
Distributed by Marketforce (UK) Ltd
ISSN 1753-4976

The Computeractive *Ultimate Guide to Windows 7* is printed on paper from sustainable sources

recycle

incisivemedia

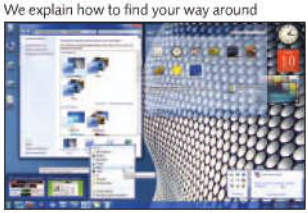
32-34 Broadwick Street
London W1A 2HG
Editorial queries:
letters@computeractive.co.uk

Telephone: 020 7316 9000
We cannot respond to any correspondence personally.

INTRODUCTION

UPGRADING AND INSTALLING

FIRST STEPS



nts

Keep up to date with software and tools for your interests by checking out our sister magazine, Computeractive, every fortnight, priced at £1.79

GOING FURTHER

MAINTENANCE AND TROUBLESHOOTING

Jargon free!

You'll find Jargon Buster columns throughout this guide, as well as a glossary of terms on page 97

Jargon buster

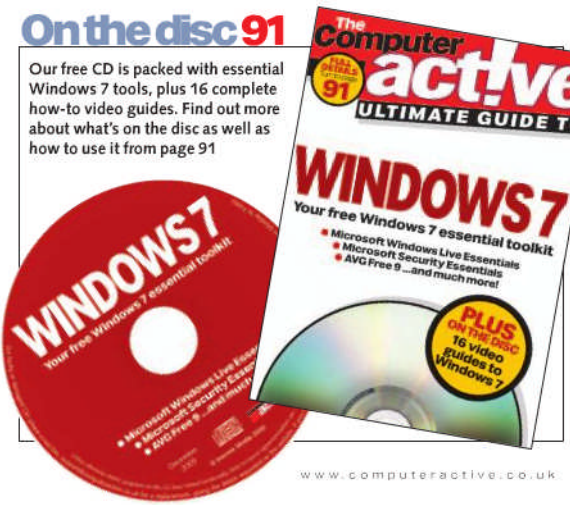
Floppy disk A sma… rigid square of plas… …store data.

Workshops

40 pages of easy-to-follow, step-by-step guides and tips

On the disc 91

Our free CD is packed with essential Windows 7 tools, plus 16 complete how-to video guides. Find out more about what's on the disc as well as how to use it from page 91



Introducing

bargain bargain .co.uk

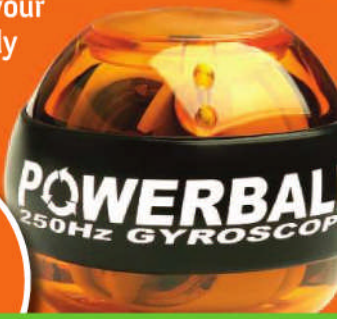
50 great games on each cd-rom

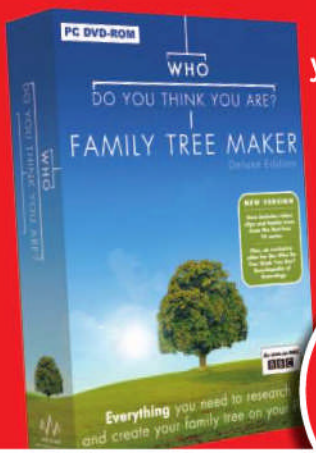
ONLY £1.99 EACH!

The fun way to exercise your upper body

ONLY £13.20

SAVE 10%





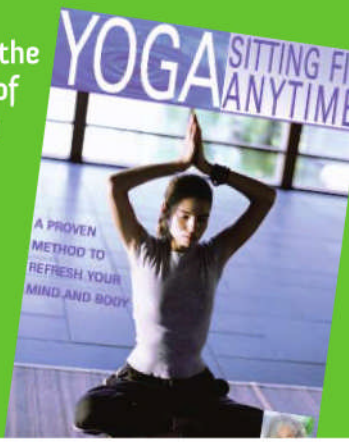
Research your family history

ONLY £19.56

SAVE 50%

Relieve stress in the comfort of your own home

ONLY £9.99



Order now at www.

Your one-stop shop for all your

* All offers are subject to availability. Prices are inclusive of VAT but exclusive of delivery charges which will be confirmed at checkout. We are only able to take orders via our website for delivery to UK addresses.

Here's just a few of our amazing launch offers...

Play your MP3s anywhere

ONLY £17.21

SAVE 20%

Fun and easy to use

ONLY £7.49 EACH

SAVE 25%

AS SEEN ON DRAGONS' DEN

Save energy in your home

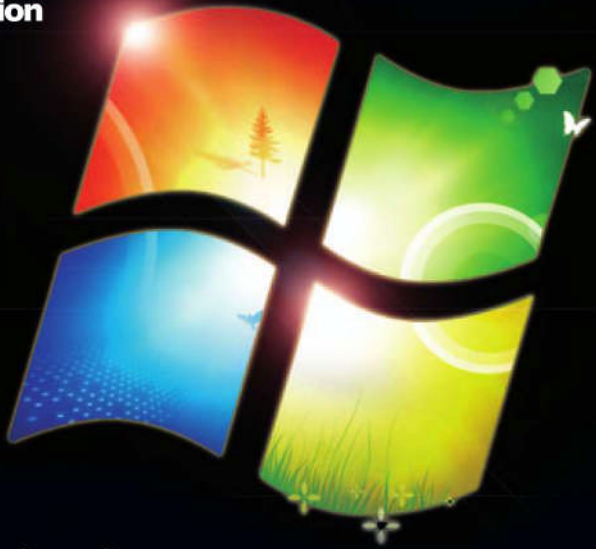
ONLY £16.99

SAVE £5.00

HURRY WHILE STOCKS LAST!*

bargainbargain.co.uk

essential computing and electronic needs



Welcome to Windows 7

Microsoft's successor to Vista has come sooner than expected, but what exactly is it and should you upgrade? We offer a gentle introduction to the latest incarnation of Windows

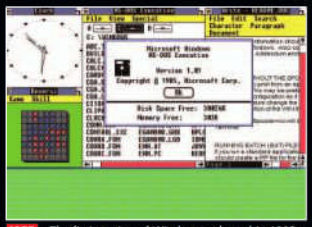
For computers, Microsoft's Windows 7 is one of the most important new products of the decade. And since you have picked up this Ultimate Guide, the chances are you want to know more about it. How you can get a copy, perhaps, how to upgrade an old computer to the new system or how to get the most from a new PC running Windows 7.

Naturally, we will be answering all these questions in due course over the pages that follow. You may, on the other hand, be wondering what on earth Windows 7 is, what it does and why you should care about it. To understand why Windows 7 is important, you will need to know what Windows does, and this isn't as obvious as some might think. Before we go any further, we will take a quick look at Windows – what it is, how it evolved and why this latest version is so important.

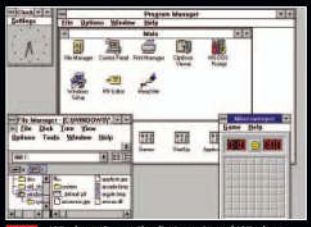
Watching Windows

Windows is an unusual product. Many of us have used a Windows computer, whether at home, school or work, without ever stopping to consider what Windows itself is doing. As far as most people are concerned, we are just using a PC. In fact, since Windows is included on just about every PC, it makes sense to think of it as just a part of the computer itself. That is not strictly the case, however. So just what is Windows?

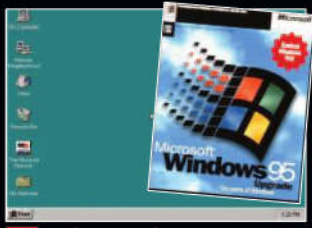
Although most of us tend to think of a Windows PC as one product, Windows is completely separate to the physical parts that make up the computer itself and has far more in common with other programs you might install. Windows is an **operating system** and its job is to provide a way for you to make use of the computer hardware with software. Although Windows is by far the most popular



1985 ▲The first version of Windows, released in 1985, was a simple program that ran in MS-Dos

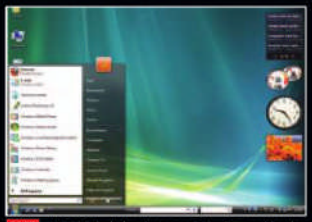


1990 ▲Windows 3 was the first version of Windows included ready-installed on PCs and became very popular

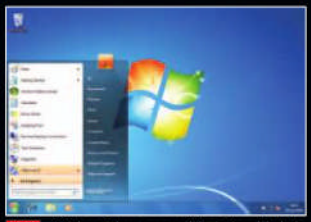


1995 ▲Windows 95 was a huge improvement over Windows 3 and introduced the Taskbar and Start Menu

2001 ▲The Windows XP desktop was redesigned with a friendlier blue interface for home users



2007 ▲Vista included a classy new interface and loads of new features including gadgets and Flip 3D



2009 ▲Windows 7 keeps some of the look and feel of Vista but drastically improves upon its user-friendliness

operating system on PCs, it's not the only one available: you might have heard of **Linux**, for example, which is a completely free alternative.

When you use a computer just about everything you see is provided by, or through, the operating system – and in this case, Windows. It creates the desktop you work on, and provides tools such as Windows Explorer as a way for you to access the files on the computer's hard disk. It links the mouse to the pointer on the screen and enables you to access cameras, printers and other devices plugged into the computer.

Windows also makes it possible to run other programs on the computer, linking them to the display, keyboard, mouse and so on. Without Windows (or an alternative operating system), the software you use on a computer would be completely useless. In fact, without an operating system such as Windows, the PC itself wouldn't be of any use at all. Turn on a PC with no operating system and it'll normally flash a few lines of white text on the screen before halting and stubbornly refusing to do anything at all.

Back in time

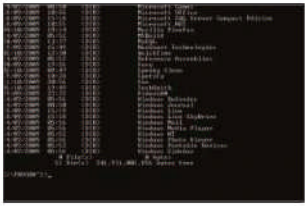
Of course, not so very long ago, flashing white text on a black background was really all that any computer could do. Before Windows came along, most PCs ran an operating system called **MS-Dos**. This allowed the computer user to run programs or move files around by typing in commands on the keyboard. The first version of Windows, released in 1985, was a program that ran in MS-Dos and provided a graphical interface where users could see several tools on screen at once, each in its own area of the screen or window. It included

▲Windows 7 includes many improvements over its predecessor, Vista

several tools still found in Windows today, such as the calculator, Notepad and Paint, but was far more limited. It was not an immediate success.

Windows 2, released in 1987, added improvements that are still in use today, such as overlapping windows and the ability to maximise and minimise programs, but was still relatively unknown. In 1990, however, Microsoft released the popular Windows 3. This added support for up to 256 colours on screen at once, and was the first version of Windows to be sold ready-installed on PCs. Updated versions including Windows 3.1 and 3.11 for Workgroups added the ability to work with computer **networks** and use new multimedia features such as **CD-Rom** drives, which were just appearing on PCs for the first time.

Although Windows 3.11 should be recognisable to Windows users today, it lacked many of the most obvious tools in modern editions of Windows, such as the **Taskbar**, Windows Explorer and Start Menu. Instead disks were managed using a tool called File Manager, while programs were launched from the Program Manager. In 1993 a new version of Windows, Windows NT 3.1, was launched. NT stood for 'New Technology', and this version was designed for business users.



▲Before Windows, PCs were used by typing commands. A similar interface is still hidden inside Windows today

Getting started

Things changed in 1995 with the release of Windows 95. This version was a huge improvement over Windows 3.11 and is immediately recognisable as the Windows we have today thanks to the Start button and Taskbar at the bottom of the screen. It became a huge success, selling its first million copies in just four days.

In the second half of the 1990s, internet access became far more widespread. Although the first versions of Windows 95 did not include a **web browser**, early versions of the new Internet Explorer were included with later editions. Two later versions of Windows aimed at home users, Windows 98 and Windows ME, added new multimedia abilities such as the ability to play more than one sound at once.

Meanwhile, Microsoft also released two new versions of its business operating system: Windows NT 3.1 was superseded by Windows NT4 and Windows 2000. Neither were popular with home users, but Windows NT4 in particular was very common in offices.

New experience

This divide between home and business versions of Windows ended with the release of Windows XP in 2001. Released in both Home and Professional versions, XP was built by taking the newer technologies used in the Windows NT and 2000 versions and adding all the user- and multimedia-friendly tools from Windows 95, 98 and ME. Windows XP also had a new look for the desktop and Start menu, which was friendlier to home users.

Windows XP was massively successful. Its exact popularity is hard to judge, but many surveys and analysts believe that between 2006 and 2007 it had a market share of over 75 per cent. It was, as they say, a tough act to follow, and when Windows Vista was released in 2006 it had something of a rough reception.

Vista was a radical redesign of Windows and introduced all manner of new features including a swish new user interface, a new way to navigate files and folders, a quicker search tool, a Mobility Center tool for laptops and a way to run simple programs such as 'Gadgets' on the desktop. Unfortunately it was also plagued with problems. Many people who

Sell-by dates

Windows 7 might be the flagship of Microsoft's Windows range, but this doesn't mean the company has abandoned users of older editions of Windows. Windows XP is the oldest operating system that is still safe to use online as Microsoft continues to provide important security updates. The company has pledged to continue doing so until 2014, although this deadline could be extended further.

Windows Vista is still in Microsoft's 'mainstream support' period, so as well as security updates the company is providing other fixes and updates free. Two Service Packs have already been released and in October Microsoft released a 'platform update' that added some of the technologies found in Windows 7. Microsoft plans to end support of most versions of Vista in 2012 and does not intend to offer an extended support period of the type provided for XP – though, again, this could change.

bought Vista early on found that their older printers and other devices wouldn't work, while the new security tool, User Account Control, annoyed users by continually asking for verification of their decisions. Many of the problems with Vista have been ironed out over the past few years, but its public image has never really recovered.

And so, in 2009 Microsoft has released Windows 7. Unlike Vista, it's not a major update: it includes comparatively few obvious new bells and whistles, with a focus on taking the technologies that worked in Windows Vista and redesigning the ones that did not. Fortunately this time around it seems Microsoft has succeeded in producing a system that works really well.

At Computeractive magazine we have been testing it for months prior to the official launch, and we are very impressed: it's as snappy and simple to use as Windows XP, with some great new tools and an interface that makes getting to the programs and files you need even easier. We recommend it as a worthwhile upgrade for users of both Windows XP and Vista. So, how can you get a copy?

▲Windows 7 has several versions

Moving up to Seven

The easiest way to get a copy of Windows 7 is to buy a new computer. As of 22 October 2009 every manufacturer of Windows PCs began selling new models with the new operating system pre-installed. Buying a copy this way removes the need to perform an upgrade yourself and ensures it will be fully compatible with the new operating system.

On the other hand, if you already have a good PC, purchasing a whole new computer is a waste of money and, thankfully, it's possible to buy Windows 7 on its own and upgrade the existing PC yourself. Provided your computer is relatively modern and built for either Windows XP or Vista, it should run Windows 7 without trouble, so you can purchase a cheap Upgrade edition of Windows 7 for less than £100 and install that. The process is not as daunting as it might sound, and you will find full instructions later in this Ultimate Guide.

Finally, but for a limited time only, there is another alternative. With Windows 7 now on sale, some manufacturers will have older Windows Vista computers still in stock that now look far less attractive to new buyers, and these are likely to be sold off with big discounts. Some will come with a cut-price upgrade to Windows 7 (often for as little as £20 to £30), but those that do not may be cheap enough that you can buy a full-priced copy of Windows 7 and still save lots of cash.

What's next?

However you plan to move to the new operating system, you will find all the information you need on how to use Windows 7 between the covers of this Ultimate Guide.

▲Windows Vista's User Account Control feature was widely disliked for continually asking for verification

If you are planning to buy a copy of Windows 7 from the shops, take a look at page 16 for information on the different editions available, how much each one costs and how to choose. If you are upgrading an existing computer to Windows 7 you will find a complete step-by-step guide to the process starting on page 18. For those upgrading from Windows XP there are full instructions from page 22. Those moving from Vista should turn to page 26.

Those who have already purchased a Windows 7 PC should skip to page 34 where we explain how to get the most from the operating system and its new features. Anyone concerned about computer security will find help starting on page 48.

Of course, no computer system is ever infallible, so if you need help with Windows 7 problems you will find our complete guide to troubleshooting starting on page 82. And finally, if you are still not sure whether Windows 7 is right for you, turn the page for more information on what it can do and the new features it includes.

Jargon buster

CD-Rom CD read-only memory. A CD that can store music or up to 650MB of data. Cannot be recorded using a CD drive.

Linux An operating system that can be freely modified and distributed by its users.

MS-Dos Microsoft Disk Operating System. The standard PC operating system before the dawn of Windows. Dos manages how files are stored on your PC. It is controlled through typed commands.

Network A way of connecting several computers and devices so they can share data.

Operating system Governs the way hardware and software components in a computer work together.

Taskbar The bar that runs along the bottom of the screen in Windows.

Web browser A program developed for navigating the internet, particularly the world wide web.

For more Jargon Buster definitions see page 97, or visit: www.computeractive.co.uk

Other operating systems

Although Windows is hugely popular, it is not the only operating system available. The two key alternatives are Linux and Apple's Mac OSX, but it's vital to remember that programs made for Windows will not run on either; instead you will need different software designed for the operating system you choose.

Like Windows, Mac OSX is a commercial product sold by its developer, Apple. Unlike Windows, however, it is sold subject to a licence that prevents users from installing it on computers that are not made by Apple. It is a powerful but easy-to-use system with many programs available, although there are relatively few games.

Linux is different. The code that makes it tick is freely available online, so there are dozens of versions available and the vast majority can be downloaded at no cost. Some, such as Ubuntu (**www.ubuntu.com**) are very user-friendly, while others are suitable for experts only. See our Ultimate Guide to Linux for more information.

▲Apple's latest operating system

▲Ubuntu is free to download

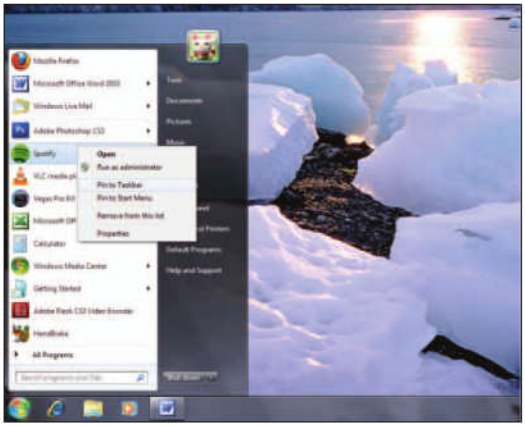
What's new?

Find out about all the interesting new features and functions that are built into Windows 7

Windows 7 builds on many of the tools and features introduced with XP and Vista, but also includes a number of new tools and functions. In this section we'll show you 20 of the best and explain what they do, and list some missing features too.

1 Pinning to the Taskbar

Most of us have a few programs that we want to run just about every time we switch on the computer – a **web browser**, perhaps, or **email** program. In Windows XP and Vista these could be added to the **Quick Launch** section next to the Start button, but that took up space needed by running programs. In Windows 7 the Quick Launch has been removed, and instead favourite programs can be pinned to the Taskbar itself, leaving a large **icon** that can be clicked once to launch the program in question. Best of all, programs can't choose to add themselves to the Taskbar in this way, so you stay entirely in control of what's shown there.



▲Any program can be pinned to the Taskbar for quick access, and programs cannot pin themselves

2 Taskbar previews

Windows 7 also saves space in the Taskbar by showing only one button per program, no matter how many windows it might have open. This could be confusing, but hover the mouse over a button and mini previews of each window now pop up just above the Taskbar – hovering the mouse over one brings that window temporarily to the front, clicking one selects it and windows can also be closed directly by clicking the 'X' icon. This feature is notably absent from the Starter edition of Windows 7 – see page 16 for more information on what's included with each version.

3 Jump Lists

In Windows XP or Vista, right-clicking a button on the Taskbar makes a small menu pop up with basic options: you can close the program in question, for example, or minimise it. In Windows 7 program makers can add customised 'Jump Lists' that appear here instead. Right-click the Internet Explorer button, for example, and you get a list of recently visited sites, an option to open a new tab and one to start a private browsing session. If you want access to the options that used to appear when a button was right-clicked in Windows XP or Vista, hold down Shift before right-clicking the button.

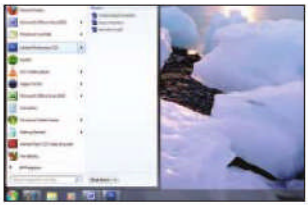
4 Aero Snap

Aero Snap is a clever way to rearrange windows on the desktop quickly and easily. Click a window to select it then drag the mouse up to the top of the screen and the window will expand to fill the screen, while doing the same but dragging to one side will resize it to fill that half of the screen – handy for widescreen computers. Holding down the Windows key then pressing the arrow keys for up, left or right does the same thing, while pressing down shrinks or minimises the window.

5 Aero Shake

Another clever new tool allows you to clear up the desktop easily so that you can focus on the task in hand: grab the top of the window you want and shake it from side to side. This trick, called Aero Shake, minimises every other

▲Taskbar previews instantly show what each running program looks like



▲You can now view recent documents by program using Jump Lists in the Start menu

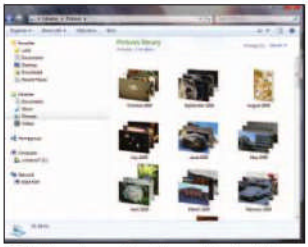
program that's open. For an even quicker way to get the same effect, press the Windows and Home keys simultaneously.

6 Gadgets anywhere

Windows Vista introduced a sidebar on the desktop where miniature programs known as 'Gadgets' could be run. In Windows 7 the sidebar has disappeared, and Gadgets can now be placed anywhere on the desktop – right-click the desktop and click Gadgets to add or remove them. The new Gadget system is smarter, too, as unlike the Vista sidebar it won't slow your computer down when there are no gadgets loaded.

7 Recent documents

Windows XP and Vista both kept a list of recently opened documents, allowing you to quickly get back to work on a recent project. Windows 7 goes one better by integrating the Jump Lists (see number 3) into the Start menu. To use them, hover the mouse over the arrow



▲Sort all your documents, photos or videos by date in one go using the new Libraries

▲Gadgets can now be placed anywhere on the desktop, with no need for the sidebar

pointer that appears next to a program in the Recent Programs list. Most Jump Lists include recently used documents or websites, making this a handy shortcut.

8 Multi-touch support

Windows XP and Vista could both run on touchscreen PCs, but computer manufacturers needed to include extra software to make this work. All versions of Windows 7 except the Starter edition include support for touchscreens, and can even understand multi-touch gestures made with two fingers to rotate and zoom in on documents or photos. Many manufacturers are now launching touch-screen PCs running Windows 7.

9 SSD support

Solid state disks, or SSDs, are becoming more common in all kinds of computers. SSDs have no moving parts, instead using **Flash memory** of the type found in **USB** memory keys to store files, and Windows 7 is the first version of Windows designed to work properly with them. It uses a method called Trim that makes more efficient use of the space on an SSD, and will also disable the disk **defragmenter** when working with SSDs as running this tool would be counterproductive.

Jargon buster

Anti-virus Software that detects repairs, cleans, or removes virus-infected files from a computer.

AVCHD A format for storing high-definition videos. AVCHD uses modern MPEG4 compression to fit video into small files.

Codec Compressor/decompressor. A file used to play a particular type of media file.

Defragment Reorganise the data stored on a hard disk so it can be accessed quickly by the computer. A fragmented disk can affect performance.

DivX A video compression standard that allows high-quality video to be stored in small files.

DPI Dots per inch. A measurement of printed image quality or the size of objects shows on a screen.

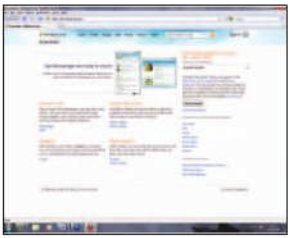
Email Electronic mail. A system of sending notes and memos between computers via the internet.

Continued on page 15
For more Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

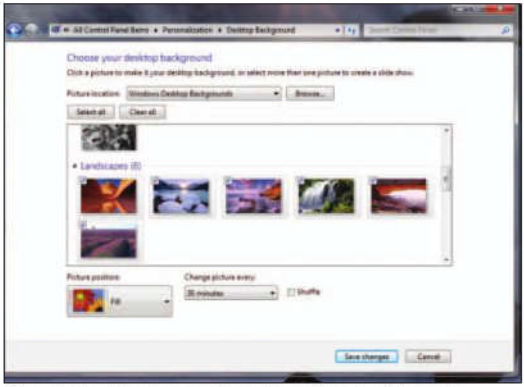
Missing in action

Although very few features or options have been removed from previous versions of Windows, a few things are notably absent from Windows 7. There's still no built-in anti-virus protection, for example, although Microsoft does now offer a tool called Security Essentials that you can download at no cost from **www.microsoft.com/Security_Essentials** (see page 48).

You might also be surprised to find that there's no copy of Windows Mail or Windows Movie Maker included when you start Windows 7. These are no longer installed as standard, but you can get them all at no cost by visiting the Microsoft Live Essentials website. See page 70 for more information on these tools.



▲Windows Live Mail and Movie Maker aren't installed as standard, but you can get them at no cost



▲Show a slideshow of images as your desktop wallpaper with no extra software needed

▲The Device Stage pops up to show helpful options when you connect a camera, phone or music player

▲Hit the Windows key and P together to summon this handy display-switching tool

10 HD video ready

Most devices that record or play **high-definition** (HD) video, including HD camcorders, do so using the new **AVCHD** standard. Windows XP and Vista could do nothing with these files unless you installed special player software, but Windows 7 can open and play them without any problems – just drag and drop them from the camcorder onto your **hard disk**. Windows 7 can also play videos encoded using the popular **XviD** or **DivX** methods – with Vista or XP you would need to install a separate **codec** to do this.

11 Libraries

Windows 7 includes a new Libraries feature that completely changes the way you access your documents, music, pictured and videos. A Library is a way of viewing the contents of several folders in one place, and libraries for Documents, Music, Pictures and Music are set up as the standard way for users to view those types of file. Using a library it is possible to view and sort files scattered all across the computers in one place, so you can, for example, view all the photos on a computer, ordered by the date they are taken, even if they reside in several folders on several hard disks.

12 Desktop slideshows

Just about every Windows user will want to customise the Wallpaper – the image shown as their desktop background. In Windows 7, though, you can go one step further by setting Windows to automatically cycle through a selection of images. If your computer is connected to the internet it's even possible to use a selection of images from the internet using an **RSS** feed – so you can, for example, cycle through all the photos stored online in a Picasa online photo album. Windows 7 Starter edition does not allow you to customise your wallpaper.

13 The Device Stage

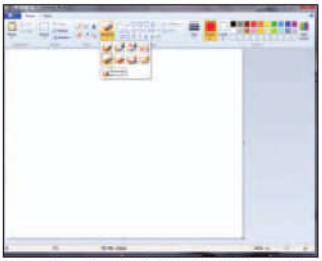
The Device Stage is a new tool built into Windows 7 that helps you manage any peripheral devices connected to the computer. Plug in a camera, for example, and the Device Stage will appear giving you options to copy the photos stored on it, or connect a music player and you'll see options for synchronising music files. Manufacturers can customise the Device Stage so that it always offers the most useful options. Plug in a Nokia **smartphone**, for example, and you'll see options for managing its contents and adding extra applications.

Old favourites

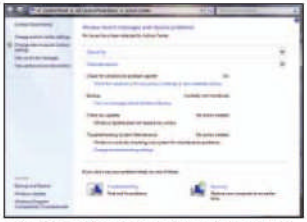
As well as the new features listed here, Windows 7 retains many features from XP and Vista. The Notepad and Calculator are still included, and Wordpad has been given a radical overhaul that makes it easier to use.

The Paint program has also been upgraded with some new artistic brushes and a new interface. Favourite games such as Minesweeper and Solitaire are still there, as is the Games Browser first introduced in Vista.

The Windows Backup tool is included in all versions of Windows 7 and can create a backup of your entire computer in one go, although only the Professional and Ultimate editions can store backups on a **network**.



▲Microsoft Paint is still included but its interface has had a lick of, well, paint



▲The Action Center keeps you up to date with any PC problems, and isn't limited to security settings

14 Action Center

Computers running Windows XP with Service Pack 2 or Vista include a Security Center tool that warns you if the PC is not adequately protected by **anti-virus** and **firewall** software. In Windows 7 the Security Center has been replaced by the Action Center. This appears as a small white flag in the **Notification Area** when there's a problem you need to address, and looks after more than just security; it will also warn you if backups have not been set up, or if there's a hardware problem that needs attention.

15 Devices and printers

Windows XP and Vista had a tool for viewing, configuring and checking the printers attached to a computer, but Windows 7 goes a step further. The new Devices and Printers screen is on the Start menu and shows, as you might expect, more than just printers: you'll also find icons representing displays, external disks, cameras and any other products connected to the computer. Right-click any device and click 'Properties' to alter its settings.

16 Font stacks and hiding

Managing fonts in Windows has long been something of a disaster, and the font options in Vista weren't much different from those in XP and even older versions. With Windows 7, though, the font options have been much improved. Open the Fonts window from the Control Panel, for example, and you'll see that fonts are arranged into stacks by family, making them far easier to find. Unwanted fonts can also be easily hidden – this doesn't remove them, but means that they won't show up as an option in any software.

17 Second display shortcuts

If you've ever tried connecting your computer to a projector or external display to show off some work or photos, you'll know that getting the screen as you want it can be ridiculously fiddly. In Windows 7, though, there's a handy hidden tool that makes it easy. Press the Windows key and P together and a pop-up menu will appear allowing you to choose between using the main screen, the second screen, both showing the same thing or both showing different parts of an extended desktop. When using both at once, pressing the Windows, Shift and Left or Right keys sends a window quickly to one screen or the other.

▲Fonts are easier to manage thanks to the new stacked view, and can be hidden if you don't like them

This tool and the shortcuts are unavailable in Windows 7 Starter edition, as that version supports only one display.

18 Change the Notification Area

In Windows XP and Vista, the Notification Area (often mistakenly called the System Tray) would often get out of hand as program after program insisted on adding an icon there. With Windows 7, Microsoft has introduced a new way to manage it. Clicking the arrow at the left of the area then selecting 'Customize' opens a window giving complete control over how each program or device should be displayed there. This allows you to show every program if you wish, but most people will be able to stick to the things they need to see such as wireless networks and the volume control.

19 Custom DPI settings

Many people with poor eyesight like to alter their computer so that text appears larger and easier to read. In Windows XP and Vista, however, changing the **DPI** setting to increase text size affected every user on the computer – hardly ideal if it is shared by several family members. In Windows 7 each user can choose their own DPI setting and it won't affect anyone else. There's no need to restart in order to make a change, either.

20 Quick zoom

Another handy tool for those with less-than-perfect vision is the new quick zoom shortcut. To instantly zoom in on the screen, Windows 7 users can simply hold the Windows key and press the plus ('+') key twice. Performing the same shortcut using the minus key zooms out again.

And there's more

These aren't the only new features in Windows 7, and many other areas have been improved subtly or made easier to use without adding any new functions. Some might not sound useful, but we would wager that after using the new system for a few weeks there are a few that you will wonder how you did without.

It's important to remember that not all are included in every version of Windows 7, so find out which version is best for you before buying. Turn the page for more information on the different versions of Windows 7 and what they include.

Jargon buster

Firewall A piece of software or hardware that prevents unauthorised access to a computer over a network.

Flash memory A type of memory with no moving parts that maintains its contents even when the electricity is switched off.

Hard disk A high-capacity disk fitted in almost all PCs and used to store both applications and the documents and files they create.

High definition A TV picture with a higher resolution than normal.

Icon A small image used by Windows to identify a file or application.

Network A way of connecting several computers and devices so they can share data.

Notification Area An area on the bottom of a screen that shows which programs are running.

Quick Launch An area of the Taskbar where frequently used programs can be launched easily by clicking on an icon.

RSS Really Simple Syndication. A format for automatically distributing news headlines and other content from the web.

Smartphone Generic term for a combined handheld computer and mobile phone.

USB A standard that allows quick and easy connection of external peripherals such as storage devices to your PC.

Web browser A program developed for navigating the internet, particularly the world wide web.

Xvid A video file format often used on the internet.

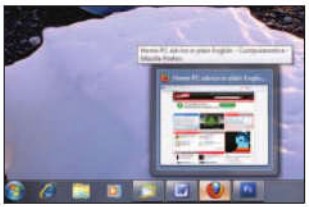
For more Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

Which version?

Windows 7 is available in a number of different editions, each with its own area of expertise. But which one is right for you? Find out with our guide

Once upon a time, Windows editions were a fairly simple affair: most people using Windows XP would use the Home edition at home, or the Professional edition at work. With Windows Vista, however, things got a little confusing, with Home Basic and Home Premium versions to choose from as well as an Ultimate edition and multiple business-oriented editions.

With Windows 7, Microsoft has made things less complicated. Although there are six versions in total, only four will be available for most of us to buy, and the choice between them is easier to make. In this section we'll explain what's on offer and, whether you're buying a copy in a box or a new PC with Windows 7 pre-installed, which one you should choose.



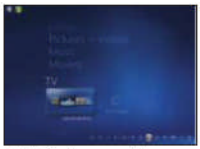
▲These handy Taskbar previews won't show up in Windows 7 Starter

Simple Starter

The most basic version of Windows 7 is Starter edition, and it will be available only on certain low-cost computers such as mini-notebooks, sometimes called netbooks.

Starter edition is limited, compared to other versions. For example, you can only use one monitor at a time, and only one user can be logged onto the computer. Starter edition doesn't support touchscreens (see page 40), plus you'll need extra software to play DVDs and it can't create a **network** Homegroup.

Perhaps more annoyingly, the graphical interface has been cut back; Taskbar previews are one of the best new tools in Windows 7, and they're missing from Starter edition. Many customisation options are gone, too, so you'll be stuck with the standard **wallpaper** Microsoft includes whether you like it or not.



▲Media Center comes with every version except Windows 7 Starter

Premium package

Although Microsoft is making a Home Basic version of Windows 7, it won't be on sale in the UK. Instead, most home computers will be sold with Windows 7 Home Premium. So what does it include?

With Home Premium you get everything that was notably absent from the Starter version: the full Aero interface with all the bells and whistles, including Taskbar previews, touchscreen support and the option to use more than one monitor or user account at a time.

All the personalisation features are included, too, so you can change the desktop wallpaper to whatever you want. Where Starter edition can only join a network Homegroup, the Home Edition can also create one.

Home Premium also adds two key new features. It's the cheapest edition available in a **64-bit** version, so if your computer has the necessary hardware you can use up to 16**GB** of **memory**. More importantly for most users, though, it also includes Windows Media Center. This simple interface makes it easy to sort through your videos, music and photos, and if you add a **TV tuner** it will turn your computer into a great TV recorder.

Home Premium will be included with most laptops and desktop computers, and it's a great choice for home users. It's priced at £150 with upgrades from Windows XP or Vista at less than £100, but we've seen full copies being sold at much lower prices online.

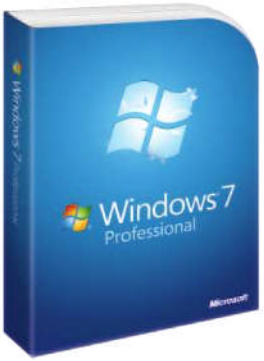
Go Pro

Home Premium is the cheapest version UK users can go out and buy, with the Professional and Ultimate editions costing far more. So, are they worth the extra cash?

You might see the Professional edition of Windows 7 installed on some notebooks and desktop computers targeted at business users. Despite being aimed at business users, it also includes everything found in Home Premium, including Windows Media Center.

The reason businesses will want to buy the Professional edition is its ability to join a Windows Domain – a system used by many companies to manage networks. If you want to use a computer at work and at home, this makes it worth considering. Another feature aimed at businesses is Windows XP Mode, which allows you to run software designed for XP without leaving Windows 7 or requiring an XP licence. See page 44 for more.

▲Windows 7 Home Premium is the best choice for most home computer users



▲If you need to connect to a network at work, pick Windows 7 Professional

▲Windows 7 Ultimate adds little to the Professional version

Other features found in Professional but not Home Premium include the Encrypting File System, which allows you to automatically scramble files so only people with access to your user account and password can read them, and a remote desktop host. This allows you to control the computer from another PC, with no extra software needed.

The recommended price for a boxed copy of Windows 7 Professional is £220, but we've seen it selling for around £150 online.

Ultimate guide

Windows 7 Ultimate is included on a few more expensive PCs as standard, or can be bought in a box. Microsoft's recommended price is £230, but we've seen it selling for £160.

Ultimate has every feature available for Windows 7. This includes everything in the Professional version, so it's suitable for both business or home use.

For home users, however, Ultimate doesn't include that much more than Professional. Bitlocker disk **encryption**, first seen in some versions of Vista, allows the user to scramble an entire **hard disk** to hide its contents from prying eyes, while enhanced language options allow Windows to run in several languages at once: so different users can run it in different languages, for example.

Which to choose?

So which version of Windows 7 is right for you? The choice is quite simple. First, if you're looking to upgrade a recently purchased Vista computer, check to see if you are eligible for a cheap upgrade; many PCs sold in the past six months can be upgraded for around £30, which is a great price. Refer to your PC's manufacturer for details.

If you need to connect to a work network, pick up a copy of Windows 7 Professional or a computer with it already installed. Ultimate isn't much more expensive, but adds little of use to most users. Windows 7 Starter Edition is only worth thinking about if you are intending to buy a netbook PC that comes with it pre-installed. It's fine for occasional web surfing and basic office tasks. Everyone else should choose Home Premium, which has all the features a home user could want. Home Premium is the version that will come installed on most new PCs, but it's also the cheapest option for software-only upgraders.

Which edition do I need?

Edition	Starter	Home Premium	Professional	Ultimate
Recommended price	Preinstalled only	£150	£220	£230
Maximum memory	4GB (32-bit)	16GB (64-bit)	192GB (64-bit)	192GB (64-bit)
Taskbar previews		Yes	Yes	Yes
Personalised wallpaper		Yes	Yes	Yes
Log on two users at once		Yes	Yes	Yes
Use two monitors at once		Yes	Yes	Yes
DVD playback		Yes	Yes	Yes
Windows Media Center		Yes	Yes	Yes
Touchscreen support		Yes	Yes	Yes
Create homegroup		Yes	Yes	Yes
Back up to network			Yes	Yes
Encrypt files			Yes	Yes
Windows XP Mode			Yes	Yes
Join a Windows Domain			Yes	Yes
Share the desktop remotely			Yes	Yes
Encrypt an entire disk				Yes
Run in two languages at once				Yes

Jargon buster

64-bit A technology that processes memory in larger chunks, and can work with more memory.

Encryption The science of scrambling data to hide it.

GB Gigabyte. A measurement of storage capacity, usually for hard disks.

Hard disk A disk fitted in almost all PCs and used to store both applications and the documents and files they create.

Memory The computer's temporary storage area, measured.

Network A way of connecting several computers and devices so they can share data.

TV tuner An expansion card that, when fitted into a PC, receives TV signals.

Wallpaper A pattern or image used as the background to your Windows desktop. It helps to personalise your PC but serves no other practical purpose.

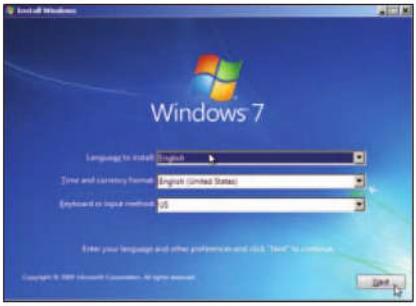
For more Jargon Buster definitions see page 97, or visit: www.computeractive.co.uk

Get ready for Windows 7

Windows 7 is here – but how do you get it and what do you need to know before installing it on your PC? We explain all

The latest version of Microsoft's Windows **operating system** (OS) brings several useful benefits, including new desktop features, improved home networking support, better overall performance and more. If you are still undecided about whether you should upgrade to Windows 7 or not, look at our advice in Computeractive issue 305 or read it online at ***www.computeractive.co.uk/2251627***, or have a look at the box on page 20 for further information.

In this feature we are going to look at the practical question of how you upgrade, which version of the OS to opt for, how to make sure your PC is ready for Windows 7, what you need to do before installation and how to make the transition as smooth and painless as possible.



▲Installing Windows 7 is a remarkably simple process. Just follow the wizard-based instructions on screen

There are two main ways to get hold of Windows 7: you can buy a new PC with the OS pre-installed or buy a copy of the software on its own and install it on an existing computer yourself. If you take the former route, you won't have to worry about installation – just make sure the computer you buy has the right OS installed, as some PCs are still being sold with Vista.

You'll also need to transfer the documents and folders from your old PC to your new Windows 7 one. This can be done using a utility called Windows Easy Transfer, which enables you to import user accounts, personal files, contacts, emails preferences and so on from one computer to another via a network, **USB** cable or external storage device. On your Windows 7 PC, go to Start, click All Programs, go to Accessories, then to System Tools, where you will find Windows Easy Transfer. Click it and follow the **wizard**-based instructions to complete the process.

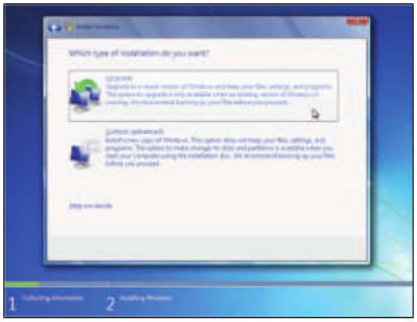
▲Use Microsofts's Windows 7 Upgrade Advisor to test if your PC is compatible with Windows 7

Can my PC run 7?

If you're planning to upgrade an existing PC to Windows 7 yourself, first of all, you will have to find out whether or not your current

computer is up to the task. As a general rule, if the PC is running Vista, it will be able to run Windows 7. The minimum hardware requirements set out by Microsoft for Windows 7 are surprisingly low (*www.snipca.com/x473*), so even if your computer runs Windows XP, there is a good chance it will be able to run Windows 7 too.

You will also need to consider the other hardware and software you have: printers, scanners, cameras and other external devices, along with any third-party programs and utilities you rely on, such as CD/DVD-burning tools, photo-editing applications, office suites, games and security software.



▲Vista users can perform an Upgrade install for Windows 7

The easiest way to test the compatibility of the PC, peripherals and so on is to use Microsoft's Windows 7 Upgrade Advisor. The Upgrade Advisor is free on this issue's CD. Install the utility, then start it by double-clicking the desktop **icon** and follow the on-screen prompts to run the test. Make sure all your external devices are plugged in before you start and, once the test has finished, check through the results to note any potential problem areas.

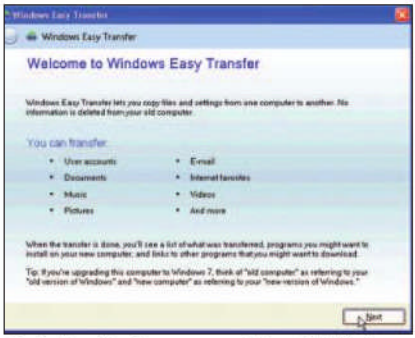
Most of the issues it detects regard drivers that can be fixed easily by running Windows Update once you have finished upgrading the OS. Other issues will be flagged up by a red cross icon. These may include known issues with incompatible hardware or software or items that the Upgrade Advisor utility has failed to identify. Assuming the Upgrade Advisor gives you the all clear (or, at least only points out a few issues that can be easily solved), you can move on to the next stage.

Version confusion

If you are going to buy a boxed copy of Windows 7, there are choices to make first. Windows 7 is available in different versions, each with its own set of features. See page 16 for more details and prices. The most suitable version for Computeractive readers is Windows 7 Home Premium. All versions can be bought as either a 'full' or an 'upgrade' edition; if the computer you plan to install the software on has a licensed copy of Windows XP or Vista, all you need is the upgrade edition.

To confuse matters further, your boxed copy of Windows 7 contains two discs because all versions come in two forms – **32-bit** and **64-bit**. If you are interested in the differences read our short guide at *www.computeractive.co.uk/2251969*.

If you are upgrading an older computer it is likely that your current PC will need the 32-bit disc. If you own a more recent computer double-check which version you need. Open the Start menu, right-click on Computer and select 'Properties'. Look under System Type in the window that appears to see whether the current OS is 32 or 64-bit.



▲Transfer all your files, folders, programs and settings with the Windows Easy Transfer utility

Clean machine

Now you will need to decide the method you are going to use for installing the new OS. The most straightforward route for Vista owners is to perform an Upgrade install (also known as an 'in-place' installation) of Windows 7 over the top of your existing software. This will replace Vista with Windows 7 but leave your personal files, settings, programs and so on intact, so you can pick up from

Jargon buster

32-bit Most home computers are 32-bit, but are being superseded by 64-bit computers.

64-bit A technology that processes memory in larger chunks, and can work with more memory.

Applet Small utility program within Windows, such as Calculator or Scandisk.

Bios Basic Input Output System. Software built into all PCs to control the basic operation of devices such as the screen, hard disk and keyboard.

Double-click To click twice quickly in succession on a mouse button. If you double-click on an application icon, Windows will then attempt to launch the application.

Dual boot Installing two operating systems on a single PC. The user can then choose which to load when the PC starts.

Hard disk A disk fitted in almost all PCs and used to store both applications and the files they create.

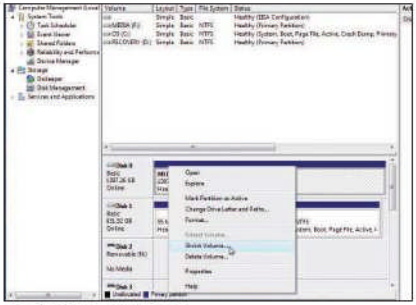
Icon A small image used by Windows to identify a file or application.

Operating system Governs the way hardware and software components in a computer work together.

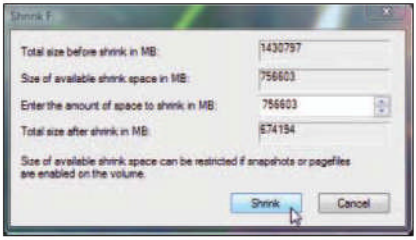
USB Universal Serial Bus. A standard that allows quick and easy connection of external peripherals.

Wizard A step-by-step process that helps you choose settings.

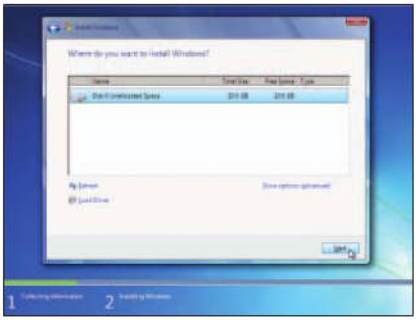
For more Jargon Buster definitions see page 97 or visit: **www.computeractive.co.uk**



▲Use the Disk Management applet to partition your hard disk



▲Create a disk partition to run more than one version of Windows



▲There are several ways to install Windows 7. 'Upgrade' installation will keep your programs, files and settings

where you left off. At least that's the idea. Most upgrade installations will work fine but we recommend you perform a complete backup of everything on your PC before you start.

You will also need to ensure your copy of Vista has been updated to Service Pack 2 or higher. This is likely to be the case if you have Automatic Updates switched on but to check, go to Start, right-click on Computer and select Properties. Under 'Windows edition' in the window that appears, you should see 'Service Pack 2' listed. If not, head to *www.snipca.com/x379* to download and install it.

Another way of upgrading to Windows 7 would be to perform a Clean install; this involves wiping your PC's **hard disk**, erasing all traces of Vista and deleting all files, settings and programs before laying down a fresh installation of Windows 7. The benefit here is that you have a clean slate, giving your PC that factory-fresh feel and, potentially, a significant performance boost.

Naturally, backing up everything before you start is even more important in this case, since everything from your emails and Address Book contacts to your digital photos, music and internet favourites will be completely and irreversibly erased during the upgrade process. After the Clean install is complete, you will also need to restore all these from your backup copies as well as re-install any programs you require.

Windows XP users will only be able to perform a Clean install – the Upgrade install option is only available for Vista. Also, you cannot perform an Upgrade install from a 32-bit version of Windows to a 64-bit one and vice versa. Again, a Clean install is the only way forward.

A final preparation tip is to ensure you have the username and password of your wireless network to hand, if one is in use. Some routers display this information on their setup pages, so check the router's manual to find out how to access this. If you have lost the password, you can set up a new wireless network in Windows 7 with a new username and password.

The final option is to install Windows 7 in a dual-boot configuration. This can be done

7 wonders

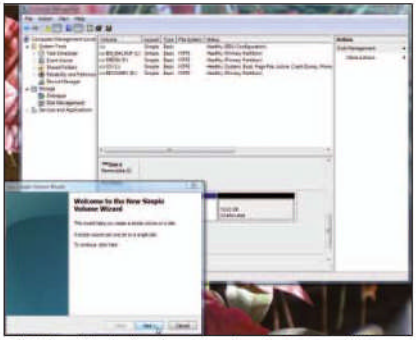
Windows 7 provides a number of advantages over previous generations of the operating system. It's not a radical overhaul by any means and if you are upgrading from Vista, much of the look and feel will be familiar to you.

Subtle tweaks in the way the desktop works are the most noticeable new features. The Taskbar that runs along the bottom of your screen has been improved so it's much easier to access your favourite programs and see which ones you have running.

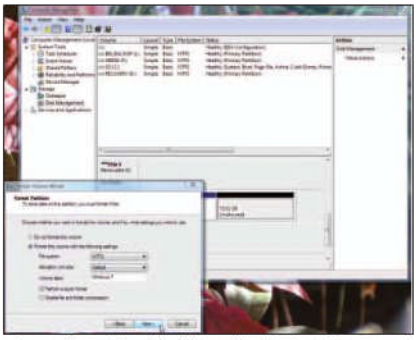
Other features, such as Jump Lists, Aero Shake, Peek and Snap, make it easier to stay organised and navigate your PC, while simpler networking features, better support for external devices and an overhauled Media Center are also key additions.

For a full exploration of what's new and whether it's worth upgrading, have a look back at our feature on page 12. And for more on how to use the new features and make the most of what Windows 7 has to offer see our special series of video Workshops on our cover CD.

▲Watch our Windows 7 video guide Workshops



▲The Volume Wizard will guide you through creating two 'virtual' drives



▲Once you have partitioned the disk you will need to format it too

on both XP and Vista PCs and enables you to install the new OS alongside your existing one, allowing you to select the version of Windows you require every time the computer starts.

To set up a **dual-boot** configuration you will need to partition your hard disk. This splits the main disk into two 'virtual' drives: one that contains your current installation of Windows and an empty one to install Windows 7 on. Vista users have a simple partitioning tool at their disposal in the shape of the Disk Management **applet**. To partition an XP disk you will need additional software and it is a bit more complex. For detailed instructions on dual-booting go to page 30.

Take the plunge

However you choose to install Windows 7 we cannot stress enough the need to back up personal files and folders first. If possible, use a disk image backup program, such as Acronis True Image Home 10 (*www.computeractive.co.uk/2157451*) to make a spare copy of your entire hard disk as it currently stands before proceeding.

Once this is done it's time to install the OS. Depending on your method, however, there might be one final tweak that needs to be made before you dive in. For those performing an Upgrade install, insert the Windows 7 DVD into the CD/DVD drive while Vista is running, and follow the on-screen prompts. For a step-by-step guide go to page 26 or follow the video on this issue's CD.

If you're opting for a Clean installation of Windows 7 or dual-boot setup, however, you will need to restart your computer from the Windows 7 DVD rather than the hard disk. Unfortunately not all computers are set up to do this, but it's easy to put right.

With the Windows 7 disc in your CD/DVD drive restart your PC. If you do not see a message saying 'press any key to boot from CD or DVD', restart the PC again and this time tap the F2 or Delete key on the initial **Bios** screen to enter the Bios setup utility. This is a basic menu that you navigate using the arrow keys and the Enter button, rather than the mouse. Look for a section called 'Boot' or 'Advanced', then head to the sub-section called 'Boot Device Priority', 'Boot Order', or similar. Set the CD/DVD drive so it is the first boot device in the list (there should be an explanation of which keys to press in order to achieve this), then exit the Bios, saving the settings.

Now restart once more with the Windows 7 DVD in the drive and this time you should see the 'press any key...' message. Hit a key and Windows 7 will start loading the files required for your installation. And if you are dual-booting ensure you select the correct partition when prompted, otherwise you could end up deleting the very Windows Vista or XP installation you are trying to protect. Follow the steps on page 22 to perform a clean installation.

Easy as pie

If you have prepared your PC effectively, installing Windows 7 is a remarkably painless process – you just need to make a couple of simple but crucial choices during the initial stages and then sit back and let the installation wizard do its thing. Bear in mind that an Upgrade install can sometimes take several hours to complete. A Clean install is usually a lot quicker (as little as 20 minutes) but in either case the best advice is to leave your PC well alone until the installation has finished. The PC will restart itself several times during installation. This is normal.

Once Windows 7 is running, Upgrade installers should find all their user accounts, personal files and applications are where they were in Vista. Those who did the Clean install will need to set up new user accounts and use their backup files to move documents back to the PC, as well as re-installing any applications from disc.

With all your post-upgrade jobs finished, it's time to start making the most of Windows 7, so read on to find out more about what the new software has to offer.

▲Back up files with a program such as Acronis True image before you install Windows 7

Upgrade to Windows 7 from Windows XP

Perform a clean installation of Windows 7 on an XP computer after backing up files

Video on the CD

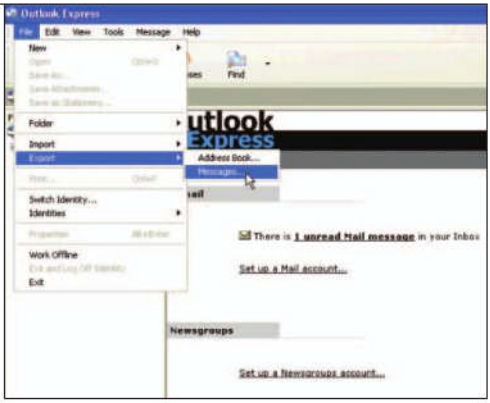
The move from Windows XP to Windows 7 is a dramatic one and the installation process is slightly more involved than when upgrading from Vista to Windows 7. This is because it is not possible to upgrade Windows XP in the same way – Windows 7 can usually still be installed on the computer (assuming the PC meets the hardware requirements – see page 18), but a 'clean' installation must be performed.

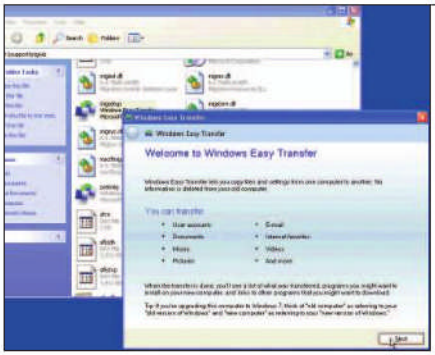
Having to go down this route means that you will need to backup files and settings to avoid losing all your important data or having to spend a great deal of time configuring Windows 7. Thankfully, this does not have to be done completely manually as the Easy Transfer Wizard is on hand to help.

Read on to find out how to upgrade from Windows XP to Windows 7.

Step 1

As the process of performing a clean installation of Windows 7 will completely wipe the **hard disk**, it is vitally important to create a backup of any files and settings that need to be kept. Files stored in the My Documents folder can be backed up by simply copying them to an external hard disk or by **burning** them to blank CDs or DVDs, but you will also have to work through each of the programs you have installed to see whether it is possible to back up any settings that are in place – this includes backing up messages in your email client. There is often an 'export' option available that can be used to save data to another location.



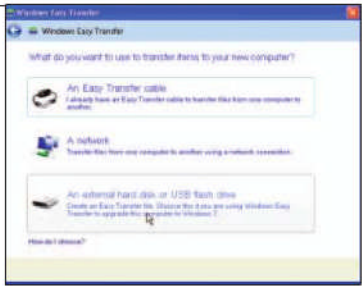


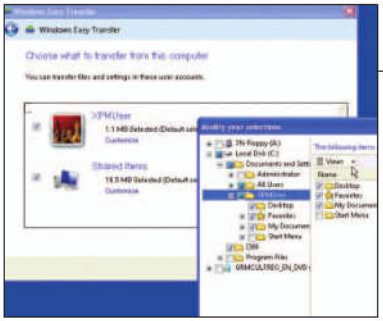
Step 2

A far better option is to make use of the Easy Transfer Wizard that can be found on the Windows 7 installation DVD. This tool can be used to make a backup of a range of files and settings, including user account settings, and helps to automate the process. Data can be stored on an second hard disk inside your computer (if you have one), an external disk or copied across a **network** to another computer. Insert the Windows 7 DVD, right-click on it in My Computer and select Explore. Open the Support folder and then the folder called migwiz (short for migration **wizard**). **Double-click** the file named migsetup.exe to launch the Easy Transfer Wizard and click Next when the startup screen is displayed.

Step 3

As mentioned, there are various ways in which data can be backed up, but by far the easiest is to make use of a second hard disk or an external disk, so click this option from the list that appears. At the next screen there is only one option listed – 'This is my old computer, I want to transfer files and settings from this computer' – so click this to continue. There will a pause while the Easy Transfer Wizard checks to see how many user accounts have been created and compiles a list of the files and settings that can be backed up ready for transfer – just how long this takes will depend on the number of files on the hard disk.



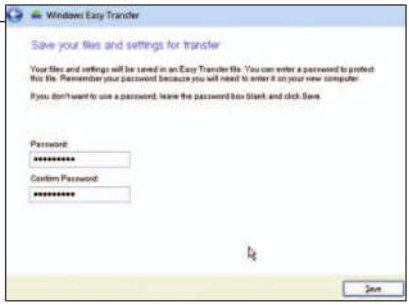


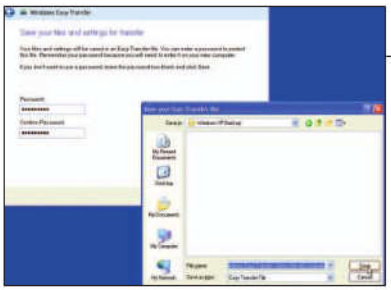
Step 4

If not all the user accounts that have been detected need to be transferred to Windows 7, untick the box that appears next to them. For the remaining accounts and shared files and settings, it is possible to customise precisely what will be backed up ready for transfer. Click the 'Customize' link beneath a user account entry and use the tick boxes to indicate the data that should be included in the backup. To include additional folders that contain important documents, click the Advanced link at the bottom of the pop-up menu and tick the boxes next to any other folders. Click Save and repeat the process for the remaining user accounts, taking care to double check that all important folders have been selected.

Step 5

Once these settings have been configured, click Next to continue and the option to password-protect the files and settings backup will be displayed. While this is not an essential step, it is possible the files that are being backed up contain sensitive information, so this security precaution is advisable. If you are happy to continue without creating a password, click Save, but otherwise enter and then confirm the password you would like to use in the two text boxes before then clicking Save. Password protection is particularly advisable if an external drive is being used as the backup device and the upgrade to Windows 7 is not going to be performed immediately.



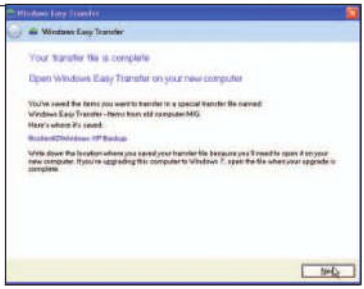


Step 6

Use the Save **dialogue box** to navigate to the hard disk which is going to be used to store the backup. It is important to remember not to save the backup to the drive that currently has Windows XP installed on it as this drive will be **formatted** during the installation of Windows 7. Create a new folder on the desired hard disk or external disk if necessary, change the default file name if you would prefer to use something different and then click the Save button. The Easy Transfer Wizard will then save the selected files and settings to the chosen location and it is important not to use the computer during this process to avoid interfering.

Step 7

When the backup is complete, click the Next button and a summary screen will be displayed. Here the Easy Transfer Wizard confirms that the backup has been successfully created and displays a reminder of where it has been saved and what it is called – it may be worth making a note of this information for future reference. Click Next to continue and then click Close to complete the process. Before continuing any further, check that the disk used for backup contains a .mig file in the chosen folder. This is the single file that contains all the files and settings that will be transferred to Windows 7. If it cannot be found, run through the wizard again.

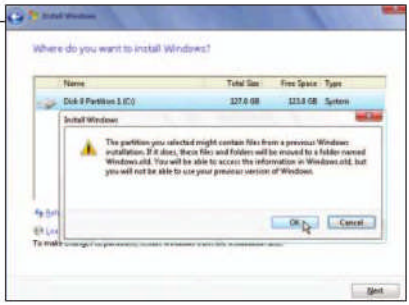


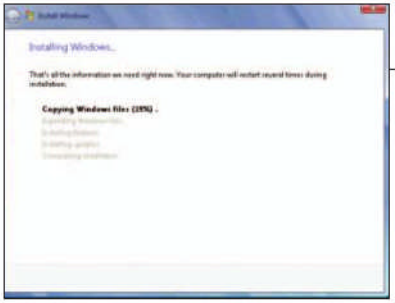
Step 8

You are now ready to install Windows 7. Open My Computer and double-click the DVD drive **icon**. If Windows 7 setup does not launch automatically, double-click the setup file. At the Install Windows screen, click 'Install now' and wait for a moment while the necessary files are read from the installation DVD. Providing your computer is connected to the internet, click the option 'Go online to get the latest updates for installation (recommended)', agree to the Windows 7 licence terms by ticking the box at the bottom of the next screen, then click Next. Upgrading from Windows XP to Windows 7 isn't possible, so click the Custom (Advanced) option.

Step 9

If more than one hard disk is installed in your computer you will need to indicate which one should be used to install Windows 7. In our case, the one that currently houses Windows XP. In the majority of cases this will appear as drive C: in the list that is displayed, so select this item and click Next to continue. The setup program will detect that an older version of Windows is already installed and will display a warning to that effect – just click OK to continue. The process of copying files from the installation DVD to the hard disk will now begin and the setup process can be left to its own devices for a little while.



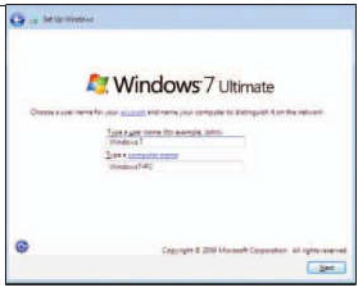


Step 10

Most of the next step of the installation process is entirely automated. After setup files have been copied from the Windows 7 disc and then extracted, the installation of Windows will begin. Your computer will be restarted when necessary and the setup process will automatically continue. The entire installation should be completed in less than an hour, but this will vary from one computer to another. When Windows 7 has been installed, the **operating system** will start and there will be a delay while the final stages of setting up the computer are completed. There are now just a few final settings to configure before Windows will be ready for use and the backed up data can be restored.

Step 11

Use the **dropdown menus** to indicate that you are in the UK and the relevant time, currency and keyboard settings should be automatically selected. Click Next and then enter a name for your user account and computer before clicking Next again, enter a password to protect your account and click Next. You are not obliged to create a password, but it is recommended and if you do you will also need to enter a password hint as a reminder. Now enter your Windows 7 product key, leaving the activation box ticked, before clicking Next, and then click the 'Use recommended settings' link to enable automatic updates. Choose the correct time zone from the dropdown menu and click Next.

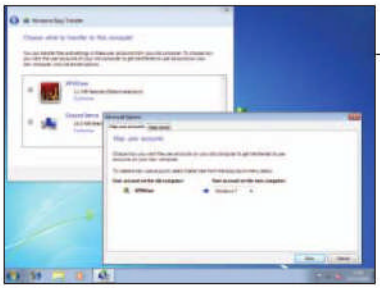


Step 12

If your computer is connected to a network, the next screen that appears will ask you to indicate the type of network connection that is available. For the majority of users, particularly home users, clicking the 'Home network' option is the next step, after which Windows 7 will configure the necessary settings and establish a connection before restarting. The first **boot** of Windows will take longer than normal as there are still a few final setup tasks running in the background, but within a few minutes the desktop will appear for the first time and Windows 7 is ready for use and configuration. But the next step is to restore data that has been backed up.

Step 13

Click the Start orb followed by All Programs and then click Accessories followed by System Tools. Click the Windows Easy Transfer link to launch the tool that will be used to migrate the files and settings that have been backed up in Windows XP and click Next at the startup screen. As the data has been backed up to a second hard disk or an external disk, click the option labelled 'An external hard drive or **USB** flash drive' when asked where data is to be transferred from and then click 'This is my new computer'. Ensure that the backup disk that has been used by Windows XP is connected and then click Yes to continue.



Step 14

Use the dialogue box that appears to navigate to the file that was created during the backup process, select it and click Open. If the file has been password protected, enter the relevant password before clicking Next. A dialogue box similar to the one from Step 4 will be displayed from which it is possible to choose what data should be transferred to Windows 7. Click the Advanced Options link at the bottom of the screen and select which accounts from Windows XP should be linked to which user accounts in Windows 7. Click the Transfer button and the backed up files will be copied into place along with system settings. Click Close and restart Windows, after which any additional programs can be installed.

Upgrade to Windows 7 from Windows Vista

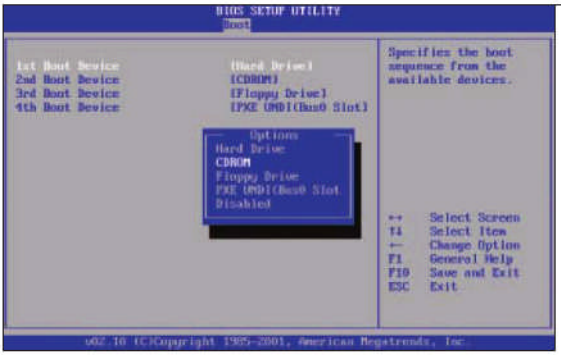
Discover how to make the move to Windows 7 from Vista with our step-by-step guide

Video on the CD

While users of Windows XP looking to install Windows 7 have no choice but to perform a clean installation, Vista users have the option of an 'upgrade' installation. This is generally a simpler process. All existing applications, settings and files are left alone and do not need to be manually transferred or installed separately. An upgrade needs to be performed from a version of Vista to the same edition of Windows 7 or greater – such as Vista Home Premium to Windows 7 Home Premium, or Vista Home Premium to Windows 7 Ultimate. Moving from **32-bit** Vista to **64-bit** Windows 7 will still require a clean installation, and the first five steps of our Workshop show how to do this. Most people, however, can skip to Step 6 to find out how to perform a standard upgrade installation from Vista to Windows 7.

Step 1

Anyone who owns a computer with Windows Vista installed has the option of upgrading directly to Windows 7 without the need to take too many preparatory steps. However, as mentioned in the introduction, if you intend to upgrade from a 32-bit version of Vista to a 64-bit version of Windows 7, a clean installation will still be necessary. If the installation for a 64-bit version of Windows 7 is started from within a 32-bit version of Vista, an error message will be displayed explaining that the software is not compatible. As the installation of a 64-bit version of Windows 7 cannot be started from within a 32-bit version of Vista, you will need to **boot** your computer from the DVD drive.



Step 2

Before a clean installation of Windows 7 can be performed, you will need to check that the **Bios** is configured to enable your computer to boot from the CD/DVD drive. Power up the computer and watch for an on-screen message indicating which key should be pressed to enter the Bios or Setup – it will often be Del or F2. Press the relevant key and look for a section called Boot Order, Boot Priority or something similar, using the **cursor** keys to navigate through the available options. Change the current settings so that the CD/DVD drive is the first boot device and then exit the Bios making sure that you select the option to save the changes that have been made.

Step 3

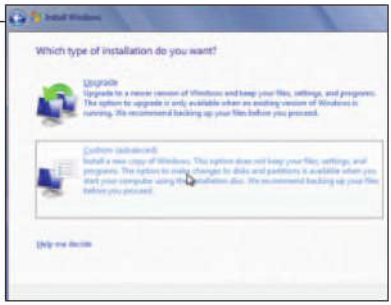
If a clean installation is being performed, the Windows Easy Transfer tool can be used in the same way as for Windows XP to make a backup of files and settings so they can be quickly and easily transferred to Windows 7 once it has been installed. Turn back to page 22 to find out how to use this utility and perform a clean installation of Windows 7. In addition to the files and settings backed up by this tool, don't forget to manually back up settings for third-party programs, ensure that you have the serial numbers required to re-install software you have bought – it is worth spending some time over this to ensure that nothing is forgotten.

Step 4

Once all the necessary backing up is complete, Windows 7 can now be installed. The process is slightly different depending on whether a clean installation is required or if Vista is being directly upgraded to Windows 7. If a clean installation is required, insert the Windows 7 installation disc and restart your computer and when prompted, press any key on the keyboard to boot from the DVD. Setup files will be read from the disc and after a few moments the installation will begin. The first thing to do is to select the correct language, date and keyboard settings from the **dropdown menus** before clicking Next and then click 'Install now' to continue.

Step 5

Tick the box that appears on the next screen to agree to the Windows 7 licence and click Next to continue. Click the 'Custom (advanced)' option, select the **hard disk** to which Windows 7 should be installed and then click Next. From this point onwards, performing a clean installation over the top of Vista is very much the same as performing the same type of installation over the top of Windows XP and you can follow the instructions on page 24 from Step 8 onwards. The remaining steps of this walkthrough will focus on upgrading from Vista to Windows 7 from within Windows.

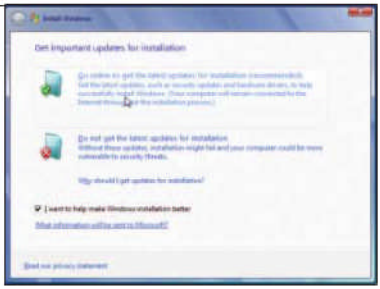


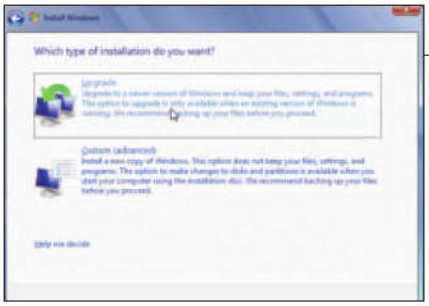
Step 6

If you are performing a more straightforward upgrade from Vista to Windows 7, once the preparatory backup steps have been taken, it is time to install Windows 7. Insert the installation DVD and the setup routine should launch automatically, but if this is not the case, open Computer from the Start menu and then **double-click** the **icon** representing the DVD drive before double-clicking the file called setup.exe. If User Account Control is enabled, you will also need to click the Continue button. At the Install Windows screen, click the 'Install now' link and wait while the files needed for the installation are read from the DVD.

Step 7

At the next screen there is an option to connect to the internet to download the latest installation files to help ensure that the transition to Windows 7 is as smooth as possible. You can also opt to send anonymous information about your computer configuration – information such as the hardware and software that is installed – to Microsoft to help further improve the installation process. If you are happy to share this information, tick the box at the bottom of the dialogue before clicking 'Go online for the latest updates for installation (recommended)'. Neither option is necessary, but if an online check is performed, the very latest **drivers** for hardware can be installed automatically.



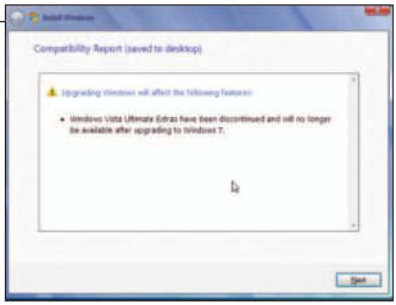


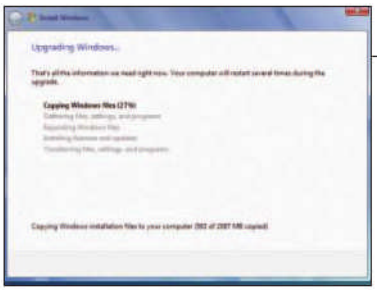
Step 8

There may be a pause while updates are downloaded from the Microsoft site. When the software licence terms are displayed, tick the box to agree to them and then click Next. The next screen offers a choice between an upgrade or a clean installation. When moving from Vista to Windows 7, an upgrade is possible. We still recommend backing up your documents and settings, whether manually or by using Windows Easy Transfer. To install, click the Upgrade option. At this stage, no changes have been made to your computer, so setup can be cancelled in order to perform a backup.

Step 9

Before the installation continues, Windows 7 will perform a check of the software currently installed. If any programs are detected that are not compatible with Windows 7, a summary screen will be displayed listing such software – this list will generally only include much older software, or programs such as **anti-virus** tools. Make a note of anything listed here. Once the installation of Windows 7 is complete, you should check the website of the software manufacturer to see if software updates have been released to improve compatibility, if there is a new Windows 7 compatible version of a program available, or find out if you will need to use an alternative tool. When this has been done, click Next.



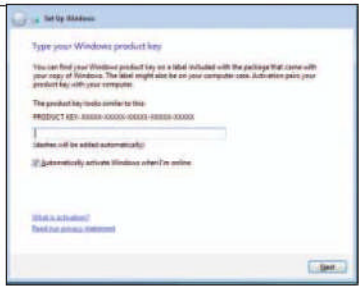


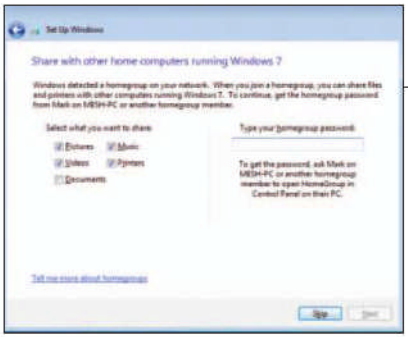
Step 10

The installation program will now copy the files required for setup from the Windows 7 DVD, extract their contents and the installation process will take place. This section of the installation is automated and your computer will be restarted when required without the need for confirmation. Performing an upgrade to Windows 7 is generally a bit slower than installing the **operating system** from scratch, but precise installation times will vary from one computer to another. Installation times are also influenced by the number of programs that were installed under Vista as Windows 7 needs to transfer settings to the upgraded operating system – if a large number of programs are installed, Windows will take longer to perform the checks.

Step 11

When prompted to do so, enter the product key for Windows 7 – this can be found on the DVD case – and ensure the box labelled 'Automatically activate Windows when I'm online' is ticked before clicking Next. It is not necessary to provide a product key and activate Windows immediately, but if it is not done at this stage, prompts will be displayed, so it is a good idea to get it out of the way from the start. To ensure that Windows is kept up to date with the latest patches, fixes and driver updates, it is important to enable automatic updates – just click the 'Use recommended settings' option to do so.



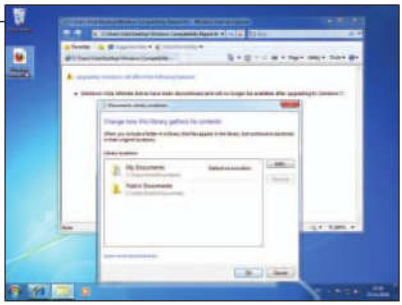


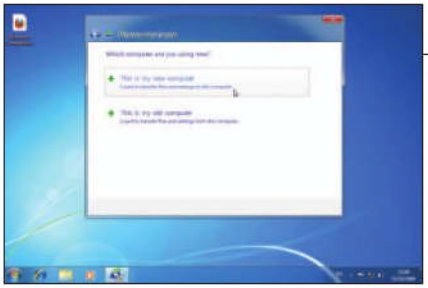
Step 12

Select the correct time zone from the dropdown menu and ensure the date and time are set correctly before clicking Next. The final stage of installation is to configure **network** settings. There are three options to choose from, and for most people the 'Home network' option is the most appropriate – this will make it easier to share files and resources between computers on the network. There will then be a slight delay while the necessary network settings are detected and configured. If other Windows 7 computers are already on the network, the option to connect to a Homegroup network by providing the relevant password will be displayed – this step can be skipped if it is not needed.

Step 13

There will now be another delay while the installation program finishes the setup process. When Windows is fully loaded, there may be a shortcut on the desktop called Windows Compatibility Report. Double-click this to open the report in Internet Explorer (or whichever **web browser** has been configured to be the default) and it will display details of any programs that the setup program determined to be incompatible with Windows 7 back in Step 9. Take a look through the Start menu and any programs that were installed under Vista should still be available now that Windows 7 has been installed. Similarly, documents should still be accessible by opening the relevant folder.





Step 14

If you have performed a simple upgrade from Vista to Windows 7, the new operating system is ready to use. If you have had to perform a clean installation due to moving from a 32- to 64-bit version of Windows, now is the time to restore data that was backed up using Windows Easy Transfer. Launch the program from the System Tools section of the Accessories group in the Start menu and click Next before clicking 'An external hard disk or **USB** flash drive'. Click the link to indicate that this is your new computer and then browse to the backup file created earlier on before running through the remainder of the data transfer process.

Split decision

Worried about ditching XP or Vista in favour of Windows 7? There is an answer: create a dual-boot PC and you can run both. We explain how

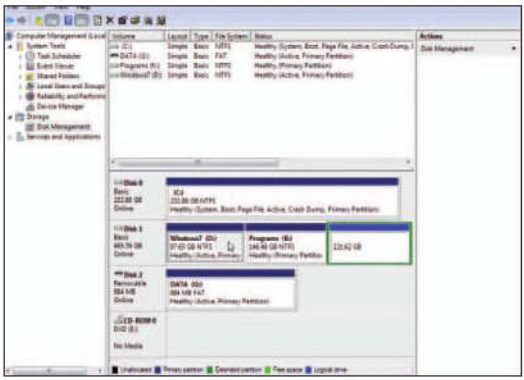
Windows 7 makes many improvements over Vista, and still more over XP, but it's common to feel a little nervous when switching to a new **operating system**. For starters, it's possible that older hardware won't work until new **drivers** have been released and, besides, it always takes time to feel fully comfortable with a new working environment.

It is possible to try out Windows 7 while keeping an existing Vista or XP installation in place. By creating a 'dual-**boot**' computer, you'll be able to choose which operating system to use each time the PC is switched on. Using a technique called **partitioning** you can split an existing hard disk and create an area specifically for Windows 7 – we explain how.

Be prepared

Before you start, make sure you have the Windows 7 installation disc. The existing **hard disk** will also need to have plenty of free space for a practical Windows 7 partition – 25**GB** should be enough. We strongly recommend backing up all your important data.

Although partitioning hard disks is safe when conducted carefully, it is possible to accidentally select the wrong option and lose photos, documents and other file types. It's better to be safe than sorry.



▲The Disk Management tool lists attached hard disks and partitions

Partition primer

Before we explain how to install a second operating system, it's important to understand the basics of hard-disk partitioning. If, for example, a new 500GB hard disk is fitted to a PC it will show up as a single 500GB drive. Partitioning is the process of splitting up a single drive such as this into multiple 'logical' drives. Of course, on the outside the hard disk will remain a 500GB model, but once partitioned Windows will see it as two or more individual drives. Each partition will have its own drive letter and they will all be treated as completely separate 'disks'.

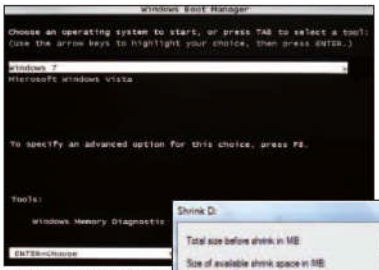
There are many advantages to partitioning a hard disk. Imagine, for example, three partitions on a single disk: one for all the Windows files, another for installed applications and the third for personal data, such as documents, photos, music and video files. Should Windows need to be re-installed, the other two partitions remain safe and untouched.

When it comes to installing two or more operating systems on a single PC, partitioning is essential since each operating system will need to be installed on its own drive (whether it is a physical drive or a logical partition).

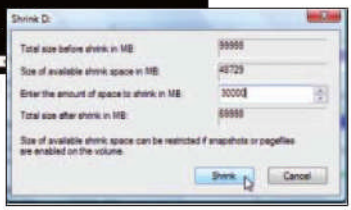
Create a new drive

We'll be installing Windows 7 on a PC that's already running Vista. If you're running Windows XP, the process isn't as straightforward as XP doesn't include the necessary tools to 'shrink an existing hard disk (we'll talk more about shrinking in a moment).

For more help partitioning XP drives see 'Partitioning in Windows XP' on page 31. In



▲Choose an operating system



▲Resize your partitions using Vista's disk utility

Vista, though, it's a relatively painless process.

First, log in to Vista using an administrator account. Now click the Start button and then right-click Computer. From the list of options, select Manage.

After a short wait, the Computer Management window will appear. Look at the list on the left side of the window and click on the Disk Management option. Vista will now gather information about all the hard disks installed in the PC. When it has finished, take a look at the graphical list of drives located in the bottom section of the window. All installed drives (including CD/DVD drives) should be displayed here. It also displays how many partitions each drive has.

Many computers come with hard disks that have already been partitioned. One of the partitions may be relatively small and home to a set of **backup** files that can be used to restore the computer to its original state: this is known as a recovery partition, and it will have been put there by the PC manufacturer.

To create a new partition on a hard disk, 'unallocated space' is required. To create some on an existing hard disk, one of the existing partitions will need to be shrunk. Right-click on the one labelled 'C:' (it may also have a name next to it) and then select the Shrink Volume option. A new window will appear. The first entry tells you how big the existing partition is, while the second tells you how much it can be shrunk by. The third box is where you specify how much of that space you want to shrink it by, while the fourth indicates how big the existing partition will be after you've made the changes.

Choose disk size

Windows 7 requires at least 16GB of disk space, but it's best to provide plenty of room, as it will expand as time goes on. As a minimum, we recommend at least a 25GB partition for a Windows 7 installation. When choosing the size, bear in mind how much space to leave free on the existing partition; Windows won't allow all the available space to be used, but you'll want to make sure there's enough left on the existing drive for ongoing needs.

With the calculations done, enter a figure into the third box (the only box that allows a value to be entered). This needs to be entered in megabytes (**MB**), so for a 30GB partition enter the figure as '30000'. Click the Shrink button and Vista will shrink the partition; how long this takes depends on the speed of the computer, but it shouldn't be more than a few minutes.

When it has finished a new partition will appear, labelled as 'Unallocated'. Right-click

Jargon buster

Backup A file, folder or storage device that stores copies of documents.

Bios Basic Input Output System. Controls the basic operation of devices.

Boot The process a PC goes through after it is switched on.

Burning The act of writing data onto a CD or DVD.

Cursor A flashing shape on the screen showing where the next character you type in will appear.

Disc image File containing a copy of a hard disk.

Driver Allows Windows to connect with peripherals.

Dropdown menu A list of options that appears when you click a menu bar.

Format To prepare a disk for use.

GB Gigabyte. A measurement of storage.

Continued on page 33
For more Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

Creating a Windows 7 partition in XP

Partitioning a Windows XP PC's hard disk in readiness for running Windows 7 in a 'dual boot' scenario is a little more complicated than attempting the same in Vista. The problem is that XP cannot resize existing partitions – but a free program called Gparted can do the job. Before proceeding, perform a backup in case things go wrong.

Install Gparted from **www.snipca.com/x439** and use a disc-**burning** tool such as Nero to burn the downloaded **ISO** file to CD. Don't just copy the ISO file onto a CD because it won't work; it must be burned as a **disc image**. CDBurnerXP (from our cover disc or from **http://cdburnerxp.se**) is a free program that is able to burn CDs from ISO images.

To load and run Gparted, the PC must be set to start from its CD drive. Most new computers are supplied in this way or can be made to boot from a CD by changing the boot options within the Bios setup program (see page 33). Soon after booting from the CD, when asked to choose which version of Linux to load, just press Enter. When asked to choose a keymap, type **UK** and press Enter. When asked to choose a language, type **02** (for British English) and then press Enter. Gparted will now launch, ready for action.

GParted identifies the XP PC's main hard disk, which it designates as /dev/hda. If the drive has additional partitions/drives they will be identified by sequential numbers (/dev/hda1, /dev/hda2 and so on). Right-click on the existing Windows XP partition, select Resize/Move and then drag the slider to reduce the partition size, thereby freeing up space for Windows 7: remember, Microsoft recommends least 16GB. When done, click Apply to commit the changes.

Now, restart the PC with the Windows 7 installation disc in the drive and allow the installation to proceed. When reaching the point of selecting an installation location, choose the partition just created (it will be labelled 'Unallocated Space' and will be the size set above). From this point on, Windows 7 will take charge and there's little else to worry about.

When the installation finishes and the PC restarts a new Windows Boot Manager menu will be displayed. It will contain two options: Windows 7 and 'Earlier Version of Windows' (this being Windows XP). Use the **cursor** keys to select which version of Windows to load and away you go.

Alienware AURORA

Most Powerful Upgradeable Micro ATX Latest Extreme Intel Core i7 975 Overclocked CPU
NVIDIA GTX 260 Dual Graphics Card / NVIDIA SLI or ATI CrossfireX Graphics Card
Up to 24GB of DDR3 1333MHz 64bit OS Shock-proof Black Resin enclosure
Up to 2TB3 7200RPM HDD Liquid cooling system
4 controllable lighting zones

allpowerful.com

ADRENALIN ON A CHIP.
ONLY FROM INTEL®

SMALL YET DEADLY.

ALIENWARE® | ALL POWERFUL

Intel® Core™ i7 processor Extreme. Processing Power for Ultimate Performance.

this partition and select New Simple Volume from the window that appears. The New Simple Volume **wizard** will now appear. Click Next to move on to the first step and then specify how big the partition should be. Unless creating two new partitions, there's no point leaving space free here so select the biggest possible size and click Next. Now assign a drive letter to the partition. Use the **dropdown menu** to select any of the available letters, then click Next.

The last step in the wizard is to **format** the drive so it's ready for the installation. Make sure the file system is set as **NTFS** and the Allocation Unit Size is set to Default. Now enter an appropriate name in the Volume Label section, such as 'Windows7'.

Finally, click Next and, in the window that follows, click Finish. The new drive will now be formatted; depending on the size of the drive, this can take a few minutes. When complete, it's time to install Windows 7 on the new drive partition.

Installing Windows 7

The hard work is now done. To install the new operating system, place the Windows 7 installation disc in the appropriate DVD drive and restart the computer. Shortly after powering up, a message like 'Press any key to boot from CD' will appear – do as it says. If you don't and Windows Vista starts loading as normal, the computer's start-up (or boot) settings may need to be changed.

To do this, enter the **Bios** settings (usually performed by pressing F1 after powering the PC). There are many different Bios menu systems so it's best to consult the computer's manual or contact the manufacturer, but look for an option labelled something like 'Boot Order' and then make sure your CD/DVD drive is top of the list.

When the Windows 7 setup program launches, follow the process as normal. At the point where it asks where it should be installed, be sure to select the newly created partition (it will be listed with the same drive letter/name specified earlier). Be very careful here: select the existing Vista partition and it will be formatted, erasing all your data.

Once the installation has finished, a new Windows Boot Manager menu will appear each time the PC is switched on: this displays all installed operating systems. Using the arrow keys select the one you want to load and press Enter. Fail to make a choice within 30 seconds and the default operating system (ie the one at the top of the list) will be loaded.

Boot order

If, after testing, you decide that Windows 7 has earned its place as the number-one operating system it is possible to change the boot menu order.

Alternatively, you may feel it's time to consign Vista to the history books and get rid of the boot menu altogether, so that your computer always starts up in Windows 7. Either way, it is easy to make these changes – take a look at the step-by-step guide below to find out how to do this.

Partition possibilities

We have demonstrated that partitioning a hard disk is of great use when it comes to trying out a second operating system, such as Windows 7, because it provides a safety net of keeping an old operating system to fall back on should things go wrong. We've concentrated on the Windows 7 operating system but the same procedure can be employed to install other operating systems in tandem, from XP and Vista to **Linux**.

Remember, though, that each time a hard disk partition is shrunk, the existing partition will contain less space. And if you have only limited free space on your hard disk, it may be time to buy a new one.

Jargon buster

Hard disk A high-capacity disk in PCs to store files.

ISO A file that contains all the information found on a CD or DVD.

Linux An operating system that can be freely modified.

MB Megabytes. A measurement of storage.

NTFS NT File System. A file system used by Windows NT, XP and Vista.

Operating system The way hardware and software in a PC work together.

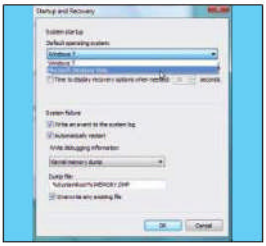
Partition A hard disk can be split into 'virtual' drives.

Wizard A step-by-step process on your computer.

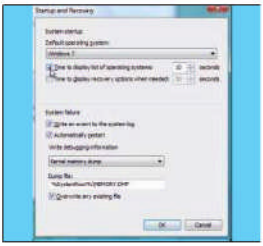
For full Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

How to change dual-boot preferences

1 Click the Start button, right-click Computer and select Properties. On the left of the window that appears, click Advanced system settings. In the new window, select the Advanced tab and click on the Settings button in the Startup and Recovery section.



2 Using the dropdown menu at the top you can select the default operating system. This is the operating system that will be loaded if no choice is made when the Windows Boot Manager appears shortly after the computer is switched on.



3 To always launch into the default operating system, clear the tick from the 'Time to display list of operating systems' box. Alternatively, you can adjust how long the menu appears for by changing the 'seconds' figure on the left.

The Windows

The Windows 7 desktop provides plenty of new tools and offers a simpler way to access programs, folders and documents with lots of customisation options

Video on the CD

As we've already said, Windows 7 is not a radical overhaul for Microsoft's **operating system**. In many ways it looks and works much like Vista (but with most of the annoying bits taken out). However, Microsoft has made a number of significant improvements and nowhere are these more evident than on the Windows desktop.

The desktop is every computer's HQ. It's the first thing you see when you start up your PC and it runs in the background all the time, providing access to files, programs, menus and shortcuts and acting as the main starting point for all your computing activities.

Windows 7 keeps all the desktop elements you're used to – the Start menu, Taskbar, **wallpaper** and so on – but adds a few tweaks to these and presents some new ways of working. We have picked out some of the most interesting new features on the main picture on this and the next page, and in this article we'll explain how they differ from what you are used to in Vista or XP and why they make using Windows 7 faster and easier.

Start right

So let's begin with what used to be the most important element of the desktop in earlier versions of Windows: the Start menu button. Positioned at the bottom left-hand side by default, a click of this button, which bears the Windows logo, reveals a list of recently used applications.

If you are coming to Windows 7 straight from XP, you'll notice one key difference. There's a white bar at the bottom of the menu labelled 'Search programs and files'. There's a full guide to searching in Windows 7 on page 38 but, basically, this tool enables you to find folders, applications and Windows tools fast – and we mean fast. Start typing the name of an application into the bar and Windows 7 displays a list of items that match what you've typed instantaneously. As you type more letters, Windows filters the list.

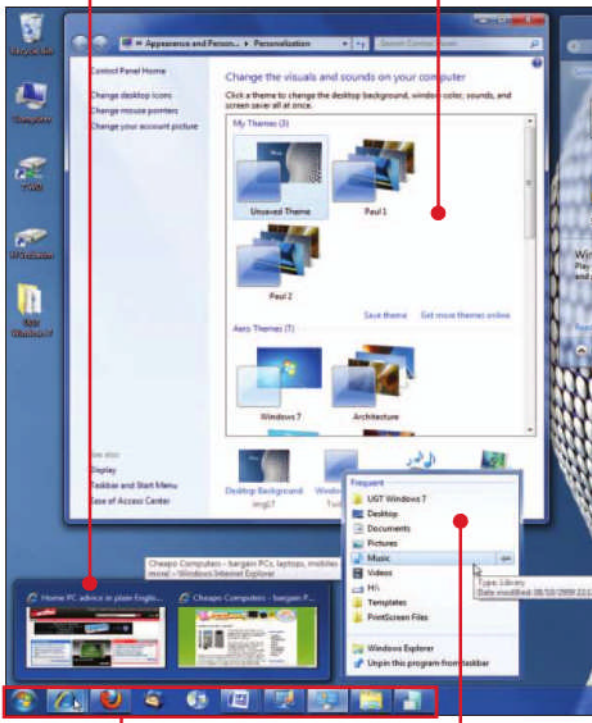
You can still use the 'All Programs' link to display a list of installed programs if you like, but we think you will soon become accustomed to using this improved search tool, particularly for those applications and documents you need to access less often.

The new Windows Taskbar

We said earlier that the Start menu used to be the most important part of the desktop; that's

Peek Position your mouse pointer on an active program on the Taskbar and a thumbnail preview of what it's currently doing is displayed. Here we see two tabbed windows open in Internet Explorer.

Themes Customise the Windows desktop with slideshows and even choose themed sounds for Windows alerts. You can choose your own pictures if you don't like Windows' themes.



Taskbar This Taskbar replaces the Quick Launch Bar found in Windows XP and Vista. Applications and external hard disks can be 'pinned' here for easy one-click access.

Jump lists Right-click on any item pinned to the Taskbar and a list appears above it, giving you options such as opening recent documents from that program or opening a related folder.

desktop

because the Taskbar has been revamped in Windows 7 to provide a much easier way to manage favourite programs, documents and even devices attached to your computer.

Running horizontally along the bottom of the screen, the Taskbar replaces the Quick Launch bar in XP and Vista. When you first switch on your Windows 7 computer, you will see **icons** on the Taskbar for Internet Explorer, Windows Explorer and suchlike. Click one of these icons to launch that application. Once open, a bright rectangle appears around the icon to show it is active. You can also right-click these icons to activate a tool called Jump Lists, which displays a list of options relevant to that item, such as a list of recent documents or links to Windows tools or folders.

So far, so simple, but the Taskbar has more tricks up its sleeve. In XP and Vista, the Taskbar could get pretty crowded, particularly if you had a number of documents open in one application, such as a word processor or **web browser**. Windows 7 groups these together, indicating they are open by 'stacking' them on the Taskbar. So how do you get back to the window you want to use if it is hidden in this stack? Well, just hover your mouse pointer above the stack and each open window is displayed as a **thumbnail** image – it's a tool called Peek. Move the mouse pointer between them and a full-screen preview of that window appears. Then you just need to click the thumbnail or preview to return to that window. It's a really simple way to navigate Windows.

Even better, you can customise it with ease. Use your mouse to right-click any application in the Start menu and the option to 'Pin to Taskbar' is displayed in the Jump List. Click this and the program appears on the Taskbar. You can also drag and drop programs, folders, and even the icons for items such as external **hard disks** to the Taskbar, although they don't appear as separate icons. To access them, right-click the Windows Explorer folder and they appear in the Jump menu. To remove items from this area, right-click the icon and select 'Unpin this program from taskbar'.

Actions and notifications

The right-hand end of the Taskbar looks less cluttered when several applications are running. In XP and Vista, the **Notification Area** displayed a small icon for many of the programs running but in Windows 7 these have been tidied away. Click the up-facing arrow to display a list of what's open. There's a link at the bottom of this window labelled 'Customise...'; click this and you can opt to display specific programs, such as email or **anti-virus**, permanently on the Taskbar or have them appear only when they are doing something, such as scanning your disk or receiving an email, for example.

Next to the new Notification Area you will see a small white flag icon. This tool brings together vital security and PC maintenance alerts. It's called the Action Center and it replaces the Security Center found in XP and Vista. If Windows believes your computer is at risk because, for example, your **firewall** or ▸

EXCLUSIVE READER OFFER

Since 1854, The British Journal of Photography has been the only weekly professional photography magazine in the market. With breaking news, topical industry coverage, technical reviews and inspirational ideas and images, BJP is the authoritative source for all photographers.

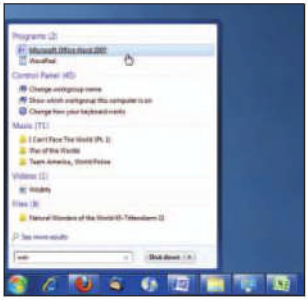
Computer*active* ULTIMATE GUIDE readers can now sign up for an exclusive trial offer of only £20 for a three-month subscription.

SUBSCRIBER BENEFITS

- ONLY £20 for 12 issues, saving 24% on the shop price
- FREE delivery of every issue to your door
- FREE unrestricted access to thousands of articles at www.bjp-online.com

For a quick and easy way to subscribe go online:
www.subscription.co.uk/bjp/ug11
Offer expires 31st January 2010

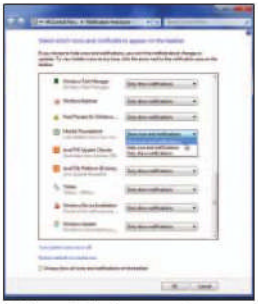
Or call our hotline on:
01858 438 734
(please quote code ug11)



▲Searching for programs, files, music and more is easier

anti-virus programs aren't working properly, a warning message will appear here. You can then click the alert to open the main Action Center, where Windows 7 will define the problem and suggest a way to resolve it.

Vista was criticised for being a little too eager to provide alerts in pop-up form so in Windows 7 Microsoft has provided the option to tailor warnings to suit you. In the main Action Center there's a link on the left-hand side labelled 'Change Action Center settings', which you can use to block specific alerts. Proceed with caution, though, as the security alerts are important in keeping your PC happy and healthy. You might, however, choose to switch off Windows Backup alerts if you're using a different backup method.



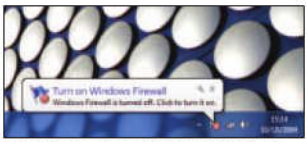
▲Tailor your Taskbar for your needs

Shake and Snap

Now let's look at two features that may appear a little frivolous but are quite handy. If you have several windows open simultaneously, the desktop becomes untidy and hard to concentrate on. Open several windows and then place your mouse pointer on any part of the bar at the top of one. Hold down your left mouse button and gently shake the mouse back and forth. All the other windows will disappear back to the Taskbar. Shake again, and the windows will reappear.

Alternatively you can left-click and hold the window bar and move it towards the top of the screen. As the window reaches the top, it 'snaps' and fills the screen. Pull down, and it reverts to its former size. We found that Snap doesn't quite work as it's supposed to. Oddly, with one of Microsoft's own programs – the copy of Office 2007 we used to write this article – windows snapped up but not down again.

You've probably noticed the rather odd but colourful wallpaper on our desktop – Windows 7 provides lots of ways to customise its



▲Customise the alerts provided by the Action Center

appearance. Right-click on the desktop and select Personalize – here you can select pre-installed Themes. They're rather nice but you can, of course, also choose your own pictures, mix up some of the images from a theme into a slideshow or download new themes free. Click the Desktop Background link and you can choose which images are displayed and how often the image changes. Click Sounds and you can change the sounds Windows makes when it starts up, shuts down and so on. Try experimenting with these – you can always click Cancel if you decide you don't like the new alert sounds.

Go go gadgets

Finally, Windows 7 retains the desktop Gadgets found in Vista, although they are now placed directly on the desktop rather than in a sidebar as with Vista. Right-click the desktop and select Gadgets to display a selection of applications that float on top of your work area, displaying images, the time and date or weather. Only a handful are supplied but there are lots more to choose from online by clicking the 'Get more Gadgets online' link.

There are lots of great new ways to control Windows 7 from the desktop and tailor the display to suit you. Read on to discover more of the new tools and features and don't forget to take advantage of our free online video guides at ***www.computeractive.co.uk/windows7*** that show all the good stuff in action.

Jargon buster

Anti-virus Software that detects, repairs, cleans, or removes virus-infected files from a computer.

Firewall Software or hardware that prevents unauthorised access to a computer over a network.

Hard disk A high-capacity disk used to store applications and files.

Icon A small image used by Windows to identify a file or application.

Network Adapter A socket for connecting a PC to an office network or some broadband internet connections.

Notification Area An area on the bottom of a screen that shows which programs are running in Windows.

Operating system Governs the way hardware and software in a computer work together.

Thumbnail A small image used to give a preview of a larger image.

Wallpaper An image used as the background to your Windows desktop.

Web browser A program developed for navigating the internet.

For full Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

Choosing a simpler view

Windows 7 provides plenty of attractive visual features, but they're not everyone's cup of tea. If you prefer a cleaner and less colourful display, right-click the desktop and select Personalize. Scroll down and you can choose from a range of simpler views. There is a selection of high-contrast themes suitable for people with impaired eyesight. You will also find shortcuts to a number of Windows 7's Ease of Access controls, such as adjusting the size of desktop icons and the mouse pointer.

▲Change text and icon size to make it easier to see what's on your screen

Browse and search **for files and programs**

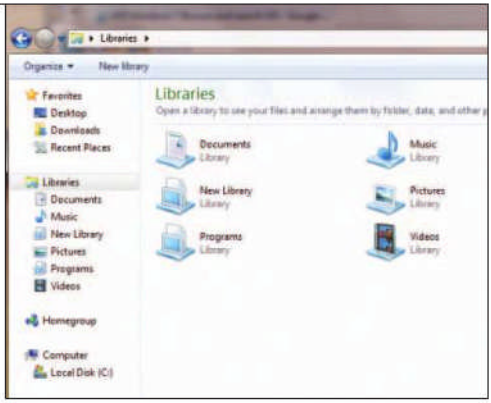
Find out how to navigate your PC and locate files and programs fast with Windows 7

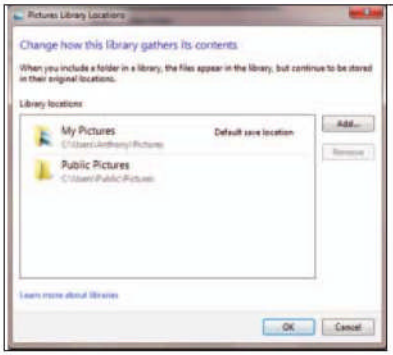
Video on the CD

The basics of browsing for files remain essentially the same in Windows 7 as in the previous editions. To get to the file system, click the Start button and click Computer and you'll see a window with **icons** for each of the drives on your computer. However, Microsoft has introduced a clever new technology that sits alongside this method, called Libraries. The libraries are collections of files that can be in several folders on the **hard disk** or on other PCs on your home **network**. That's useful for people who don't store all their pictures, say, in a single folder. The search engine inside Windows 7 is a massive improvement on Windows XP. It's more similar to the one in Windows Vista but even users of Vista will find some new features. As well as browsing, we'll take a look at how searching for files works in Windows 7.

Step 1

To take a look at the Libraries, open the Computer window by clicking the Start menu and clicking Computer. You'll see on the left-hand side of the window a pane with several entries in it. In the middle is a section marked Libraries with four entries beneath it: Documents, Music, Pictures and Videos. Each copy of Windows 7 comes with these four collections already set up, but you can add more or delete the existing ones. Let's take a look; click the word Libraries and you'll see the four libraries, each with their own icon. Double-clicking any of them, or selecting them from the pane on the left, will show you what's in each library.



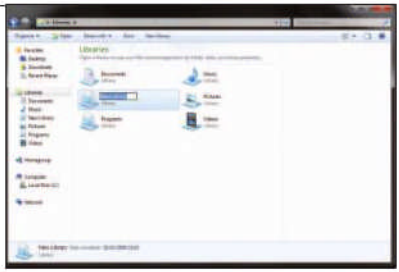


Step 2

Let's start with photos. Double-click the Pictures library to see what's inside. By default the Pictures library includes two folders: the My Pictures folder for your username and the shared library that's on every computer, which contains sample images. At the top of the window is a note that says 'Includes: 2 locations'. Click the blue '2 locations' text to change which folders are in the library. You'll see a **dialogue box** with the list of Picture folders. To add more, click the Add button, choose a folder that contains pictures and click the 'Include folder' button to put it in your Pictures library. You can also remove folders by selecting them in the list and clicking Remove. Click OK when you've finished adding folders.

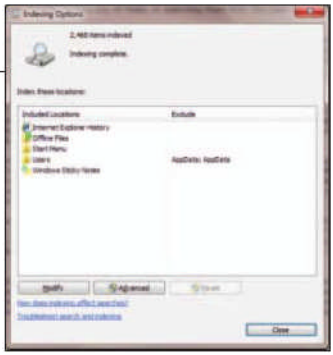
Step 3

You can create your own Libraries, for instance, if you want to keep work-related documents and personal documents separate, you can have one Library for each. To make a new one, go back to the Libraries view (click Libraries on the left of any file or folder window), then right-click an area of blank space, click New and click Library. A new Library icon will appear; give it a name and press Enter. By default it doesn't have a type; right-click the new Library and select Properties. In the dialogue box that appears, click the **dropdown menu** in the middle and select Documents. You can also add folders to the library from here by clicking 'Include a folder', or follow the instructions in Step 2.



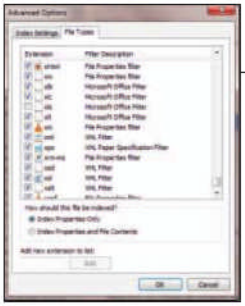
Step 4

As in Windows Vista, it's possible to search for files and programs directly from the Start menu. Click the Start button and type anything into the 'Search programs and files' box. As well as locating programs within the Start menu, the search tool will pick up other files from your hard disk. These will appear in the pane of the Start menu above where you are typing. As soon as the file you're after appears, it can be opened with a single left-click of the mouse. As elsewhere in Windows you can see more options by right-clicking the file instead. Alternatively, click the See More Results text at the bottom of the pane, which will open a new window with all the results for your search terms.



Step 5

The search will be quite slow at first because the hard disk isn't indexed. To add folders to the index, click Start and type **indexing**, then click Indexing Options when it appears. You will see a list of what the computer is indexing. To add to the list, click the Modify button. Tick the box marked 'Local Disk (C:)' to index the entire disk. If you only want the computer to look in certain folders, click the small '+' symbol between the tickbox and the icon. Tick a folder to add it, for instance, if you only want to index your own documents, click the '+' sign next to the disk, then the '+' sign next to Users, then your user name. Once you've added all the folders you require, click OK.



Step 6

It's possible to include or exclude specific kinds of file. To do so, click the Advanced button at the bottom of the Indexing Options dialogue box. In the dialogue box that appears next, click the File Types tab. You will see a long list of all the types of file that the computer knows about. By default they are all ticked, which means the computer will index all of them. If you want to exclude a certain kind of file, scroll down to it and untick the box. For instance, if you have confidential Excel spreadsheets on your computer, scroll down to 'xls' and untick it, which will stop the computer looking for it. If it has already indexed those files, you'll need to rebuild the index. To do this, click the Index Settings tab and then click Rebuild.

Touch and go

Are the days of the mouse and keyboard numbered? We show you how control of Windows 7 could be at your fingertips

Video on the CD
TV Computer active

One of the most talked-about new features in Windows 7 is Touch, by which we mean the ability to control the software by touching the screen. In this article we are going to show you how Windows 7 provides the opportunity to get hands on with your computer. And remember that our free video on the CD with this issue shows all the features we're going to discuss in action.

Touchscreen technology in Windows is not new but, with the success of Apple's touch-controlled iPhone, computer manufacturers and software developers have become more interested in how the technology could open new doors for home PC users. Laptops and mini-laptops, often called 'netbooks', are now very popular but these portable computers can cause frustration, with **touchpads** that can make moving the mouse pointer difficult and imprecise and keyboards that can be a challenge for those whose fingers might not be described as 'dainty'.

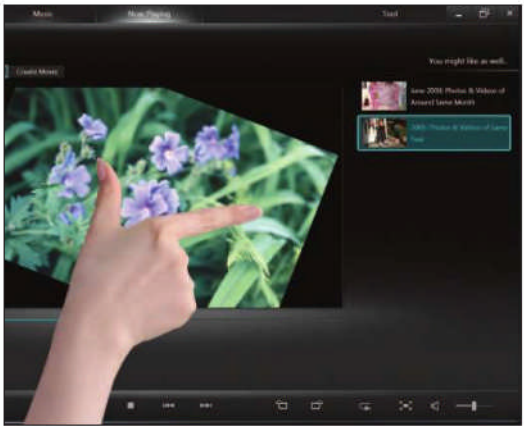
▲Windows 7 is clever enough to know when touch controls are being used instead of a mouse

Touch in Windows 7 is designed as an alternative. So let's look at some of the actions you can use to control Windows and other applications. You will need a touch-sensitive monitor or computer (more on that shortly).

Basic gestures

At its simplest, touch control gives you the ability to launch and close applications, and perform many of the actions you would normally use a mouse for. So, tap the Start menu button with your finger and the Start menu appears, just as if you clicked it with the mouse pointer. You can then tap any of the applications or Windows tools in the menu to open them. If you're wondering what's happened to the idea of right-clicking an item to view a menu of options, this has been taken care of with Multi-touch; hold one finger on the item and tap with another. Navigating a window is also easy; you can scroll up, down and sideways in Windows Explorer and all applications by pressing a finger to the scroll bar on screen and sliding it in the appropriate direction.

Touch controls haven't entirely banished the mouse from the desktop. Hold a finger down on the screen and a mouse **icon** appears, which you can then drag around the screen



▲Movements, known as 'gestures', can be used on touchscreens to look through image galleries

and tap to activate the mouse buttons. If you read our guide to the new Windows desktop on page 34, you'll have learned about the new Peek and Jump List features that make navigating programs and documents easier. Touch control can be applied here too. To open a Jump List from the **Taskbar**, place your finger on its icon and move your finger upwards. The menu options in the Jump List can then be activated by tapping them. Peek is accessed by holding your finger down on the Taskbar icon.

A touch beyond

What's really smart about touch control is that Windows 7 knows when you are using it instead of the mouse. So when it senses you opening a menu using touch, the links and icons in that menu are displayed slightly larger, so they are easier to select with accuracy.

Some applications are already set up to take advantage of touch control. If you have Internet Explorer 8, you can move between web pages quickly by holding your finger on the screen and 'flicking' it left to go back one page, or flicking right to go forward one page. Tapping a link on a web page will open it.

We saw earlier how multi-touch opens up new possibilities and this is certainly true when working with photos. Open a photo in Windows 7's Picture Viewer and place your thumb and index finger together on the screen. Still holding them on the screen, stretch your thumb and finger apart to zoom in on the image, or pinch them together to zoom out. You can also use the flick gesture we mentioned when talking about Internet Explorer 8 to flick through your photos in a slideshow. It's even possible to rotate images with your fingers – hold one finger on the screen and pull the image the right way up in a semi-circular action with a second finger (it's quite simple to do this one-handed – as the video on the CD shows).

Kids will be fascinated by the touch-enhanced version of Paint in Windows 7, which brings finger painting into the digital world.

As Windows 7 is new, third-party software designed to take advantage of it is thin on the ground. Corel launched a program called Digital Studio, which combines photo and video-editing tools that can be controlled with a mouse or fingers.

▲Sony's new Vaio L range makes use of touchscreen technology in its 24in display

▲Although they weren't the first to use it, mobile phones have paved the way for touchscreen technology

What you need

To use Touch you will need a computer or monitor designed to be controlled using fingers. Now that Windows 7 is available, however, there's an increasing choice of laptops, desktops and monitors on the market.

Sony's new Vaio L range, which has a 24in touch-sensitive display, is expected to cost upwards of £1,000. We've found computers in HP's Touchsmart range from about £700 (***www.snipca.com/x345***) while Packard Bell's One Two M with its 20in screen costs £599. The same company also has a touch-enabled monitor called the Viseo 200T, if you plan to upgrade your current PC to Windows 7 and just need a touchable display (***www.packardbell.co.uk***). The expected cost is £199.

Touch control isn't going to make your mouse and keyboard redundant but, as more computers and software are developed with touch in mind, it will become a useful option.

Jargon buster

Games console An electronic device that, when connected to a TV, can be used to play video games.

Icon A small image used by Windows to identify a file or application.

PDA A small computer about the size of a pocket calculator. Usually without a keyboard and with a touch-sensitive screen, it will use text recognition for data entry.

Taskbar The bar that runs along the bottom of the screen in Windows.

Touchpad A small, touch-sensitive pad, usually a couple of inches square, which acts as an alternative to a mouse on some notebook computers. It works by sensing fingertip pressure.

For full Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

Pointing the finger

Mobile phones have led the way for touchscreen control but computers have been using the technology for some time – with mixed results.

Microsoft was hopeful that its Tablet PC software would herald a new dawn of home and business computing but the reality was that people didn't like holding these hefty devices.

The lack of multi-touch and the requirement to use a stylus wasn't particularly attractive. **PDA**s° such as the Palm range were lighter but not much easier to use.

▲The iPhone and Nintendo DS use touchscreen controls

Touch has had more success in gaming and phones; The Nintendo DS portable **games console** with its simple, fun games is a huge crossover hit despite requiring a stylus, while the Apple iPhone has set the standard for simple touch controls that the rest of the industry is hurriedly attempting to emulate.

Windows 7 to go

Laptops and netbooks are flying off the shelves – find out how Windows 7 can help you get the best performance from portable PCs of all types

Even just a few years ago, the idea of lugging a big, expensive computer around with you would have struck some people as rather pointless. Many consumers chose laptops simply because they didn't take up much space in the home. Those laptops lightweight enough to carry from home to work or school were much more expensive and aimed at those who had a real need to work on documents while out and about.

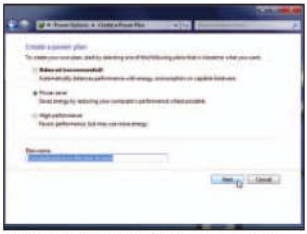
Today's laptops are lighter and cheaper than ever, though, and there's a new generation of portable computers that use low-powered **processors** and **Flash memory hard disks** to produce smaller, leaner and even less expensive computers called 'netbooks'. Most portable PCs have **Wifi** built in and an increasing number have a slot for a **Sim** card from a mobile phone operator, so you can access **3G** mobile broadband networks when not in range of a Wifi network.

Unlike Vista, which required more **memory** and processing power to run than XP, Windows 7 was designed with portability in mind. In this article we will show you how to get the best performance from a laptop or netbook running Windows 7.

▲Small laptops, or netbooks, are becoming ever more popular

Power down

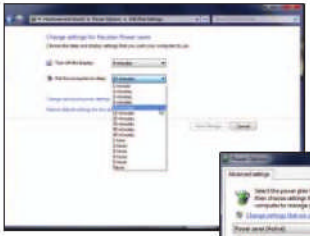
Battery life is an important concern if you want to use a computer away from home. Netbooks use processors that consume less power but their displays and other components still draw lots of energy – just like laptops. The good news is that you can change the settings in Windows 7 to preserve power. Click the Start menu **icon** and select Control Panel followed by Power Options. A selection of power plans are displayed here – these plans are groups of settings that tell Windows how much power to use for various components and when to dim the display and cut power to some components altogether.



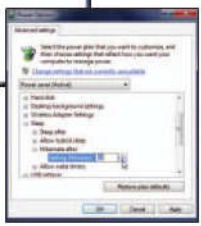
▲Windows 7 offers plenty of scope to customise the power usage of the system on which it is running

The default setting in Windows 7 Home Premium is Balanced, which ensures the processor has enough power to give good performance when in active use by applications while reducing energy usage if the computer is not being used after a set time. The Power Saver plan is ideal for portable PCs when away from a mains connection. While Balanced dims the screen after 10 minutes of inactivity, Power Saver does this after five minutes. Similarly, the amount of time Power Saver waits to put the PC into Sleep mode is cut by half to 15 minutes. Sleep mode cuts power to everything but memory, so work in open documents is not lost. To change the power plan your computer uses, click the button next to its name so the circle has a blue dot in it and close the Power Options window.

You can also customise the power settings to save even more battery life. Each plan has a link next to it labelled 'Change plan settings', which you can click to change the time Windows 7 waits before switching off the



▲A sleep timer is one way to save power during periods of inactivity...



▲ ... Hibernate is another one

display or entering Sleep mode. Windows 7 also reactivates the display and sleeping components much quicker than Vista.

Customise settings

Windows 7 also enables you to create your own power plan. Back at the main Power Option window click 'Create a power plan' to devise your own, which is handy if you want to have settings for use at home and at a second specific location. The settings are the same whichever method you choose so let's create our own plan for using the netbook while on a train.

First choose the settings you want to change – Power Saver in our case – and give it a name before clicking Next. Then set how long to wait before dimming the display and entering Sleep mode before clicking Create. Our plan now appears in the 'Select a power plan' window, where we can click 'Change plan settings' and then 'Change advanced power settings'.

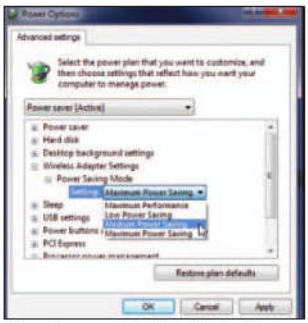
For the ultimate in battery conservation, click the 'Change advanced power setting' link. Here you will see a list of options that can be opened or closed using the '+' and '-' symbols before changing settings. Open the Sleep settings and you can specify how long Windows 7 waits before entering Hibernate mode, which copies information in memory to the hard disk so nothing is lost before putting itself into the lowest possible power state short of being switched off. This mode takes longer to reactivate than Sleep.

Wonderful wireless

Wifi also eats into battery life because the **network** adapter in the computer is continually using energy. Many laptops and netbooks have a switch or keyboard button to deactivate Wifi when not needed – consult your computer's manual to find out about this. You can also reduce Wifi's power consumption in your power plan (although this might affect your web access if the signal strength from the Wifi network is low). Open Wireless Adapter Settings, then Power Saving Mode and left-click 'Setting' to reveal a **dropdown menu** where you can choose your preference. You can always undo changes by clicking 'Restore plan defaults'. Talking of Wifi, Windows 7 makes it easier to connect to home and public wireless networks – see page 56 for a guide to easy network management.

There are other advantages unique to Windows 7 for portables. The ability to control Windows and applications using touch is really useful on a portable, as it reduces the need for a mouse. Netbooks, in particular, will benefit from touch as their small keyboards and touchpads for controlling the mouse can be awkward to use. You can find out more about touch in Windows 7 on page 40.

There's no doubt Windows 7 performs better on portable computers. There are more options to conserve battery life, networking is easier and with more touchscreen laptops and netbooks now available, using a computer while travelling looks set to become even easier.



▲Choose the power settings that will best suit the type of work you are likely to throw at your computer

Jargon buster

3G A mobile phone network that supports fast data transfer.

Dropdown menu A list of options that appears when you click a menu button.

Flash memory A type of memory with no moving parts that maintains its contents even when the electricity is switched off.

Hard disk A high-capacity disk used to store applications and files.

Icon A small image used by Windows to identify a file or application.

Memory The computer's temporary storage area, measured in megabytes.

Network A way of connecting several computers and devices so they can share data.

Processor The chip that is the 'brain' of the computer.

SIM The smart card used by all digital mobile phones.

Wifi An umbrella term for various standards for wireless networking.

For full Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

Windows 7 Starter Edition

Some manufacturers sell netbooks that have a very basic version of Windows 7 installed called Starter edition. You can't buy this on disc at present and frankly we wonder why you would want to.

Starter edition excludes a wide range of features, such as the Aero graphical interface, which gives Windows its snazzy look. You also lose the ability to watch DVDs as well as change the desktop background.

Worst of all, there's no option to upgrade to Home Premium. We've tested Windows 7 Home Premium on various netbooks and it runs perfectly well. The flashy look of Aero can be switched off by right-clicking the desktop, then Personalize and choosing Windows 7 Basic under Themes. See page 16 for more detail about what's included in the different version of Windows 7.

Solving **compatibility issues**

Upgrading from Vista or XP? Ensure your programs and peripherals work with Windows 7

Software on the CD

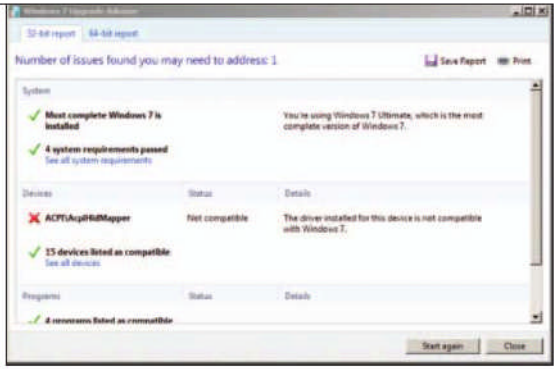
Whenever you move to a new **operating system**, you might encounter compatibility issues. Software and hardware designed to work with an older version of Windows isn't always guaranteed to work with a new one. The majority should work fine, but certain programs, peripherals and even internal components may require further steps in order to ensure smooth operation.

Even if you buy a new PC with Windows 7 pre-installed, rather than upgrade an existing system, you may still encounter compatibility issues if you attempt to install older programs or connect older peripherals.

In this Workshop we'll explain the best way to make sure your computer and all your hardware will work after you upgrade. We'll also take a look at ways in which you can make problem software work properly.

Step 1

If you're planning on upgrading an old PC, before you do so, run the Windows 7 Upgrade Advisor from our cover CD or by going to **www.snipca.com/x425**. Follow the instructions to install the Advisor and, when it has finished installing, you can start it using its **icon** in the Start menu. Click the Start Check button to get it going. The program will examine your computer and figure out whether you need to do anything to make it work with Windows 7. It will also check any devices that are plugged into the computer, so make sure you connect anything that you will want to use with Windows 7. Once it has finished the Advisor will display a list of items that need to be looked at. In our case (pictured) it has decided that one of the drivers isn't going to work.

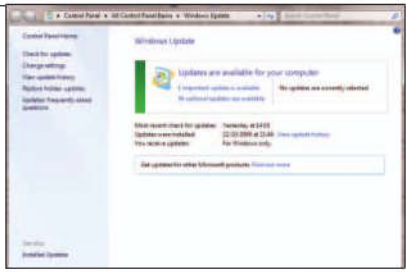


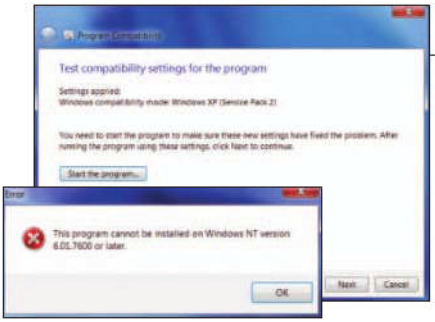
Step 2

To get the best chance of everything working straight after you install Windows 7, try to get hold of the latest **drivers** for all your internal and external devices. Drivers are small programs that allow the computer to talk to each piece of hardware. To get the latest ones, go to the manufacturer's website and check the Support or Downloads section. Find the entry for your product and look for the latest version of the drivers. The same applies to software; you may need to download a new version or a patch for any programs you intend to install. Again, check the software maker's website for any information about getting their products working under Windows 7. In some cases you may need to pay for a new version of the software, but this will be rare.

Step 3

Windows 7 is good at picking up the drivers and software for your new hardware without much prompting. If your computer is relatively recent (within the past three years) you should find that, during the installation process, Windows 7 will automatically detect hardware and install the appropriate drivers. If there's anything major missing, use the Windows Update tool; click Start, then All Programs, then Windows Update and follow the instructions (you'll need an active internet connection). Check the Optional Updates panel for updates to your drivers. When we tried this, Windows Update found new software for such things as the fingerprint reader on our laptop.



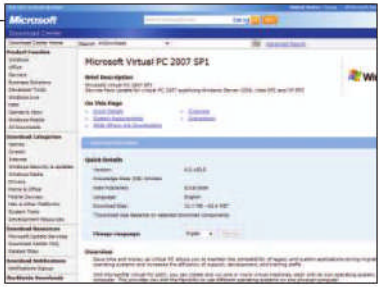


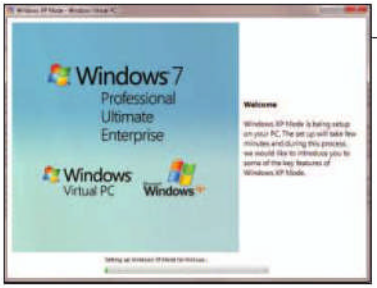
Step 4

Windows 7 includes a tool for fixing programs that don't want to work with it. If you see an error such as the one pictured when you try to install such a program, right-click the program icon and choose 'Troubleshoot Compatibility' from the menu. After it goes through some processing choose 'Try recommended settings' and click Start Program. If the program starts, close it again and click the Next button in the **wizard**. Next time you start the program it will work in Compatibility mode. If not, click Next and choose 'Try again with different settings', then follow the wizard. Tell the computer which operating system the program is supposed to work on, and it will try again to make it work.

Step 5

One way to get really stubborn programs working on Windows 7 is to use Virtual PC. Microsoft Virtual PC 2007 is included on this issue's CD and can be downloaded from **www.snipca.com/x427**. It allows you to run a 'virtual' copy of Windows XP in Windows 7. You will need to follow the wizard to set up a virtual PC and install a fresh copy of Windows XP onto it. This requires a Windows XP installation disc and serial number; you can use the ones that came with the old PC, but this may not work if the PC came with a 'restore' disc rather than a full copy of the XP CD. Once you've installed Windows XP you can run it in a window on your Windows 7 desktop just as if it was a 'real' PC, then install and run any other programs on it as normal.





Step 6

If you are using the Ultimate, Professional or Enterprise versions of Windows 7, you may be able to make use of 'Windows XP Mode'. This is similar to Virtual PC but quicker and easier to use, since it effectively allows you run XP-only programs from the Windows 7 desktop. You'll need to download the XP Mode software from **www.snipca.com/x426**. As it says on the download page, first download and install the Windows XP Mode software, and then install a new version of the Windows Virtual PC software. Windows XP Mode won't work on Windows 7 Home Premium and it also requires something called 'hardware virtualization'. You can test whether your PC has the latter capability by downloading the tool listed under where it says 'Can my PC run Windows XP Mode?' on the web page mentioned above.

Connecting removable devices

Plugging in a printer or media player? Windows 7 happily supports external devices

Compared to previous versions of Microsoft's **operating system**, Windows 7 is better at identifying and handling external devices plugged into your PC. Whether you want to attach a mobile phone, printer, digital camera, **MP3** player or some kind of external storage device, you can access it faster in Windows 7, through its shortcuts for common tasks such as transferring photos and music.

Windows 7 keeps track of everything plugged into your PC from the Devices and Printers option in the Start menu. If a device isn't instantly recognised, Windows will try to automatically download and install the correct **drivers**. Some gadgets, such as MP3 players and mobile phones, are also supported in the Windows Mobile Device Center, which lets you quickly access files on it and fix any problems.

Tip 1

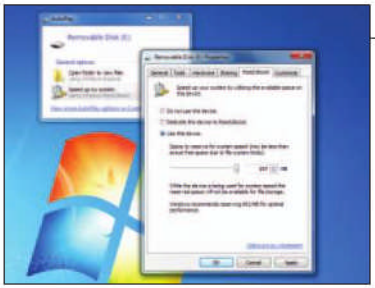
You can either connect a device to your PC with a cable or wirelessly via **Bluetooth**, as long as both your device and your PC support it. Windows 7 can also connect to devices via **USB**, **Firewire** or old-fashioned **serial** connectors. As soon as you plug in your device, a message will appear in the **Notification Area** saying it's connected. The Autoplay menu will also appear, which gives you lots of options depending on what Windows 7 finds on the device. Remember that USB devices still need to be removed carefully. An **icon** appears in the Notification Area, called Safely Remove Hardware and Eject Media. You should click on this to remove the device, which prevents files becoming corrupted if they are in use when you remove it.

Tip 2

Until recently, connecting a mobile phone handset to a computer could be tricky, since the software provided by phone manufacturers sometimes wasn't very good. If a phone supports Windows Mobile Device Center, however, it will work seamlessly with Windows 7. Here you'll find shortcuts to basic tasks for your phone and a large graphical image representing it, depending on the model and manufacturer. Device Center first asks if you wish to pair the phone with your computer. Then you can synchronise contacts, email and notes between the phone and Microsoft Outlook 2003 or later, transfer pictures and video and browse files. You can also download ringtones and access mobile app stores. Exactly what you can or can't do here depends on the model of phone, since it's the device manufacturer that decides which shortcuts to put in Device Center.

Tip 3

Portable MP3 and video players can also take advantage of Device Center, which (depending on the make/model) will show how much battery life is left and allow you to syncronise your device with your PC's media library and check for software updates. Windows 7 comes with Windows Media Player (WMP) 12, which can manage your media library. It keeps track of what songs are stored on your computer, has an online store where you can buy tracks and can synchronise your music library with a portable media player. For more on WMP 12, turn to page 66. If you have an Apple iPod or an iPhone, it's supported in Windows 7, but you need to download iTunes from **www.apple.com** to use your device. There's a **32-** and **64-bit** version of depending on which version of Windows 7 you are using.

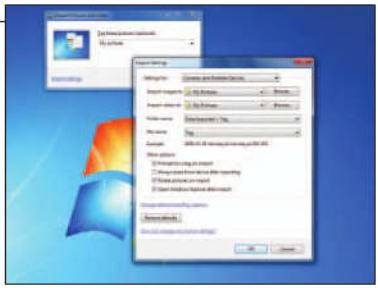


Tip 4

Windows 7 has plenty of ways to use an external **hard disk**, memory card or **USB memory key**. When you plug storage into your PC, the Autoplay menu appears, with a list of options that depends on the type of files stored on the device. If it contains videos, for example, Windows will ask if you wish to play them using your favourite application. You can use external storage to store a backup of your computer by clicking on the option in the Autoplay menu. System backups can be quite large, so an external hard disk is better for this. See page 78 for more on backing up. With USB keys and memory cards you can use Windows Readyboost to speed up the computer, which is handy for PCs without much system memory (see page 86).

Tip 5

Digital cameras usually appear as an external storage device in Windows 7, and are assigned a free drive letter. You can transfer files to and from the device in the same way you would from a memory card or a USB key. The Autoplay menu will appear with all the same options to handle photos. You can view or import them, and **tag** the photos with a name, which is a handy way to keep files organised. Most camcorders work in the same way, appearing as a new drive in Windows Explorer, which allows easy transfer of videos from the device. The Autoplay menu will give you the option to add videos to your library. If you have video-editing software installed, such as Windows Live Movie Maker (see page 71), you can directly import videos from the device and immediately start editing them.



Tip 6

The new Devices and Printers window lists printers and **scanners** separately from everything else plugged into your PC. If you right-click on the icon for your printer the options are similar to those with previous versions of Windows. You can start a scan, print a test page and troubleshoot any issues with your printer. When you **double-click** on your printer icon, it will bring up a Device Center page similar to the pages we've seen for mobile phones and MP3 players. At the top of this window you can quickly see the status of your printer, which documents are in the queue, and the output settings, such as the paper size and orientation. Below this you'll find more links to common printer settings, and to the manufacturer's website.

Security guard

How safe is Windows 7 and what tools does it provide to protect your PC and your family from online dangers? We put the new operating system's security features to the test

Video on the CD
TV Computeractive

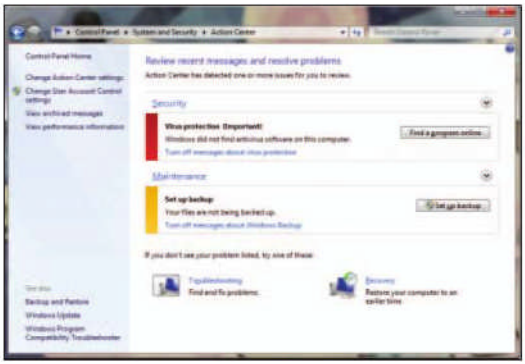
Security is an area Microsoft concentrates on heavily whenever it releases a new version of its operating system (OS) and Windows 7 is no exception. It contains a number of improvements – some fairly significant and others relatively minor – that help to make your PC safer to use.

Anyone upgrading from Windows XP or Vista will want to know if Windows 7 offers enough to keep your PC and family safe from **hackers**, **viruses**, **spyware**, **phishing** scams and other dangers. In this feature (and the Workshop on page 50) we'll be exploring the security changes Microsoft has introduced into Windows 7 and examining how to make sure your computer is completely protected.

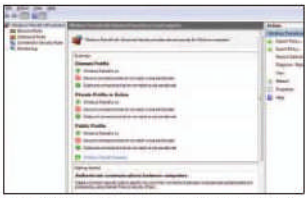
Take action

Microsoft has changed the name of the main Windows safety interface from 'Security Center' to 'Action Center'. This streamlines all kinds of security and maintenance processes and brings them under one roof.

In the Control Panel there's an entry for Systems and Security (formerly System and Maintenance). The Security section gives you information about virus protection, Windows updates, spyware and internet security settings and User Account Control (UAC).



▲All security and maintenance processes are now handled in the Action Center in Windows 7



▲The firewall now filters and monitors outbound traffic

The latter is particularly interesting; UAC was a security precaution introduced in Vista to provide protection against **malware** making unauthorised changes to a PC. However, while its purpose was clear, it took little account of users' computer knowledge and its constant nagging so irritated people that many turned it off. With Windows 7 you can tone it down. A slider lets you decide when you want to be notified; for example, you can set it to always notify you as it does in Vista, or only when you install software or make changes to Windows settings. You can even ask it to never notify, although Microsoft does not recommend this.

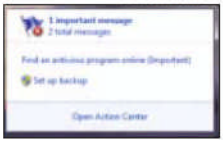
The Maintenance section of the Action Center gives information about backup, troubleshooting and updates. Windows Update is now combined with the Automatic Updates functionality from previous Windows versions. By default this ensures that critical software updates are installed automatically. If you disable the Windows **Firewall**, Action Center will display links to third-party products.

Fire power

Windows 7's built-in firewall is so improved that many experts believe Microsoft has produced a viable alternative to using third-party firewall software. An important change is that users can easily filter and monitor

outbound traffic. This is important because PCs can be infected by malicious software that can hijack the computer into launching outbound malware or spam (junk email) attacks. It also means you can prevent spyware reporting your personal details back to the mothership. The downside is unless you are knowledgeable about **ports** and what traffic you should be monitoring, it is best to leave the default settings as they are.

Network safety is also improved. There are three ways you can configure your firewall depending on the type of network being used. The Public network function has been designed for open **Wifi** hotspots. The Work network lets you connect to a selected domain.



▲Don't ignore Notification warnings

On a Home network, it's possible to set up your own legal **file-sharing** profile with the Homegroup, so linked PCs can share multimedia such as pictures or music as well as documents and devices such as printers. Unfortunately, Homegroup only works with Windows 7 PCs – see page 56 for more details.

Although by default, the firewall blocks connections to applications that are not on the list of allowed programs, this can be configured separately for each network type.

Further explorations

Many people will already be using Microsoft's Internet Explorer 8 (IE8) web browser because it has been available for XP and Vista for some time and offers beefed-up security, with features such as the Smartscreen Filter. This tool sends an alert if a site has been reported as unsafe. The browser also highlights misleading web addresses – a phisher's favourite trick – by highlighting the domain name (the unique name used to identify a website on the internet) in black and the remainder of the address is in grey to make it easy to identify a website's true identity. With **drive-by-downloads** a worrying problem, IE8 can detect if malicious code has been embedded on legitimate websites. It has also introduced a privacy setting, Inprivate Browsing, which allows you to erase your tracks and users can block ads from companies that track web-surfing habits.

Microsoft Security Essentials

Microsoft has finally addressed the issue of anti-virus in Windows 7 – not within the OS, but as a separate, free download, Security Essentials (***www.microsoft.com/security_essentials***). This program offers protection against all types of malicious software, including viruses and, importantly, **rootkits** – programs that hide to avoid detection. The interface is clean and simple but it still offers a number of settings so it can be customised. Although the protection is comprehensive, the software is unobtrusive and won't slow down your PC. It is updated daily and you can run a quick, full or customised scan. When everything is running as it should, the Taskbar at the top of the screen is green, if you have a potential problem this turns orange warning the user that they may be at risk. The Taskbar turns red warning your PC is at risk if it is totally unprotected.

Parental controls

Windows 7 has some built-in parental controls (go to Start, then Control Panel and click where it says 'Set up parental controls for any user') but on their own, these are fairly basic. They allow time limits to be set, and even block computer usage by time and date. Parents can also allow or deny specific programs if they choose. If you want control over web content you may want to get the Windows Live Family Safety option (***http://download.live.com/familysafety***). This program is part of another free Microsoft download called Windows Live Essentials. It allows parents to limit searches, block websites and control and monitor their children's usage of email, instant messaging applications (real-time text-based communication over a network) and social networking sites (see page 52).

Locked down

Security in Windows 7 is a huge improvement on previous versions. We have tested the new features and were generally pretty impressed, especially when Security Essentials found a virus that had infected a PC without our (or our previous malware product's) knowledge.

There are plenty of alternatives to Microsoft's free security tools, however (see box below) and there's still a case for using a full-blown paid-for security suite – such as McAfee or Norton – particularly if you still have several months remaining on an existing subscription.

Turn the page for our step-by-step guide to securing your computer using a mixture of Windows' own tools and some useful utilities which are free on the disc inside this issue.

Jargon buster

Drive by downloads Malicious software embedded by hackers onto a web page which then automatically tries to install onto a person's PC.

File sharing Swapping files with other people over the internet.

Firewall Software or hardware that prevents unauthorised access.

Hackers People who break into computers.

Malware Software designed to perform harmful acts.

Phishing A form of internet fraud.

Port A channel through which a PC communicates with the internet.

Rootkit Software that gives a malicious user admin rights to a PC.

Spyware Software that monitors and reports back on a computer's use.

Virus A malicious computer program.

Wifi An umbrella term for various standards for wireless networking.

For full Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

Third-party security software

The security Microsoft offers with Windows 7 is good but still basic. The problem with cyber crime is the increasing sophistication of attacks and the speed with which criminals can launch them.

You could add free security such as AVG 9 (**http://free.avg.com**) and Adaware (**www.lavasoft.com**), which are on the disc that comes with this issue.

Paid-for security 'suites', such as those from Symantec, Kaspersky, McAfee, F-Secure, Panda and Trend Micro, often have the edge in terms of features and convenience. But let's not forget that PC security is what these companies do exclusively as a business. Companies such as these can introduce new technologies faster and offer services such as online and telephone support.

Make your Windows 7 PC safer

Even a PC running Windows 7 isn't immune to attack. Here's how to protect yourself

Software on the CD

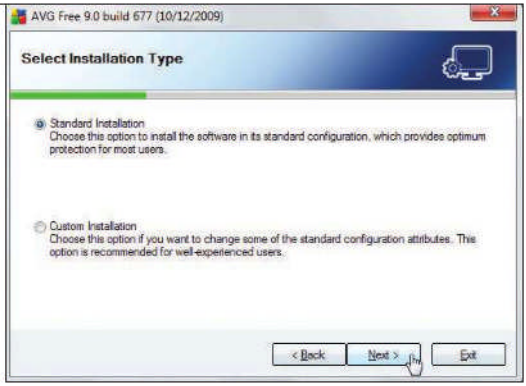
Windows 7 is the most secure version of Windows ever, according to Microsoft, and after some intensive testing we think it is probably right. It's packed with features to help protect your data and keep **malware**, **hackers** and other ne'er-do-wells firmly locked out of your PC.

The new setup isn't perfect, of course. You'll need to install a full **anti-virus** program to detect all the threats out there, for instance. Also, one or two other security features can be hard to find. And the built-in security setting defaults require some fine tuning.

Still, don't let that put you off; it's all easily fixed. Just take the powerful security software on the disc inside this issue, combine it with our detailed, step-by-step instructions, and your PC will soon be safe and secure. Here's what you need to know.

Step 1

The first step in securing any PC is to install quality anti-virus software. If you're upgrading your existing PC to Windows 7 you should, theoretically, have some kind of anti-virus program running already. It's important to run a full virus scan before you begin upgrading, as any malware can potentially derail the process and leave you with a messed-up PC. Any existing anti-virus software you want to carry on using must be compatible with Windows 7. If that's a problem, or if your existing anti-virus provider wants you to pay to get Windows 7 compatibility and you would rather not spend the cash, you could just install AVG 9 from this issue's disc. It's free, but just as accurate and reliable as the commercial competition.

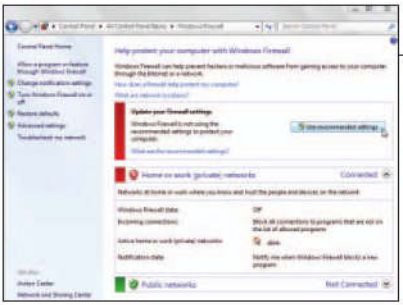


Step 2

Here, we have just installed AVG 9 on a Vista PC prior to carrying out a Windows 7 upgrade. Assuming you're doing the same, **double-click** the AVG **icon** in your **Notification Area** (bottom, right) to launch the console. Click Update Now to grab the latest virus definition files, then click Computer Scanner and choose the Scan Whole Computer option to give your system a health check. Just leave the program to do its work, AVG will automatically fix any problems it finds. The program will also set up a regular automatic scan, just to check that you're safe. This is a good idea, but you should make sure it's running at a time and frequency that works for you. Click Computer Scanner again, this time selecting the Manage Scheduled Scans option, click Edit Scan Schedule and set up the scan times you need.

Step 3

Now upgrade to Windows 7 (if that's what you're doing). The process is surprisingly quick, but may change both your **firewall** and **network** settings so give them both a quick check. Click Start, type **Network** and click 'Network and Sharing Center'. Make sure your active network is the right type; 'Home network' if you're at home and trust the PCs around you, 'Work network' if you're at work but again trust the local systems, or 'Public network' if you have mobile broadband, are in a public place and don't know the PCs nearby. If you're using the 'Public network' setting at home, other systems on a home network won't be able to connect to you. Click the network type and change it.

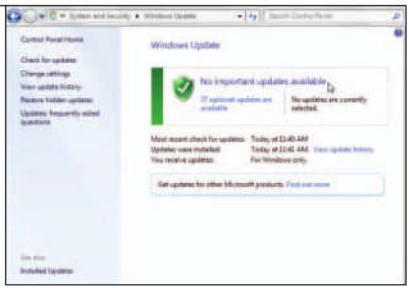


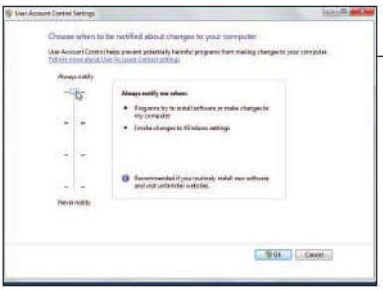
Step 4

Click the Windows Firewall link at the bottom of the Network and Sharing Center. If you don't have a software firewall installed, and you're connecting to the internet through a **modem**, rather than a **router**, check to see that 'Windows Firewall state' is set to 'on'. This will protect you from hackers who try to directly access your PC while you're online. If you do have another firewall installed, though, using the Windows Firewall as well can cause conflicts, so it's better leaving the Windows Firewall switched off. If the current setting doesn't suit your needs then click 'Turn Windows Firewall on or off', change it, and restart your computer to allow the new settings to take effect.

Step 5

You're now running Windows 7 and everything should be looking good, but there's a problem. Your copy includes none of the security patches Microsoft has released in the past few months, so it's important to check that you're set up to download and install them. Click Start, then Control Panel, choose the System and Security category and click Windows Update. If you see a green tick and 'No important updates available' then your system is properly configured and has automatically installed security updates. If you see anything else, click Check For Updates to find out what's available, and download it, then click Change Settings and set Important Updates to 'Install updates automatically'.



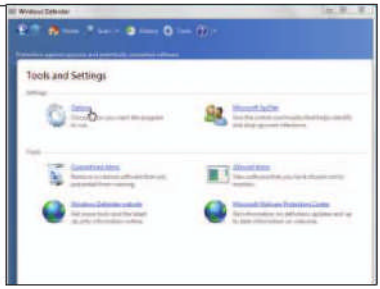


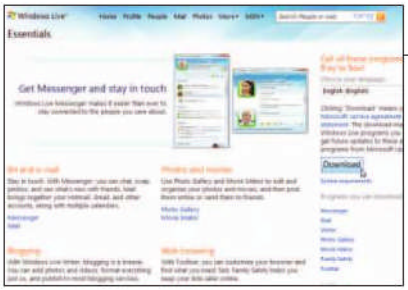
Step 6

Windows 7 has changed Vista's User Account Control (UAC) to reduce the number of prompts. By default Windows' own applications can make system-wide changes without any warnings being displayed – you'll only see these if you install and run new programs. This does have the potential to leave you less protected, though, since malware can pretend to be, say, Windows Explorer, and do anything it likes without you seeing a UAC prompt. Fortunately there's a fix. Restore **UAC** to its maximum Vista-style settings and you'll see more prompts again, but these will be harder for malware to bypass. Click Start, type UAC, and click Change User Account Control settings, then move the slider to 'Always notify' and click OK.

Step 7

Windows 7 comes with its own malware detector in Windows Defender. Strictly speaking you don't have to use this if you're using AVG 9, which should catch any threats. But it's often a good idea to have another anti-malware tool around, just to offer a second opinion. Click the Start button, type **Defender**, and click the Windows Defender link to launch it. Then click Check for updates now to ensure it's up to date. If you're running Windows 7 with AVG 9 on a low-powered PC or netbook, though, then you could potentially disable Windows Defender to optimise performance a little. Click Tools, then Options, choose the Administrator option and clear the 'Use this program' option to turn Windows Defender off.



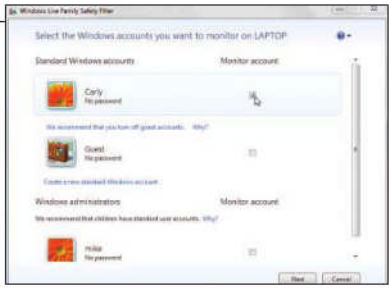


Step 8

If you have children you might want to enable Family Safety, the new Windows 7 Parental Controls system. This and other Windows features, including Messenger, Mail (the replacement for Outlook Express and Windows Mail), Photo Gallery, Movie Maker and more, are no longer included on the Windows DVD, so you'll need to download and install it first. To try this, click Start, type **Live**, and click the 'Go Online to get Windows Live Essentials link'. A browser window will open at the download.live.com page. Click Download, choose to run the setup program if you're asked, and the Windows Live installer should appear (be patient, though, as this can take a minute or two).

Step 9

Once it's loaded the Windows Live installer will list all the programs it's able to install. Check the Family Safety box and anything else you want (see page 70 for more about applications in the Live Essentials package). Click Install to start the process. When the setup process is complete you may launch parental controls by clicking Start, typing **Family** and clicking the Family Safety link. Sign in with your Windows Live ID (click Sign Up if you don't have one). Now choose the Windows accounts you would like to monitor or restrict. If you don't have a user account for your children yet, click 'Create a new standard Windows account' to make one. Choose the account, click Save and work your way through the **wizard**, accepting the default settings.

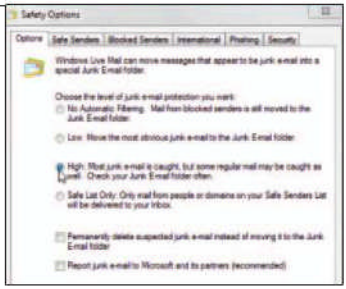


Step 10

All these download and web login requirements may seem like a real hassle, but once you've set things up they'll really pay off. Point your **web browser** at **http://familysafety.live.com**, sign in and you'll see the accounts of any family member you're monitoring. Clicking View Activity Report will show you what they've been up to on the PC, while choosing Web Filtering will help you control the sites they're able to access – you could turn off Facebook for a few days as a punishment, say. And because all this is web-based, it works from anywhere. You might be at work, or away on a trip, but as long as you have access to a web browser, you can still log in and see exactly what the kids have been doing on the PC.

Step 11

If you've installed Windows Live Mail (see page 70), this also has some useful security settings. Launch the program, then press Alt, click the Tools menu and select Safety Options. By default Windows Live Mail only moves the most obvious **spam** emails to the Junk folder. Choose the 'High' option if you would like to catch more, but beware, it may catch legitimate emails too. Browse the Junk email folder frequently to rescue messages that have been moved incorrectly. Click the International tab. If you're sure you'll never get email from a particular country or in a certain language (Chinese, say), then block it here and cut your spam further. Then click the **Phishing** tab, check 'Move phishing email to the Junk email folder', and in future these online scams will be moved to the Junk folder right away.

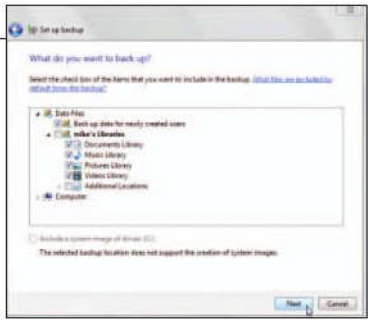


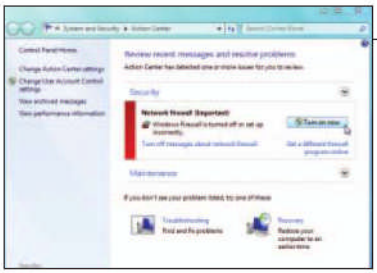
Step 12

You've already used Windows 7's Internet Explorer 8 (IE8) a little, just to download your choice of the Windows Live Essentials. Now it's time to configure the web browser for your security needs. Open IE8, press Alt, click Tools and select the Smart Screen Filter sub-menu. This will stop you accessing dubious sites or malware-ridden downloads, which is a useful ability. If you see an option to Turn On Smart Screen Filter, select it. Now press Alt, click Tools and select Internet Options. Click the Security tab and make sure Enable Protected Mode is checked to limit the harm any browser-based malware can do. Malicious sites often use **pop-ups** as a way to force spyware downloads. Click the Privacy tab and check 'Turn on Pop-up Blocker' to reduce their chances of success.

Step 13

If you've followed our instructions so far you'll be well protected against viruses, hackers and dubious websites. But your Windows 7 system is even more at risk from hardware failure, software bugs or simple human error, so the only way to guarantee its safety is to run a backup occasionally. It's now much easier than before. Click Start, type **Backup** and click the Backup and Restore link. Click Set up backup, choose a backup drive (a DVD writer is fine) and click Next. Select the 'Let Windows choose' option to back up almost everything, or select 'Let me choose' to save just a few important files. Click Next, complete the wizard, and Windows will not only save your chosen files now, but schedule them to be regularly backed up in future. For more on backing up, see page 78.





Step 14

That's it. You've finished, and your PC is safe and secure. At least, it should be. But what if you've forgotten something? Windows 7's new Action Center will regularly check your system settings and alert you to any problems. Click Start, type **Action** and click the Action Center link. If Windows 7 detects an issue, you've not installed any anti-virus software, say, then you'll see a message to that effect here. Follow the instructions to solve the problem. Hopefully by following these steps you won't see any warnings, but problems can materialise at any time. If they do, an Action Center icon with a red cross will appear in the system tray. Double-click it to find out what's wrong, and get it fixed right away.

How to burn **CDs and DVDs**

Creating different types of discs is easy using Windows 7's improved burning tools

There are some changes and improvements to the way in which Windows 7 handles blank CDs and DVDs. It's now possible to create both CDs and DVDs directly from within Windows. The tools are still relatively basic and we would still recommend that you use a dedicated third-party disc-**burning** suite if you want maximum flexibility when it comes to creating discs.

However, the disc tools in Windows 7 are easy to use and come in very handy if you don't happen to have any extra software installed. You will, of course, need an **optical drive** that can write to CD or DVD discs. If you are using a computer without one, such as a 'netbook', you can plug an external disc burner into a **USB** port and the instructions below will apply in exactly the same way.

Step 1

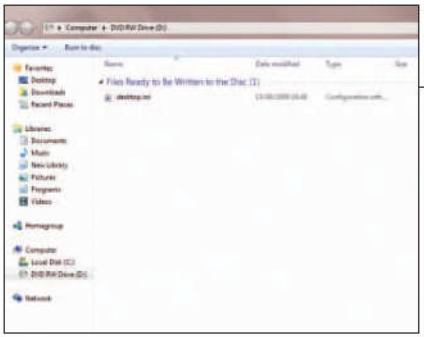
The easiest way to start is to insert a blank disc into your computer's disc drive. Windows 7 should recognise whether it's a CD or DVD and display the appropriate options in a small pop-up **dialogue box**. For a blank CD, for example, these are to create an audio CD using Windows Media Player and to burn data files using Windows Explorer. If you have extra software installed, more options will appear here. As you can see from our screenshot, our test computer has iTunes installed, so the option to create discs using that application is available too. For DVDs, separate options will appear including one to create a video DVD using Windows DVD Maker (see Steps 5 and 6).

Step 2

To create a music disc, click the option to use Windows Media Player. The program will open with the Burn List showing in the right-hand pane of the window. You can drag music tracks here from your library to create a list of tracks to copy to the CD. Click any track in the list and drag it up or down to rearrange the order of the songs. When the disc is burned the order of tracks will be as shown in the Burn List. To give it a name, which will show when the disc is played on a computer, click the words 'Burn list' below the picture of a disc, type a new name and press Enter. Click 'Start burn' at the top to make the disc. For more on Windows Media Player, turn to page 66.

Step 3

If you want to make a data disc that can be read in other computers, the process is the same for both CDs and DVDs. Insert the blank disc and click 'Burn files to disc'. You'll see a dialogue box with two options that will affect how your disc works. The first, 'Like a USB **flash** drive' will make a disc on which you can save files at any time. That's useful, but it will restrict your disc to computers that use Windows XP, Windows Vista or Windows 7. If you want to distribute your disc to others, or if you want to use it on an Apple Mac computer, for example, you should select the other option. In that case, the disc can't be changed after it is created.

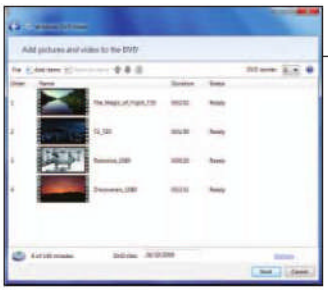


Step 4

In the same dialogue box give the disc a name; click the box and type the name. Choose one of the options from the previous step and click Next. If you chose the USB-like format in the previous step, the computer will immediately prepare the disc for burning and once it's done you will see a prompt to open the disc's folder to view what's on it. You can then copy files to and from it just as if it were a **hard disk**. If you chose the conventional disc-burning option, a window like the one shown left will open. **Drag and drop** the files into here that you wish to copy onto the disc. When you're done, click 'Burn to disc' and follow any prompts that appear.

Step 5

For making a DVD video, insert a blank DVD. The Autoplay box will appear as before, but this time there will be an option to create a DVD with Windows DVD Maker. If not, you can start Windows DVD Maker from the Start menu (click Start, then type **Windows DVD Maker** into the box, and it will appear as an **icon** that you can click). Click the button to choose photos and videos to put on disc. The program can't be used to edit your home movies or other clips. To do that you will need a movie-editing program. Often these are paid-for products but Microsoft provides a free one called Windows Movie Maker, which is a part of the Windows Live Essentials download pack (see our Workshop on page 70).



Step 6

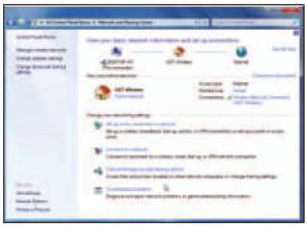
On the next page you will see a blank pane into which you can drag and drop video clips and pictures. When you have added all the clips or pictures you wish to include on your disc (remember that you should own the copyright to any clips you will be distributing) click Next. Here you can choose the theme for the menu of your DVD using the options down the right-hand side. At the top are options to change the menu titles and the way the menus work, and if you are making a photo slideshow you can add music of your choice to accompany the images. Click the green Preview button to see how the disc will look in a DVD player. When you have finished click Burn to make the disc.

Networks and **Homegroups**

Microsoft's latest operating system introduces new features that make wired or wireless networking easier than ever. We investigate how to get connected with Windows 7

Video on the CD

The word 'network' may conjure up images of straggling cables and a sea of techno jargon, but these days the reality is very different. And thanks to Windows 7's new **network** tools, even total beginners can create a home network in a matter of minutes. Once up and running, you'll be able to share files between your computers, as well as **stream** photos, videos and music to your TV and hi-fi. As you might expect, Windows 7 has networking at its very core and makes many improvements over XP and Vista. In this feature, we'll take you through the various networking tools found within Windows 7 and show you just what it's capable of.



▲The Network and Sharing Center has been revamped, making it even easier to set up your home network

Network basics

To create a home network, you need at least two computers (or one computer and another network device such as a **media streamer**). Each device needs to be network-ready, with either wired or wireless networking built in; the former is found on almost all computers, the latter mainly on laptops.

In order to link all the devices on your network, you also need a **router**. These are small boxes that act as the main hub of the network. Most routers usually include a wireless module that lets devices with built-in **Wifi**, such as laptops, connect without the need for cables. If you have a broadband internet connection, a router can also provide internet access to all devices on the network.

▼A router, such as this wireless model, sits at the core of all home networks

Once a Windows 7 computer is connected to a network via a router, the vast majority of network-related functions can be carried out through the Network and Sharing Center. This utility was first introduced with Vista, but it has been given a major overhaul and provides detailed information relating to your network as well as quick links to common tasks such as fixing problems and changing network permissions.

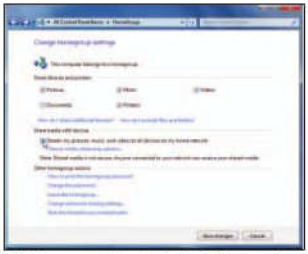
Wireless networking hasn't changed much in Windows 7. However, the process of connecting to a new wireless network is now slightly quicker; click once on the wireless **icon** in the **Notification Area** and all available networks will be displayed. You will, of course, need a computer with a **wireless adapter** in order to use Windows 7's wireless networking features.

Homegroup

Perhaps the biggest new networking feature of Windows 7 is the Homegroup. We'll show you how to set one up in the Workshop that follows this feature (see page 58).

A Homegroup essentially makes sharing your files and network resources much easier than it is in Windows XP and Vista. Each computer within a Homegroup has access to the shared files (known as libraries) of all other members of the Homegroup. It's also possible to share files such as photos and videos with any media streaming devices on your network.

Each Homegroup is password-protected, so you have complete control over who joins your Homegroup. So, if a visitor wants to use their laptop on your network to access the internet, all shared files within the Homegroup will remain safe from view.



▲The Homegroup feature of Windows 7 lets you set up secure file sharing across your network

Sharing media

Although computers are capable of playing video, music and photo slideshows, it's often far more convenient to use the TV or hi-fi in your lounge. Media streaming devices such as a Netgear Digital Entertainer (from £100, ***www.snipca.com/x441***) are able to use a home network to play back media stored on any PC. With XP and Vista, though, this wasn't always straightforward. Windows 7 makes it far easier to not only share media with such devices, but also restrict what they can access. For example, you can share music, but choose not to share your videos or photos.

Windows 7 also lets you browse music, videos and photos stored on your computer and then play them back on a compatible media streaming device on your network. This means you can be sitting in the lounge browsing your audio collection, but instead of using the laptop's speakers, you get to listen to the music on your hi-fi.

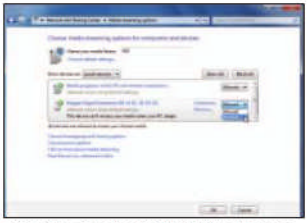
Help at hand

Vista made an improvement over XP in terms of providing help with network problems, but its 'Diagnose and repair' feature often failed to live up to its name. Windows 7, however, comes with a greater selection of troubleshooting tools designed specifically for networks.

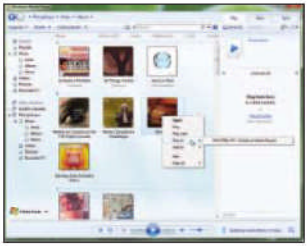
Accessed from the Network and Sharing Center, the troubleshooting window is split into seven different categories, covering aspects such as file-sharing problems right through to network printing issues. Click on a category, and Windows will automatically check for known problems and, if possible, fix them. A report will also be generated, allowing you to see exactly what the problem was.

Simple networking

While Windows 7 brings with it many new networking enhancements, there will still be plenty of people who only have it installed on one of their computers. The good news is that there's absolutely no problem with having a mix of Windows 7, Vista and XP computers on the same network, and they'll be able to access shared files in the same way a Vista or an XP computer can (we'll go into more detail in the Workshop that follows). However, the



▲Windows 7 makes it easy to share music, videos and photos with others on your home network



▲The Play To function lets you browse music on a laptop and play it on a media streaming device

not-so-good news is that the new Windows 7 Homegroup feature isn't compatible with XP or Vista, so shared libraries won't be visible using this method.

As you can see, Windows 7 adds some useful new networking features and makes it far easier to set up and configure a home network. And if things go wrong, the advanced troubleshooting tools are always on hand to diagnose and fix most problems. To see Windows 7's networking features in action, take a look at the Workshop that follows.

Jargon buster

Icon A small image used by Windows to identify a file or application.

Media streamer A device that can play back multimedia files.

Network A way of connecting several computers and devices.

Notification Area An area on a screen that shows which programs are running in Windows.

Router A device used to connect more than one computer to the internet.

Stream Audio or video material that can be viewed as it is downloaded from the internet or transferred from another computer.

USB Universal Serial Bus. A standard that allows quick and easy connection of external peripherals to your PC.

Wifi An umbrella term for various standards for wireless networking.

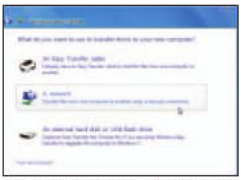
Wireless adapter Allows a device to connect to a wireless network.

For full Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

Migrating from XP or Vista

If you've bought a new Windows 7 PC, the Windows Easy Transfer utility that comes with it can automatically transfer all personal files, folders, user account settings and more from an existing XP or Vista computer. This is done using a Windows Easy Transfer **USB** cable or an external hard disk, but it's also possible to use your home network.

Run the Windows Easy Transfer application (you'll find it by using the search box in the Start menu) on your new Windows 7 PC and select the Network transfer option. You'll be prompted for a Windows Easy Transfer key, which can be obtained by running the same application on your old PC. Once you have the key, the two PCs will communicate over the network. Files and settings can then be



▲Windows Easy Transfer can move files and settings from a Vista or XP computer

transferred automatically, or you can choose to select them manually. Windows Easy Transfer can't move entire applications from one PC to another; you'll need to install them using the original installation disc.

Set up or join a **Windows 7 network**

Learn how to create a wired or wireless home network from scratch with our guide

Video on the CD

Windows 7 makes it easier than ever before to set up a **network** and share files, printers and more between your computers. There are, however, some important differences compared to networking in both XP and Vista. In this Workshop, we'll take you through the process of setting up a basic wired network using Windows 7. We'll then move on to take a closer look at how to make the most of the new networking features of Windows 7, as well as how to add a wireless device such as a laptop to the network and how to run your Windows 7 PC in a network alongside a computer running XP or Vista.

In order to complete the Workshop, you'll need a wireless **router**, an **Ethernet** cable and at least two computers, one of which should have wireless networking capabilities.

Step 1

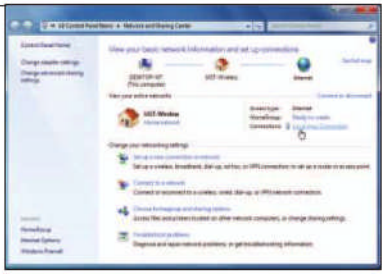
The first step is to set up your wireless router. In our example we are using a Netgear DG384N (**www.netgear.co.uk**), but most other makes and models follow a similar process. We're going to be concentrating on Windows 7's home networking features and so we won't be covering how to set up your internet connection. We'll assume that you already have a **broadband** connection up and running but if you're having trouble with this aspect, your **ISP** or cable provider will be able to help. To get started, make sure your router's power cable is attached and then switch the device on. The lights on the front will now start to flash and the router's start-up process should begin. This should take no longer than a minute or so.

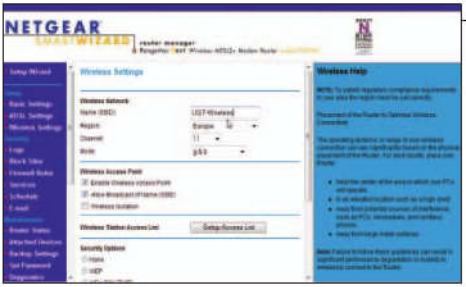
Step 2

Before you can set up a wireless network, most routers need to be physically attached to a computer in order to access its configuration utility. Using an Ethernet cable (one is usually included with the router), connect one end to your computer's **Lan** socket and the other end to one of the router's Lan sockets (there are usually four Lan sockets on a router). On the front of the router, the number of the Lan port that you connected it to should start flashing, indicating it's connected to an active device. On the computer, a wired network **icon** (a small computer screen with a wire to its left) will appear in the **Notification Area**, bottom, right of your screen.

Step 3

To make sure the network is up and running, click on the icon in the Notification Area and then select the 'Open network and sharing center' option. When the window opens, you will see some basic information about your network, along with a diagram showing how your computer is connected to the router and, if applicable, the internet. It's also worth making a note of the router's **IP address** since you'll need this later in the Workshop. To do this, click Start, type **CMD** and press Enter. Now, in the window that appears, type **IPCONFG** and press Enter. Your router's IP address is listed under 'Default gateway', and will be something like '192.168.0.1'.



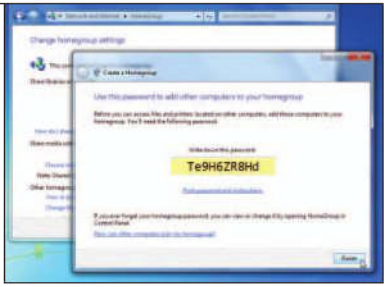


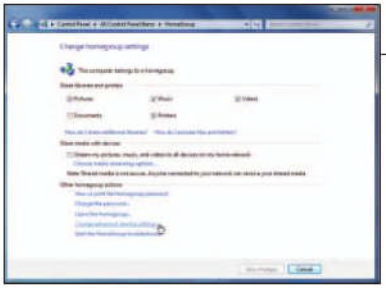
Step 4

Exactly how you set up a wireless network will depend on the make and model of your router. With the Netgear router we're using, you first need to log in to the setup menu by opening a **web browser** and typing the router's IP address (see Step 3). From the menu on the left, click Wireless Settings. Now give the network a suitable name under 'Name (**SSID**)'. Leave all other settings at their default, but under Security Options select either **Wep** or **WPA** (WPA is the stronger of the two). Now enter a passcode into the 'Network key' box; make a note of this since you'll need it when logging on to the wireless network later. Finally, click Apply to save the new settings.

Step 5

Before connecting additional computers to the network, it's best to set up a Homegroup. To do this, click on the Start button and select Control Panel. Under the 'Network and Internet' section, click 'Choose homegroup and sharing options'. If you haven't already set one up, a 'Create a homegroup' button will be displayed. Click on this to continue. Windows will now ask which libraries you want to share within the Homegroup; remove the tick from the box next to those you don't want to share. Now click Next to create the Homegroup. After a short wait, your Homegroup password will be displayed. Make a note of this since you'll need it to add other computers to the Homegroup.



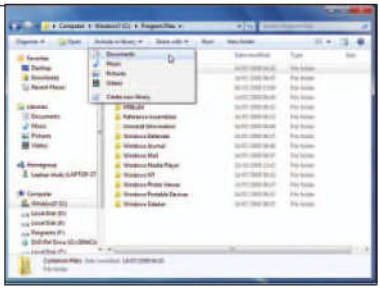


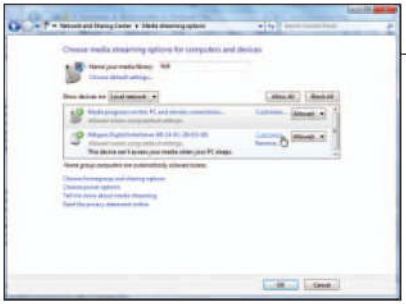
Step 6

The Homegroup settings window will now appear. Here, you can change the library sharing settings that were made in the previous step; we'll show you how to share other files and folders stored on your PC in a moment. Further down the window it's possible to view or print the Homegroup password as well as change it; if you do change the password, you'll need to update it on all other computers in your network. There's also an option to leave the Homegroup altogether. If you're experiencing difficulty in sharing files, the Homegroup Troubleshooter will attempt to automatically detect and fix the problem.

Step 7

You can share additional folders by highlighting them and, at the top of the window, clicking the 'Include in Library' button. Now select the library you want to include it in and, if that library is set up to be shared within your Homegroup, the folder will then be available to other computers. Alternatively, you can create a new library to include the folder in. If you do this, you'll need to make sure the new library is shared. This can be done by first typing **Libraries** into the Start menu's search box and pressing Enter. Now highlight the new library and, at the top, click on the Share With button and select 'Homegroup (Read)' or 'Homegroup (Read/Write)'; the latter allows users to both view and edit files.



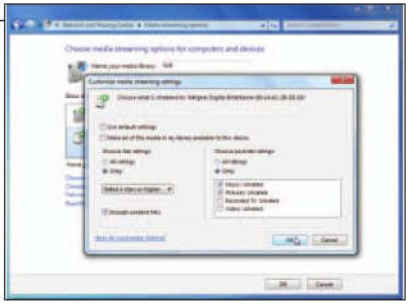


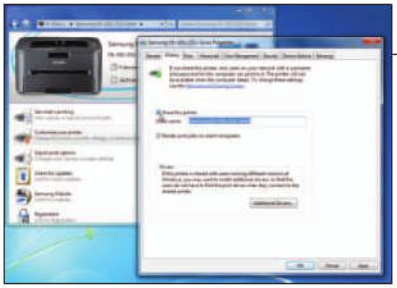
Step 8

To start sharing media, return to the Homegroup window by clicking on the Windows Start button, typing **Homegroup** into the search box and pressing Enter. Put a tick in the 'Stream my pictures...' box, which allows any **streaming** devices, such as a Logitech Squeezebox (**www.logitech.com**) or Netgear Digital Entertainer (**www.netgear.co.uk**), to access all media stored on the PC. Click on the 'Choose media streaming options' link to adjust further settings. In the window that appears, you'll see all streaming devices on your network; in this example there's a Netgear streamer on the network. You can allow or block a device using the **dropdown menu** next to its name.

Step 9

You can further configure the media sharing settings by selecting a device from the list and clicking Customize. A new window will now appear, allowing you to select exactly what type of media files should be shared to this specific device. The 'Use default settings' option is automatically selected, but if you remove the tick from this box you can make various changes. For example, it's possible to share only media that has a certain star rating, allowing you to share your highest-rated music, videos and photos, for example. Furthermore, you can use Windows 7's parental control settings to ensure children can't access media stored on another PC that's aimed at an adult audience.



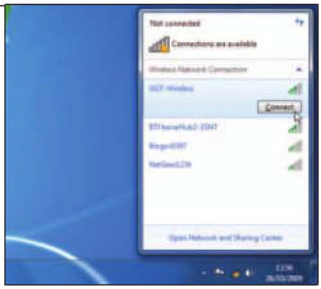


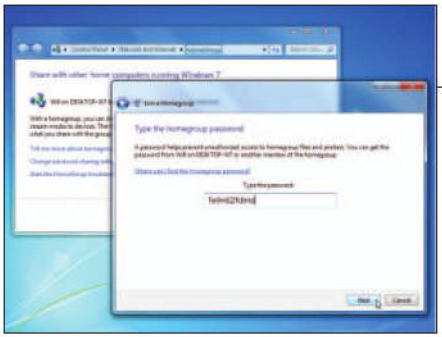
Step 10

If you've got a printer attached to your Windows 7 PC, it can be shared among all computers on your network; the only caveat is that the PC with the printer attached will need to be switched on in order for other computers to access it. First, click on the Start button and select the 'Devices and Printers' option on the right. Now, in the resulting window, **double-click** the printer you want to share. A new window will appear with details relating to your printer. Double-click the 'Customize your printer' option and then make sure there's a tick in 'Share this printer' box. Your printer will now be made available to all other computers on your network.

Step 11

You're now ready to add a second computer to your network. This time, we'll connect a laptop via a wireless connection. On the laptop, click on the wireless network icon in the Notification Area. A window will now pop up listing all available wireless networks. Click your network and then click the Connect button that appears. You will now be prompted to enter the security key that was specified in Step 4. After a short pause, the wireless connection will be established. If your wireless connection doesn't appear in the list, it could be because the signal isn't strong enough; if so, try moving the laptop close to the router.



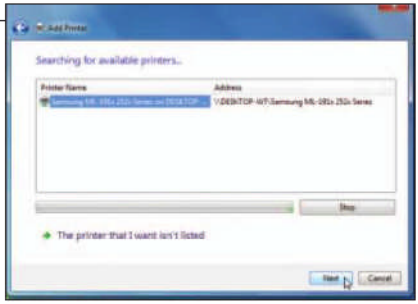


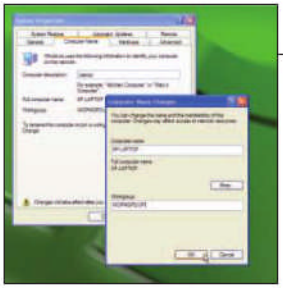
Step 12

Soon after connecting, Windows will ask what type of network you're connected to. If you know all the computers on your network, select Home as this enables greater file-sharing capabilities. Windows should now invite you to join the Homegroup you created earlier; if it doesn't, type **Homegroup** into the Start menu's search box. Click the Join Now button and you'll be asked which libraries you want to share. Once you've chosen these, the Homegroup password window will appear. Enter the password that was generated in Step 5. Click Next and, after a short pause, your computer will join the Homegroup.

Step 13

You can now access all shared files within the Homegroup. Click on Start, select Computer and, on the left side of the window, click on the Homegroup option. Remember that files will only be available on those computers within the Homegroup that are switched on. When you join a new Homegroup, Windows will also automatically offer any new shared printers it finds. However, you can also add them manually by clicking on the Start button, selecting 'Devices and Printers' then clicking the 'Add Printer' button at the top of the window. Select 'Add a network, wireless or Bluetooth printer' and Windows will scan the network for available printers.





Step 14

Homegroups are only available on Windows 7 computers, so sharing files is slightly different with those in your network that are running XP and Vista. To access files stored on older PCs, you'll need to make sure they're in the same workgroup as your Windows 7 PC. The default workgroup name for Windows 7 is 'WORKGROUP', so on each of your other PCs, click Start, then right-click Computer and select Properties. Under Computer Name, click Change Settings. In the resulting window, click the Change button and, under Workgroup, enter **WORKGROUP**. You'll now be able to access shared folders by clicking Computer from the Start menu and selecting the appropriate computer within the Network section on the left side of the window.

The entertainer

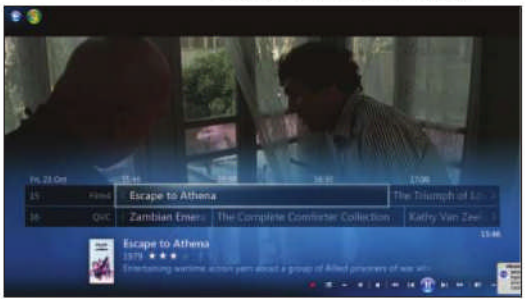
Windows 7's new Media Center lets you browse photos, listen to music, watch videos and record TV – we show you what it offers and how it works

Windows Media Center was one of the best features of Windows Vista, but it wasn't very well known. Windows 7 gives it a substantial makeover, adding support for new technologies and making it even easier to set up and use.

With the right hardware, Windows Media Center (WMC) turns a PC into a fully fledged **personal video recorder** (PVR), allowing you to watch and record live TV shows. It also lets you view photos and videos, listen to music and even play games. You can also share media with other computers on a wired or wireless home **network**. Hook up the PC to a TV, add a remote control and it can become the hub for all your home-entertainment needs. But the best part is that it's all incredibly easy to set up and use.

Central attraction

Unless you've already been using Windows Vista Home Premium, Windows Media Center might come as a bit of a surprise to you. The Home Basic version of Vista didn't have Media Center built in and, while there was a separate XP version (Media Center 2005), it was difficult to find, hard to get working properly and never became very popular.



▲Windows 7's mini electronic programme guide is much-improved over Vista's

▲Lots of changes have been made in Windows 7's Media Center and it is very easy to set up

The new version WMC that's built into every edition of Windows 7 except the Starter edition, changes all that. It is designed as a home entertainment centre. You can connect your PC to a TV and/or a hi-fi and use it to watch or listen to your TV, radio, music, video and photos. It doesn't have to connect to a TV; WMC works perfectly well on any standard PC display. The menus and controls are designed to be easy to use when you're sitting across the room from it – there is even a special remote control.

If your PC has a **TV tuner** (see box opposite), it can be turned into a video recorder that will let you watch, pause and rewind live TV, like a Sky+ or Freeview+ **hard disk** recorder. FM radio tuners are also supported – some TV tuner cards have these built in.

With a **DVD writer** in your PC, you can also burn discs directly from within WMC, making it a one-stop multimedia shop that you can control from the comfort of an armchair.

It might take a short while for those familiar with the menus of Vista's version of WMC to get used to the new layout and features, but we found it a big improvement.

If you want help getting WMC running, turn to our Workshop on page 64. Now, let's see what it has to offer, starting with its TV capabilities.

TV heaven

At the heart of WMC is an electronic programme guide (EPG). This is a 14-day TV schedule that's customised for whatever TV

▲Libraries in Windows 7 organise your music to help you find songs easily

region you're in and whatever type of TV signal you're using. So if you have a digital tuner, you'll see a listing of all the Freeview channels, but with an analogue tuner you'll just see the terrestrial channels. WMC can even work with a digital satellite service (such as Freesat) if you have a suitable tuner and dish. This is new to Windows 7 and needs more advanced skills to set up, so we won't be looking at it in depth here. WMC supports **high-definition** broadcasts if you have a suitable tuner card.

Using the EPG you can schedule recording of shows by right-clicking on a show and selecting Record. When you're watching live TV, WMC can pause, rewind or play it back in slow motion. It can run in either full-screen or windowed mode, so it's easy to watch TV on the Windows desktop while you work at your PC.

Using the Movies section of the main menu, you can see all the movies coming up on TV for the next two weeks. These can be sorted by rating, genre, year and so on, making it ideal for movie buffs. Any you record will appear in the Movie Library for easy playback.

If you want to burn a DVD to watch in your home player, right-click any recorded show and choose 'Make a CD/DVD' and select the 'Video DVD' option.

Sound and vision

WMC is not just about TV. Even without a TV tuner it's still a very useful program. It can search your computer for music, photos and video files and display them in 'libraries' that appear on the main menu. You can browse them by folder, name, date, artist, genre, **tags** and so on. For photos, you can create and watch slideshows with music of your choice.

You can create a CD or DVD with any combination of photos and music without leaving WMC. Right-click any item and choose 'Burn a CD/DVD'. Choose between data CD, a data DVD or a multimedia DVD slideshow.

Share and stream

One of the most powerful capabilities of WMC is its ability to share photos, music, videos and recorded TV to other computers on your network. Windows 7's Homegroup networking feature (see page 56) makes it easy to do this between Windows 7 computers, as well as XP or Vista PCs. Between two Homegroup PCs, clicking the 'Shared' tab in any library lets you browse and play back files on the other PC.

By adding a Media Center extender to your network you can stream media, including live TV, to a TV in another part of the house and control it remotely. So you could have your Windows 7 PC in an upstairs study but access everything in WMC via the living room TV downstairs. The Xbox 360 games console has WMC extender capability built in, so if you have one of these you don't even need to buy any new equipment.

Extras

Finally, there are some nice extras bundled in WMC. You can play the built-in games such as Solitaire or Chess Titans using just your remote control, for example. There's also a selection of optional subscription services, such as the Coolroom on-demand movie service. And coming soon is the Sky Player, which will let Sky subscribers access Sky's live TV and on-demand movie service via the web.

So whatever your entertainment needs, WMC will have something to offer. Take a look at our Workshop on the following pages to find out just how easy it all is to get started.

Jargon buster

DVD writer A type of drive that allows you to create your own DVDs and CDs.

Hard disk A high-capacity disk in PCs used to applications and files.

High definition A TV picture with a higher resolution than normal.

Network A way of connecting computers so they can share data.

PCI Peripheral Component Interconnect. A high-performance expansion slot for desktop PCs.

PCI-Express A faster version of PCI, used by modern graphics cards.

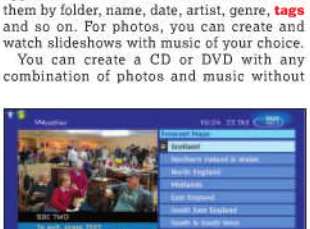
PVR Personal video recorder. Stores recorded TV shows on hard disk, rather than tape or DVD.

Tag A keyword used to describe a file.

TV tuner An expansion card that, when fitted into a PC, receives TV signals.

USB Universal Serial Bus. A standard that allows quick and easy connection of peripherals to your PC.

For full Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk



▲You can now use all the 'red button' interactive features in Windows Media Center where available

Tuning in

TV tuners can either be connected externally via **USB** or installed in a **PCI** or **PCI Express** slot inside a desktop PC. A TV tuner can come with either one or two tuners, which can be analogue, digital (Freeview) or hybrid (combining both types).

For laptop users, the PCTV Nanostick Solo (**www.pctvsystems.com**) costs around £40. It's a compact USB tuner with an extra-sensitive digital tuner for weak signal areas.

If you'd rather have an internal card the Hauppauge WinTV Nova-T PCI card (**www.hauppauge.co.uk**) has a single digital tuner and costs about £45.

If you want a hybrid card, the Hauppauge WinTV HVR-2200 (**www.snipca.com/x418**, around £135) is an internal PCI Express model for desktop PCs. It has two tuners that can both receive either analogue or digital TV signals.

Some retail tuners will come with a remote control bundled, others won't. Any Windows Media Center-certified remote control can be used with WMC – it doesn't have to be the same brand as your TV tuner. Maplin sells one for £19.99 (**www.snipca.com/x424**).

▲The PCTV Nanostick Solo is ideal for notebook users

Set up and use Windows Media Center

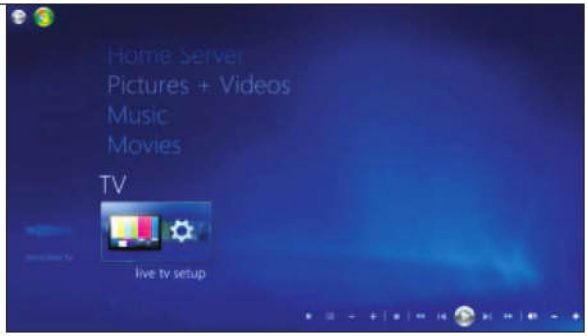
Get started with Windows Media Center and take full advantage of what it has to offer

If you've ever tried to set up a PC for watching TV, you'll know that it can be a frustrating experience. But with Windows 7 Media Center, Microsoft has spent a lot of time making it as foolproof as possible and, in our experience, they've succeeded with flying colours. In this Workshop, we'll assume that your **TV tuner** (and remote control if applicable) is plugged in and installed correctly. Make sure the tuner is connected to a working aerial – an outdoor or rooftop one is usually best.

We'll explain here how to tune your TV channels and do some other essential tasks, such as scheduling TV recordings and managing your media collections. We can only scratch the surface here, but once you're up and running, there are lots more features in Windows Media Center for you to explore at your leisure.

Step 1

Launch Windows Media Center (WMC) from the Start menu. Select the TV section from the menu and click 'Live TV setup'. You'll be asked to confirm your region so WMC can configure the correct signal. Click Next and enter your full postcode – this is used only to get the correct local program listings. Continue by clicking Next and agree to the two licence agreements. WMC will download Play Ready, a required copy-protection add-in. Then WMC examines your TV signal for a short while and asks for confirmation of which installed tuner you want to use – you can use up to three tuners simultaneously.

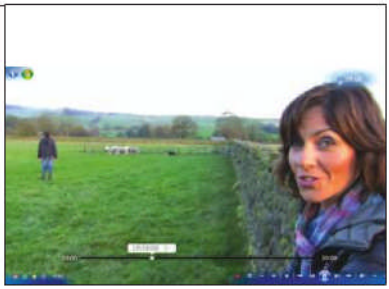


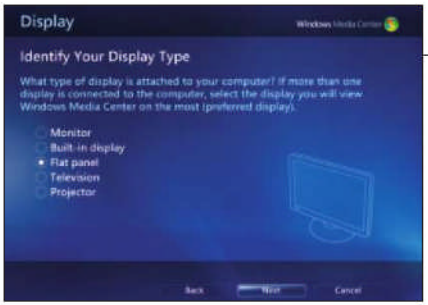
Step 2

Now WMC will scan for TV channels. This can take quite a while depending on the strength of your signal. When it's done, you'll see a list of channels. Scroll through this list to see that all the channels you would expected are there. If not, try adjusting your aerial and scanning again. If all's well, press Next and then Finish to go back to the main menu. And that's it, you're ready to watch TV. You can re-scan the channels at any time by choosing Tasks from the main menu. Click Settings, TV, TV Signal then choose either 'Scan for more channels' or 'Setup TV signal'. The latter will take you through the whole setup process again from the beginning.

Step 3

To watch live TV select the TV menu, then click Live TV. You can change channels with the '+' and '-' keys on your keyboard, or from the control bar at the bottom right of the picture. The control bar will hide after a few seconds; show it again by moving your mouse or pressing an arrow key on your remote control. You can go directly to a channel by typing its number on the keyboard or remote control. On the control bar, you'll see the normal Play, Rewind and Fast forward buttons that you can use to pause live TV. To record a programme you're watching, press the red Record button at the left of the control bar. Clicking the small box to the right of the record button launches the 'now and next' mini-programme guide.



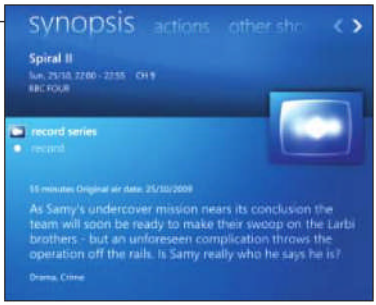


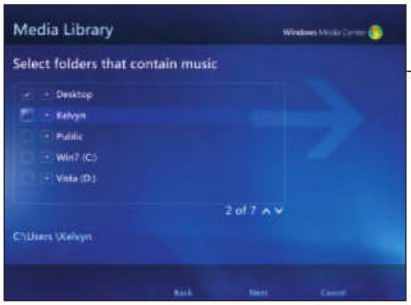
Step 4

Although WMC normally does a good job of detecting the best settings for your display, you might want to adjust these. WMC has some tricks to get your monitor or TV setup to give the best picture possible. Click Tasks, Settings, General, Windows Media Center Setup then choose 'Configure your TV or monitor'. Click Next and follow the **wizard** that will let you choose the correct type of display, connection type and the display **resolution**. When you finish this, you can optionally choose to calibrate your display's settings. This is easy but can take some time fiddling with your TV or monitor control, so don't do it unless you're familiar with the settings.

Step 5

Using the **EPG** to schedule recordings is the best way to make sure you don't miss your favourite programs. Choose the guide by clicking TV then Guide from the main menu. Find the show you want to record (you can also search for shows by clicking TV, Search at the main menu) and click on it. You'll see the Synopsis screen and you can choose to record the show here, or if it's a series, record the entire series. The 'Record series' setting isn't always foolproof, so click on the Actions tab and choose 'Series info' to see which episodes are listed. If your PC has sleep mode enabled, it will now wake itself up to record scheduled programmes, then go back to sleep.





Step 6

WMC isn't just about TV, so let's look at how to organise your photos and music. WMC will automatically search the standard Windows 7 media libraries (Music, Pictures, Videos, Recorded TV) for files, but if you want to add a location, click on Tasks, Settings, Media Libraries and choose the library to set up. Click Next, choose 'Add folders to the library' then Next. Choose 'On this computer...' then Next. You'll see a list of all the folders on your PC and the network, so check the box next to the ones you want to add and click Next. Confirm the changes on the next screen and click Finish. A box will pop up to tell you that WMC is looking for files. Click OK to go back the main menu.

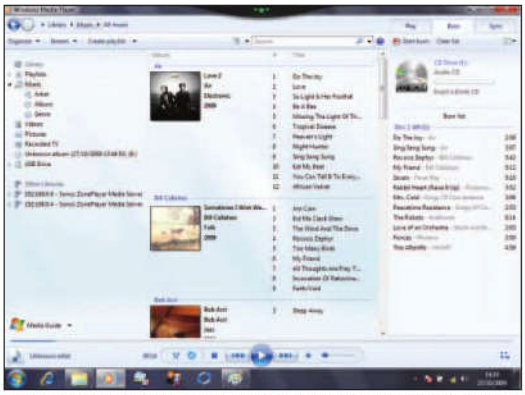
Media friendly

Like many of Windows 7's other components, Windows Media Player has been updated and offers some excellent new features. We test out the latest version

Unless you use an iPod and therefore need to use Apple's own media player, iTunes, it's likely that you have at least seen Windows Media Player (WMP) in action before. It's quite possible that you already use a version of Windows Media Player to play, organise and share music and movies stored on your PC. And if you own a non-Apple portable player, you probably use it to synchronise your media library with your device. WMP has been a part of Windows for years and it's no surprise to find an updated version in Windows 7.

Windows Media Player 12 has been designed to make dealing with digital media easier than ever.

In this feature we will explore what is new, how successful it is and in the Workshop on the page 68 we will explain how to put WMP 12 to work with a practical step-by-step guide.



▲Windows Media Player 12 has a brand new interface that suits the glossy theme of Windows 7

Evolutions

For those who have upgraded from Window Vista or XP, WMP 12 feels distinctly familiar and comes across as a tweaked upgrade rather than a brand new piece of software.

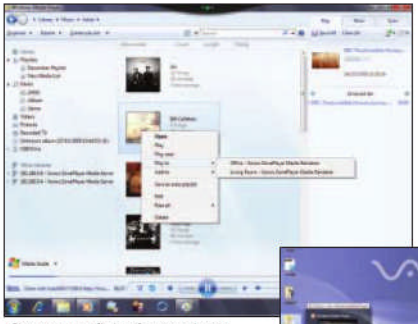
On that note, WMP 12 also looks similar to what we are used to from WMP 11. Media source folders – Music, Pictures, Videos, Recorded TV (from Media Center) and the online Media Guide – are positioned on the left side of the screen, while content is displayed in the main pane. Playback controls, a volume slider and a 'Now Playing' shortcut button are displayed at the bottom of WMP 12. At the top are tabs to Play, Burn and Sync media, organise your media library and **stream** media to and from WMP 12. It's everything you could do before, plus a few extras, which we will delve into now.

Perhaps the biggest advance with WMP 12 is how easy it is to stream your media around the house. Providing you have other computers or **DLNA**-compatible devices connected to your home **network**, such as an Xbox 360 or a dedicated media streamer, you can select any video, photo or music file in your library and 'send' it to another room and the file will be streamed. It's much easier than before and because Windows 7 is better at finding other networked devices, there is no real setup involved.

Stream machine

Another excellent example of WMP 12's streaming capability is the feature to access your media library from any Windows 7 computer with an internet connection. It's called Remote Media Streaming and is only available with the Home Premium, Professional, Ultimate, and Enterprise editions of Windows 7.

The setup procedure is straightforward but you must have a Windows Live (or Hotmail) account. Click 'Stream' from the main menu bar and then 'Allow internet access to home media'. Here you will need to follow the **wizard** to associate your Live ID with each



▲Stream your media to other computers or DLNA-compatible devices with WMP 12

computer but once complete, any linked PC will appear in the left-hand Library pane. It's a great feature and one that matches iTunes for simplicity.

Importing media to WMP 12 is also much easier. Insert a **USB** device and click Import pictures and videos or music to automatically put media files in their specific folders and add them to the WMP 12 library.

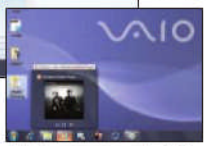
Alternatively, drag media into its relevant folders and WMP 12 will automatically import and tag the files, making your library easier to navigate and for specific media to be found more quickly. This is essential considering how many music and video files and photos are stored on the average **hard disk**. Use the Search bar at the top of the WMP 12 window to search for artists, song titles, photos, videos and recorded TV.

Multi-format

WMP 12 also has improved support for a variety of file formats including 3GP, AAC, AVCHD, DivX, MOV, and Xvid. This is good news for the growing number of people downloading media from the internet but it also provides better cross-compatibility with movies, photos and tunes transferred from portable devices.

As mentioned, the way WMP 12 looks and operates has not changed a great deal from previous versions. However, there are some nice touches. Hover your mouse over any music track and click Preview to listen without adding it to a playlist first. You can also toggle between the 'traditional' Player Library, which offers greater control of all your media, and the new 'Now Playing' mode that minimises WMP 12 to a smaller playback window.

If you click the 'Now Playing' icon at the bottom-right of WMP 12, this turns the main library into a smaller screen that highlights what is playing. Basic playback options skip tracks and adjust volume while album art is also displayed. Any form of media – photos, music, videos – can be added to the playlist, too.



▲Hover your mouse over the WMP 12 icon to view a simplified version

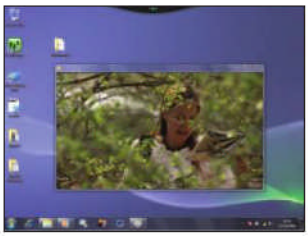
Minimise the Now Playing window and hover your mouse over the WMP 12 icon in the Taskbar to bring up a simplified version of WMP 12. This is great for accessing media while multi-tasking with other applications.

This also highlights a new feature of Windows 7 called Jump Lists. Right-click on the WMP 12 Taskbar icon to bring up a frequently played media file, which can be accessed directly from the list. In short, it's a cleaner and quicker way of enjoying your media than we have seen on previous versions.

Familiar face

If you are used to the previous version of WMP from Windows Vista (WMP 11) you will appreciate the new location of the Play, Burn and Sync tabs, which are now positioned above the playlist window.

Overall, WMP 12 might only have had a few minor tweaks and adjustments but it seems Microsoft has polished its player to make it the most complete and simple edition so far.



▲WMP 12 supports a wide variety of video file formats

Jargon buster

DLNA A standard for media streaming devices

DRM Digital Rights Management. Software that protects media files from illegal copying.

Hard disk A high-capacity disk fitted in almost all PCs and used to store both applications and the documents and files they create.

Network A way of connecting several computers and devices so they can share data.

Open source Software that is developed, released to and can be modified by the public, free of charge as an alternative to software from large companies.

Stream Audio or video material that can be viewed as it is downloaded from the internet or transferred from another computer.

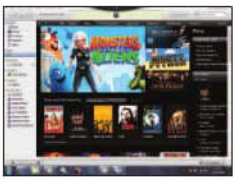
Wizard A step-by-step process that helps you choose settings.

USB Universal Serial Bus. A standard that allows quick connection of external peripherals to your PC.

For full Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

Alternative media players

WMP 12 is undoubtedly a marked improvement over previous versions but there are other choices for Windows 7 users. The most obvious and widely used is iTunes (**www.apple.com/uk/itunes/download**). If you have an iPod this is the only legitimate way of getting media on and off your device. It can also stream media from its library to other Apple devices and includes access to the Apple Store for buying, downloading and renting music, TV shows and films.



▲iTunes is a widely used media player that also allows access to the Apple Store

Another alternative is the **open-source** VLC player (**www.videolan.org/vlc**), which supports almost every media format type except those protected with Digital Rights Management (**DRM**), such as files downloaded from stores such as Napster and iTunes, and can stream media from your library to other devices.

Import, stream and **burn with Media Player**

Add music and movies to the Windows Media Player 12 Library, then organise and share it

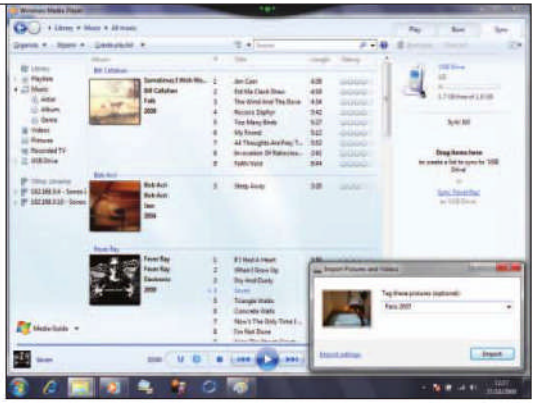
Windows Media Player 12 (WMP12) not only has a new and improved look, but it also has some great new features, including the ability to easily **stream** media around your house and over the internet.

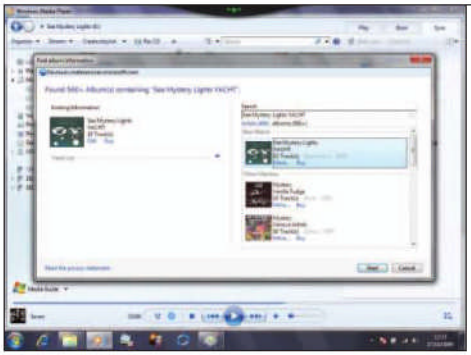
In this Workshop we'll take you through the basics of how to import media from different sources and how to organise that media in your Library. We'll then demonstrate how to **burn** media to disc, how to stream it to connected **network** devices and even how to access another computer's media library – all from within WMP12.

Microsoft has designed WMP12 to be familiar to those who have made the jump from previous versions while integrating some more powerful features that are easy to set up and use. Read on to find out how.

Step 1

The three main ways of importing media are transferring songs and videos from **USB**-attached devices, extracting media from data CD/DVDs, or **ripping** from an audio CD. To do the first, insert your USB device and when the Autoplay **dialogue box** appears, click 'Import pictures and videos'. If there are photos, you will have the option of **tagging** them on import, making them much easier to find, or search for later. If media isn't imported automatically, drag it from the device to the corresponding media folder within your User folder; either Music, Pictures or Videos. Media will be updated and organised in the WMP 12 Library. If you are importing videos, photos or music files from a data CD or DVD, the process is effectively the same. If you want to extract tunes from a music CD follow Step 2.



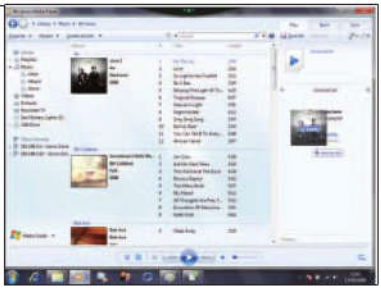


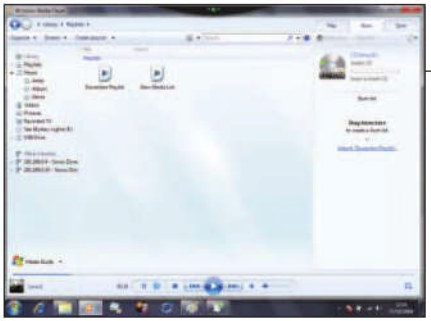
Step 2

Extracting music from a CD and importing it into your WMP 12 library is a different process. Insert your music CD into your computer's CD/DVD drive and wait for WMP 12 to recognise the album and tracks. If it doesn't, right-click the **icon** where the cover art should be and click Find album info. WMP 12 should now find the album, so click on the correct match, then Next and Finish to attach the correct album details and cover art. Before you click Rip CD in the WMP 12 menu bar, click the arrow next to it to open up Rip settings. Here you can choose what format (**WMA**, **MP3**, **WAV**) to encode to and the audio quality (choose 192**Kbits/sec** for a good compromise between quality and file size). Now click Rip CD to import the CD to your Library and choose whether you want to add copy protection (**DRM**) to your music – the chances are you won't.

Step 3

Before you burn, synchronise or stream your media, you need to know how to create a playlist. For this Workshop we'll create a music playlist, but the method applies to all media you have in your library. Click the Play tab and then drag what you want to listen to into the playlist area underneath. To save the list for quick access later, click the 'Save List' icon. Type what you want to call it and hit Enter and the list will be stored for future reference. You can access your saved playlists by clicking the playlists icon on the left side of WMP 12.



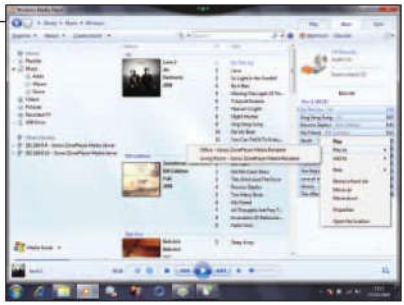


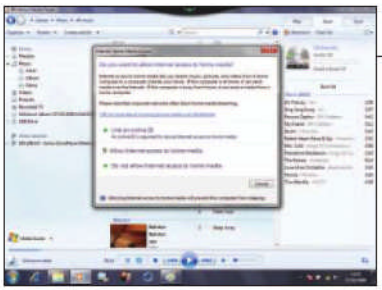
Step 4

To burn saved playlists or other media to a CD, click the Burn tab. Here you can drag media to the Burn list, or import a saved playlist. To do this, click the Import playlist link and your media will appear in the Burn list. You can add further media to the list at this point. Insert a blank CD or DVD into your computer and WMP 12 will display, if so, how much free time or space remains on the disc. Click the **dropdown** list to choose between burning a Data disc or Audio CD and to adjust further burning options such as 'burn speed' or 'volume levelling' when creating audio CDs. When you're happy, click 'Start Burn' and your media will be copied to disc.

Step 5

Streaming media to other devices and computers using WMP 12 is relatively straightforward. Providing you already have **DLNA**-compatible devices on the network, such as an Xbox 360, a Logitech Soundbridge or a Sonos system, WMP 12 will detect and list them in Library pane. Here, we have Sonos connected to our network and can quickly stream our music to any of the connected players by right-clicking an individual file (or selecting a whole playlist), clicking 'Play to' and then the desired device. A playback window will appear with the tracks being streamed, which can be controlled like you would in the main window. Follow the same principle for streaming video and pictures to other devices.





Step 6

Built into WMP 12 is the option to broadcast media on your computer to any other Windows 7 computer, providing they are linked together with a Live ID account (or Hotmail address). In the menu bar, click Stream, then Allow Internet Access to home media, then Link online ID, then Add an online ID provider. You will be directed to a Microsoft web page where you may have to download a Windows Live sign-in Assistant. Do this and click Link online ID. This will sign you into your Live account. Click Allow Access to Home Media, which will authorise your computer to stream and receive media from other Windows 7 computers. Follow this procedure on other Windows computers and access files in the Library panel in WMP 12.

Essential extras

Bring more to Windows 7 by installing Windows Live Essentials – a selection of indispensable tools and utilities available free from Microsoft

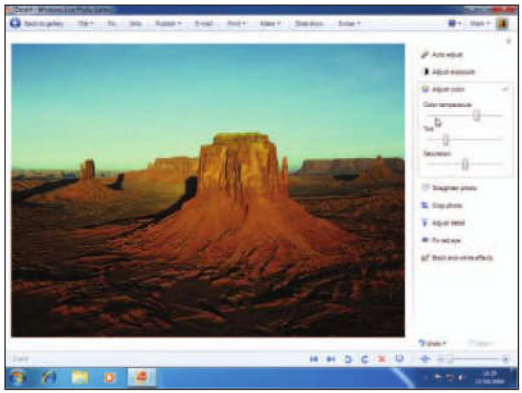
Software on the CD

While Windows 7 boasts a range of new features and enhancements, some familiar aspects of the **operating system** are notable by their absence. Anyone who has become used to working with Windows Mail, Windows Contacts, Windows Calendar, Windows Photo Gallery and Windows Movie Maker is likely to be somewhat disappointed to find that these programs do not have shortcuts in the Windows 7 Start menu. But this is not to say that the tools no longer exist. Now, rather than being an integral part of Windows itself, these and other tools are available as a separate, free download as part of a package known as Windows Live Essentials.

Why Live?

Quite why Microsoft decided to remove these programs from Windows itself is not entirely clear, but there are a couple of possible reasons. The first is that the company has repeatedly come under fire for anti-competitive behaviour, though this has generally been in relation to the bundling of the Internet Explorer **web browser** with the operating system. Choosing to uncouple other previously integrated components may simply be a pre-emptive means of avoiding further criticism. Another possible reason, and one that may hold more water, is that the 'Live' groups of products have their own software development teams, and by making them entirely separate from Windows it enables these teams to focus more closely on their products and release updates on a more frequent basis.

But the important fact is that these tools are still available, and have been continually developed so they are more useful than ever. The suite is packed with handy tools, but the way the package has been put together makes it easy to pick and choose just the programs you are interested in. In total, there are nine programs and tools to choose from – there is just a single installation program for the complete package, and this can be downloaded from ***http://download.live.com*** or run from the cover disc that came with this magazine.



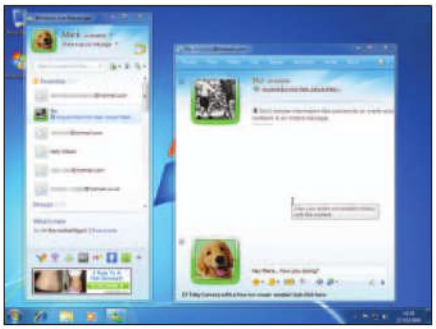
▲Edit your digital photos using Windows Live Photo Gallery and then share them online

Windows Live Mail

Live Mail is a program designed to perform several tasks. In addition to making it possible to send and receive emails, it can also be used to access **newsgroups**, read **RSS** feeds and keep appointments in a calendar. This program is essentially the successor to Outlook Express and Windows Mail, but it also provides the contact management and calendaring facilities found in Windows XP's Address Book or Vista's Windows Contacts and Windows Calendar.

Windows Live Photo Gallery

Vista's Photo Gallery is as great tool for fans of digital photography, and this is effectively Windows 7's replacement. It has a number of options for editing, organising and sharing images. Photographs can be grouped in albums and **tags** can be added to allow for easy sorting and searching. While the program is not a replacement for the likes of Photoshop, there are sufficient image-editing options on hand to suit most people's requirements.



▲Keeping in touch with friends is easy with Windows Live Messenger

choosing which contacts can be communicated with using Messenger and Hotmail, and monitoring how the internet is used.

Live Messenger

Windows Live Messenger is an **instant-messaging** tool that makes it easy to keep in touch with friends using text-based messages, as well as audio and video. Integration with Windows Live Mail means email notifications are displayed in the program, and it is possible to have conversations with more than one person at the same time, play games and share files.

Windows Live Movie Maker

Video editing is often seen as an expensive hobby that is difficult to get into. Windows Live Movie Maker does an excellent job of making it as painless as possible.

Windows Live Toolbar

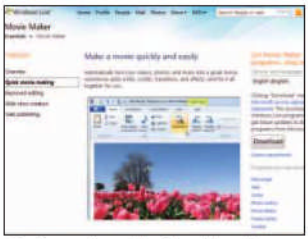
Windows Live Toolbar is an add-on for Internet Explorer that provides access to information such as details of new emails in your inbox. The toolbar provides one-click access to many of the tools that make up Windows Live Essentials.

Windows Live Writer

Anyone with a **blog** will appreciate Windows Live Writer, as it makes it easy to write new posts and upload content to a number of blogging services including Blogger, Wordpress, Windows Live Spaces and more. When it comes to adding photos to posts, there are tools to crop and rotate images, and the text of blog posts is very easy to format thanks to the presence of easy-to-use toolbars.

Windows Live Family Safety

Parents looking to help keep their children safe online will definitely want to download this one. Supplementing Windows 7's Parental Controls, it is possible to place restrictions on what certain users are able to do. This includes limiting the websites that can be visited,



▲Transform your home video footage into a mini masterpiece using Windows Live Movie Maker

Outlook Connector

This is basically an add-on for Outlook, which, in turn, is part of Microsoft Office. The add-on works with Outlook 2003 and 2007 and makes it possible to access Hotmail email account, contacts and calendar from within the email tool and **Pim** (personal information manager). If Office is installed, the Office Live Add-In will also be available and this can be used to save Office documents online.

Go Live

The beauty of Windows Live Essentials is that all the programs integrate well with Windows and you are free to pick and choose which components you want to work with (anything you discover you need at a later date can be quickly installed). It's an impressive suite of software that adds value to Windows 7 and can be regarded as an essential installation. It can be difficult to know where to start but, since all the tools are free, everyone is guaranteed to get their money's worth.

Jargon buster

Blog Short for 'web log', a blog is an online journal or news site.

Instant messaging Real-time text-based communication over a network.

Newsgroups Discussion areas on the internet, where you can post a message and read replies from other people.

Operating system Governs the way hardware and software components work together.

Pim Software that helps you to organise personal data by managing your diary and contact list.

Pop-up A window that is displayed by a website, usually over material already on the screen.

RSS A format for distributing headlines and other web content.

Tag A keyword used to describe a file.

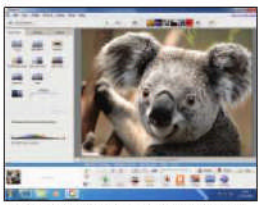
Web browser A program developed for navigating the internet.

For more Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

Essential alternatives

Microsoft isn't the only one offering free internet-based software utilities. If you're looking for an alternative to Windows Live Essentials, you could try some of Google's applications. And since they're free there's no reason why you can't use both.

When it comes to working with images, Google Picasa (**http://picasa.google.co.uk**) includes all the tools you need to organise, edit and share photos, while instant messaging is available via Google Talk (**www.google.com/talk**). Google Mail (**http://mail.google.com**) includes many of the features of Windows Live Mail, and RSS feeds can be organised using Google Reader (**www.google.com/reader**). The Google Toolbar (**http://toolbar.google.com**) includes a **pop-up** blocker and can also be used to translate foreign language websites in a few clicks. It is also worth taking a look at Google Labs (**www.googlelabs.com**) where a huge number of programs can be found that are currently undergoing development.



▲Google offers a range of online services that compare well with Windows Live Essentials

Getting started with **Windows Live Mail**

Configure Windows Live Mail to access multiple email accounts and much more

Video on the CD

Outlook Express and Windows Mail have long been popular components of Windows, but neither are present in Windows 7.

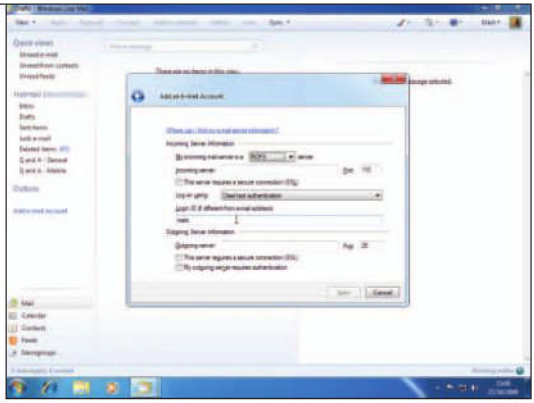
But by installing Windows Live Mail you can gain access to a powerful set of tools that can be used not only to send and receive emails, but also to subscribe to **RSS** feeds, manage contacts, keep a calendar, access online **newsgroups** and more.

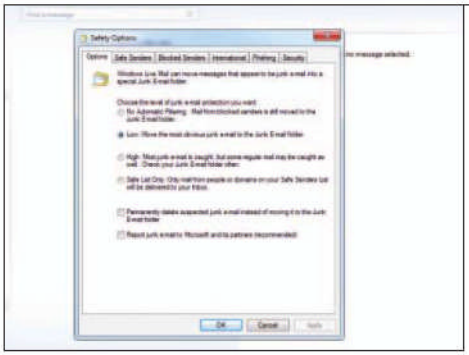
If you already have a Microsoft **webmail** account such as Live Mail or Hotmail, Windows Live Mail can make use of your account information to provide access to your contact list as well as your inbox online.

There are also a number of safety options that are available to help protect your email account against **spam** and **phishing** emails. Read on to find out how to get started.

Step 1

If you already have a Windows Live ID (such as a Hotmail account) the associated email address can be quickly added to Windows Live Mail. Click the Sign In link in the upper right-hand corner of the screen and enter your email address and password; there will then be a slight pause while online messages are downloaded so they can be read in the program. Extra email addresses can be easily added to the program. Click the Mail button in the lower left of the screen and then click the 'Add e-mail account' link above this. Enter your email address and password, selecting the option to manually configure settings if required and click Next. After supplying the required **server** details and password (check with your **internet service provider** (ISP) or email provider for this information), the account is ready for use.



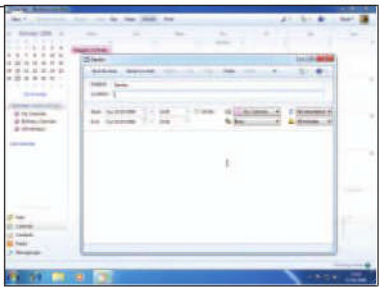


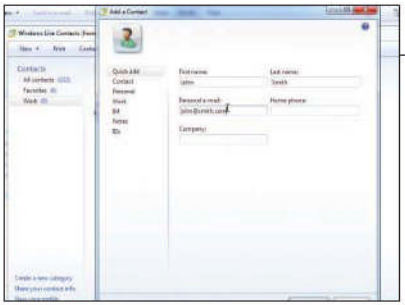
Step 2

Windows Live Mail will do a great deal to offer protection against spam and malicious emails, but a little configuration may be required. Click the button to the left of the question mark button in the toolbar and select Safety Options from the menu that appears. Use the Options tab to choose how the program should treat junk mail, selecting the Safe List Only option if you would prefer to vet all messages that are received. Move to the Safe Senders tab and use the Add button to enter trusted email addresses. Click OK and then click Options from the menu that has just been used. In the Send/Receive Message section, choose how frequently the program should check for new emails (the default setting is every 30 minutes).

Step 3

If you have signed into a Windows Live account, Windows Live Mail can retrieve online calendar information and this can be viewed in the program by clicking the Calendar link to the lower left of the screen. Additional calendars can be created to keep appointments separate; click the 'Add calendar' link, enter a name and choose the colour that should be used for events added to this calendar. Appointments can be added in a couple of ways; the first option is to click a calendar in the list to the left of the screen and select 'New event' from the menu. Alternatively, double-click a date in the main window and, while adding reminder details, use the **dropdown menu** to choose which calendar the appointment should be added to.



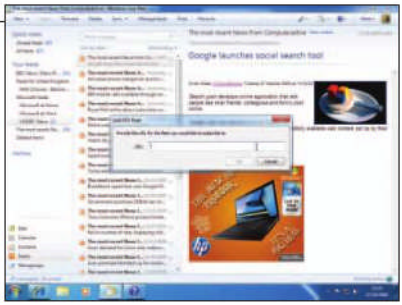


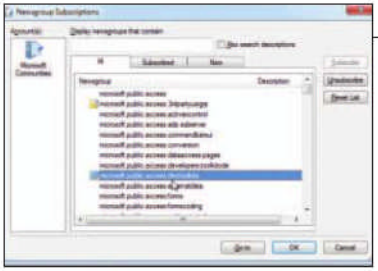
Step 4

The Contacts section of Windows Live Mail is useful when it comes to sending emails, but it can also be used as an address book. Existing contacts associated with your Windows Live ID are automatically displayed in the program, but others can be added as well. Contacts can be organised into groups by creating categories; click the arrow in the New button and select Category from the menu before entering a suitable name. A new contact can be added by clicking the New button and filling in the form that is displayed. The contact will be added automatically to whichever category was selected at the time, but can be copied and moved between categories by dragging and dropping.

Step 5

RSS feeds provide a great way of keeping up to date with the latest content of specific websites and **blogs** without constantly visiting the sites in question. When browsing the internet, sites offer an RSS feed are indicated by an orange **icon** in the Internet Explorer toolbar. Click this button to view the feed and use the Subscribe option to add it to Internet Explorer's Feeds folder (it will also be automatically added to the Feeds section of Windows Live Mail). Feeds can also be added to the program by copying the relevant feeds address, clicking the 'Add feed' link and pasting the address. The latest updates will be downloaded automatically, but a manual update can be performed by clicking the Sync button in the Windows Live Mail toolbar.





Step 6

Move to the Newsgroups section of Windows Live Mail and the Microsoft Communities section will be automatically highlighted. Click the View Newsgroups button at the top of the program window and a list of the Microsoft newsgroups will be displayed. Browse the list and double-click the name of a newsgroup to subscribe; click OK when you have chosen everything you want to subscribe to. Individual newsgroups are listed to the left of the screen and can be browsed in much the same way as email messages. Use the New and Reply toolbar button to make new post or reply to existing threads. By clicking the 'Add newsgroup account' you can add other newsgroups and subscribe to ones that interest you in using the same method.

Organise and edit with **Live Photo Gallery**

Discover how to improve, manage and share your digital photograph collection with ease

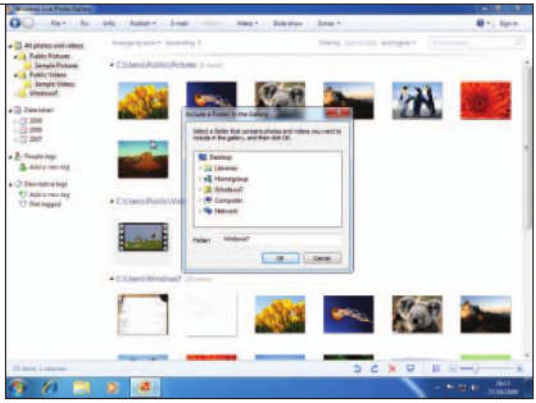
Software on the CD

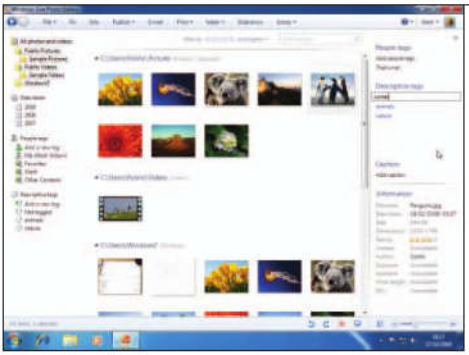
Thanks to the proliferation of cheap digital cameras and ever-increasing capacity of PC **hard disks**, many home computers are now used to store thousands of digital photographs. It can be difficult to manage huge collections of images, but Windows Live Photo Gallery includes tools and options to optimise pictures as well as filter and sort them into an easy-to-browse image library.

On top of that, it's possible to get creative with Windows Live Photo Gallery by producing your own online photo albums that can be shared with friends and family. The application's simple editing tools provide everything needed to improve the appearance of images without spending ages tweaking settings in a complicated program. Read on to find out what Windows Live Photo Gallery is capable of.

Step 1

The first time you launch Windows Live Photo Gallery, a message will appear asking whether the program should be used as the default viewer for certain types of image files. Click either Yes or No accordingly, ensuring that the box labelled 'Don't show me this again for these file types' is ticked. The program automatically detects pictures and videos stored in the default folders, but additional locations can be added to the gallery by clicking the File button and then 'Include a folder in the gallery' before selecting the relevant folder. You can then access the folders using the Explorer-style tree structure to the upper left of the program window.



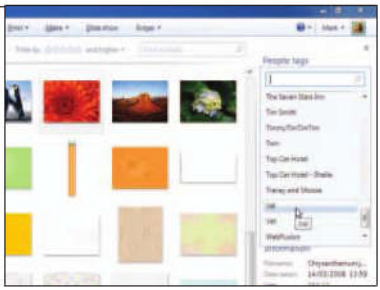


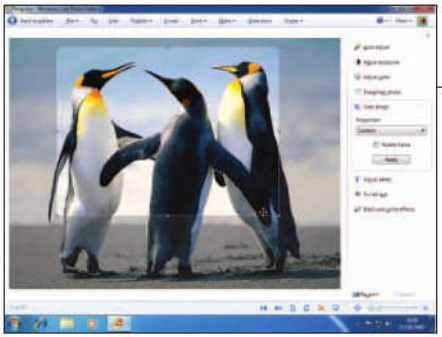
Step 2

As with other programs that come as part of Windows Live Essentials, additional options are available when you are signed into a Windows Live account, so click the Sign In button in the upper right-hand corner of the screen and provide your email address and password. You can add **tags** to organise and find images more easily. Start by clicking the Info toolbar button to display the information pane to the right of the screen. Select an image and then click 'Add descriptive tags' before typing words associated with the image. These tags can then be accessed from the list to the left of the screen and can be used to quickly sort images that match particular criteria.

Step 3

Besides using keywords to tag images, you can also tag people in photos. In the information pane look in the 'People tags' section at the top. Click the 'Add people tags' entry and a list of your contacts will be displayed. Click one to use the name as a tag for the selected image or images. If a people tag is added by accident it can be removed from an image by clicking the small cross next to the tag. Any photographs of you can be tagged by clicking the 'That's me!' tag. Use the Caption section to add a helpful description to an image.



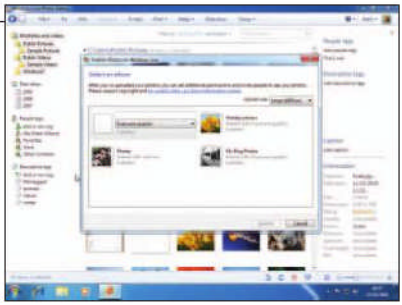


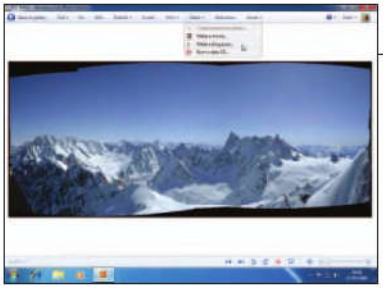
Step 4

Double-click an image in the gallery and a larger version will be displayed. Controls at the bottom of the screen can be used to navigate through images, start a slideshow and zoom in and out as required. Image-editing options should be visible in a panel to the right of the screen. If they do not appear, click the Fix button in the toolbar. The tools are easy to use and changes can be made to images by moving sliders and clicking the Apply button. If you change your mind about some edits, click the Revert button at the bottom of the right-hand pane to reload the original image.

Step 5

Whether you are in the main gallery viewing image **thumbnails** or a full-size version of an image, pictures can be easily published online to Windows Live. Select one or more images and click the Publish button in the toolbar. Select 'Online album' to upload the images to Windows Live. Then enter a name for the album and use the **dropdown menu** to select who can access it (select individual users or Everyone) and at what size the pictures should be displayed. Click Publish to create the album. You can also add photos to an existing album using the same method. Windows Live Photo Gallery can also be used to publish images to Flickr.





Step 6

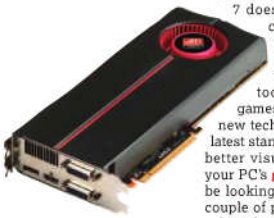
Windows Live Photo Gallery can be used to stitch together a series of overlapping images to create a widescreen panoramic image. Select all the pictures you want to use, click the Make button in the toolbar and select 'Create panoramic photo'. The program will automatically determine how the image fits together and create a large composite file. You are likely to find this has to be cropped for the best results. You can also use the Make menu to use images in a **blog** post, **burn** images to CD and send images to Windows Live Movie Maker to create a video slideshow.

Play time

Games have always been a key part of Windows and Microsoft's latest operating system has plenty of goodies in store for players of everything from Solitaire to Modern Warfare

Whether you enjoy playing the most up-do-date and graphically intense 3D games, or prefer slower-paced, casual titles, your Windows 7 PC is, in some ways, the ultimate **games console**. Most of the blockbuster releases come out for the PC as well as for the Xbox 360 and the Playstation 3, but Windows computers also benefit from a great back catalogue of top-drawer gaming titles – many of which can be picked up now at ridiculously low prices – and there are thousands of free titles available to play online at sites, such as ***www.shockwave.com***.

As in other areas of its operation, Windows 7 doesn't re-invent any wheels when it comes to gaming. The OS comes, as always, with its own modest selection of simple, yet addictive built-in games and provides some useful tools to organise and update your games library. It also includes support for new technologies, such as Direct X11 – the latest standard for PC graphics, which enables better visual effects and detail in games, if your PC's **graphics card** supports them. We'll be looking at all this and more over the next couple of pages.



▲Powerful graphics cards, such as the ATI HD5870, help 3D games run

Introduced originally in Windows Vista, the main function of the Games Explorer in Windows 7 is to keep shortcuts to all your games conveniently in one place. You can open the Games Explorer directly from the Start Menu, or select games individually from links within the programs list.

If you single-click on any of the game **icons** in the Games Explorer, the status bar will show information about the game. It lists the game's publisher and developer, the product version, and the last time you played. The game's PEGI rating is shown on the right-hand side, which is useful to see whether a game's content is suitable for young children.

Right-click on a game's icon and a menu will appear with different options and settings, depending on the game. You can pin your favourite games to the Start Menu or Taskbar, and for games you have bought and installed on your PC, you can check online for any updates that the game's publisher has released. You can also customise the settings of some games directly from the Games Explorer.

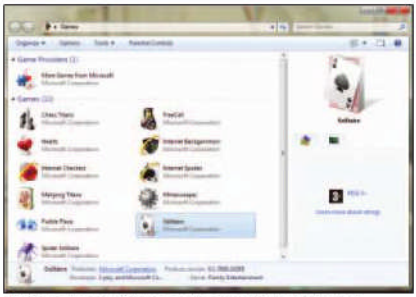
If you open the performance tab it compares the game's minimum and recommended Windows Experience Index scores with the score of your own PC. If you don't have a score yet, click Rate This Computer to run tests on your PC. The faster and more powerful your computer, the better it will run games and if your PC's rating is well above the recommended score for a game, you shouldn't have any problems running it.

Free play

Windows 7 comes with a free bundle of fun games, which are all suitable for both adults and children. You can test your brain power with classic games including Chess, Mah-jong and Backgammon as well as old favourites

such as Solitaire and Minesweeper. Purble Place is a more recent addition aimed at children and contains three simple mini-games, while Spider Solitaire is a slightly different version of the classic card game.

While many of the free games pit you against a computer opponent, Internet Chess, Backgammon and Spades can be played against another person, automatically chosen by a matchmaking service. Playing against another person is often more challenging than playing against the computer.



▲Windows 7 comes with many popular games included as standard

The games that come with Windows will run fine on most PCs, but you can only play the latest 3D games if your PC is capable of it. The biggest factor that affects gaming performance is your graphics card. You should install the latest **drivers** for it, which can be found at the manufacturer's website. This will either be ATI (***www.ati.com***), Nvidia (***www.nvidia.com***) or Intel (***www.intel.com***). While you can't do much to improve the 3D performance of laptop computers, graphics cards in desktop PCs can be upgraded to a better model, although the best cards aren't cheap.

Other aspects of your PC's hardware also affect gaming performance. You need lots of **memory** to play 3D games with Windows 7; at least 2**GB** is sensible, but more is better. Having a **dual-core** or **quad-core processor** helps too.

Direct action

Windows 7 comes with Direct X11, which is the latest version of the graphics standard for PC games. It adds effects that make game worlds and characters look more realistic, with improved shadows and lighting. Some games already in the shops support Direct X11, such as Battle Forge. Other games out soon, such as Grid 2 and Stalker: Call of Pripyat, promise to look noticeably better when played on the PC with Direct X11 graphics effects. Other game developers have promised to release updates for many titles that will retro-enable Direct X11 effects on certain titles.

In order to take advantage of Direct X11, you need a graphics card that supports it, such as the Radeon HD5870 (currently around £300 from ***www.dabs.com***). With an older graphics card in your PC, you should still be able to play games that support DirectX 11, but they won't look as good.

Desktop PCs have an advantage over laptops and mini notebooks (sometimes called netbooks) when it comes to playing games, as most portable computers use **integrated graphics cards** that aren't as powerful as many of the cards used in desktop PCs and can't be upgraded. Some older laptops use graphics cards incapable of running any 3D graphics, including the transparency effects in Windows 7. The graphics score in the Windows Experience Index (click on Start and type **experience index**) is a good way to see how good your PC is at running 3D applications.

Feel real

One of the big additions to Windows 7 is its support of touchscreen displays (see page 40), and there are games in development that can be controlled by touch as well as or instead of using the mouse and keyboard. Ubisoft's forthcoming Ruse, for example, is a 3D strategy title that allows players to zoom in and out of the map, select units and order them to attack by using gestures, such as 'pinching' the screen to zoom in. It's safe to assume that Ruse is only the first of many such games in the pipeline but, as mentioned earlier in this guide, you will need a touch-sensitive monitor in order to take advantage of Windows Touch for gaming or anything else.

▲Battle Forge supports the latest graphics standard, Direct X11

Jargon buster

Driver A program that allows Windows to communicate with a peripheral device.

Dual core When two processors are combined in a single chip.

Games console A device that can be used to play video games.

GB A measurement of storage capacity.

Graphics card The part of a PC that displays the image you see on screen.

Hard disk A disk used to store data fitted in PCs.

Icon A small image used by Windows to identify a file or application.

Integrated graphics A computer that doesn't have a separate graphics card, instead relying on the main processor to do the work to produce graphics.

Memory or Ram, Random Access Memory. The computer's temporary storage area.

Processor The chip that is the 'brain' of the computer.

Quad core A computer that has four processors.

Resolution The amount of detail shown in an image, whether on screen or printed.

For full Jargon Buster definitions see page 97 or visit: **www.computeractive.co.uk**

Games for Windows

The majority of PC games released now come with a Games For Windows logo splashed on the box. This logo is awarded to games titles as long as they conform to standards set by Microsoft. You can be sure a Games For Windows title will run on both 32-bit and 64-bit Windows. It will appear in the Games Explorer, supports widescreen graphics **resolutions**, and can be controlled using the Xbox 360 controller for Windows.

Some games also support Games For Windows Live, which is Microsoft's gaming online platform for PCs. You can earn achievements in Games For Windows Live games, and use matchmaking to easily join a game against other players.

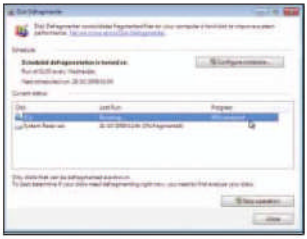
Keep on **running**

Windows 7 is faster, smoother and more reliable than before but it still needs care and attention. We explain how maintenance and backup can keep your PC and data safe

Each new release of Windows brings the same promises of improved stability, better performance, faster start-up and so on. However, history shows that, even if true at the outset, it doesn't take long before the new-born **operating system** starts showing signs of getting a little tired – at least it does if you don't look after it properly. So, what does Microsoft offer to keep Windows 7 bright and perky? Read on for an overview of 7's new built-in maintenance and backup tools.

Minor improvements

When it comes to everyday PC performance much of what's new in Windows 7 is invisible to the user. Little things, such as waking the computer from sleep mode or inserting **USB** devices, just happen more quickly. Similarly, software 'services' only run when required, where previously they would be left ticking over and eating up **memory** in case they were needed (yes, we're talking to you, **Bluetooth**).



▲Windows 7's Disk Defragmenter utility brings back a progress meter so you can see how much has been done

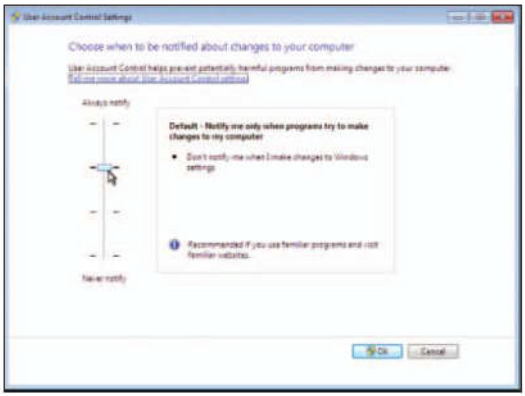
Other improved aspects of Windows 7's behaviour can be tweaked by the user. Interruptions by User Account Control, for instance – a much-derided if well-intention security feature that was introduced with Vista – have been toned down. But the annoyance level can be fine-tuned (open the User Account Control Settings within Control Panel).

Old favourites updated

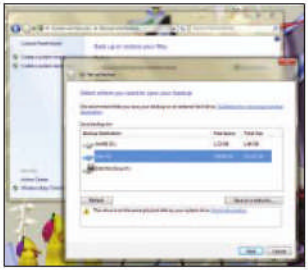
The Disk **Defragmenter** utility arrived with Windows 95. It keeps the contents of a **hard disk** tidy, logically speaking at least, and ensures that the drive is able to read and write information as fast as possible. Defragmenting can take a very long time, so with Vista, Microsoft decided it should run quietly in the background, removing all indication of how close it was to (or from) completion. This has been rectified in Windows 7. Fire up Disk Defragmenter and the percentage meter shows the progress. Defragmenting can also be set to run on a schedule.

As a user of any earlier version of Windows, you would be forgiven for not bothering with backups as the operating system's backup tool has always been lacking. Vista's implementation, in particular, offered next to no control over what files and folders to back up.

Again, with Windows 7 Microsoft has done a fair bit to address complaints about backing



▲The User Account Control feature in Windows 7 is far less annoying than it was before



▲Microsoft has improved tools for backing up, allowing for much more control over the process

up. The Windows 7 Backup utility lives in the System and Security panel within Control Panel. Fine control is allowed over what should be backed up and it runs quicker (though back-up is, by its nature, a fairly slow process).

If it ain't broke

Many things that kept previous versions of Windows ticking over are still included in Windows 7, either unchanged or only marginally enhanced. Control Panel, for example, has been tided up and had a couple of new bits bolted on (such as Device Stage, designed to make identifying and managing attached hardware easier), but this is really surface gloss. Behind the scenes, for example, Device Manager works much the same as it ever did and, if a hardware problem is suspected, make an early visit here (any entry bearing a yellow triangle, red X or a question mark symbol could require attention).

The Computer Management console remains the home of useful maintenance utilities. To view it, right-click Computer (on the Start menu) and pick Manage. As well as being able to access Device Manager from here, you can make use of Disk Management to enlarge or shrink existing drive **partitions** (to create a new partition for document storage, for instance), or the Task Scheduler component to automate many maintenance operations so they launch recurrently.

Disk Cleanup can be set up to run on a regular schedule: run it once a week at lunchtime, say, and have it empty the Recycle Bin and purge the hard disk of temporary internet files. For more on how to achieve this, read the Workshop starting on page 80.

▲The Control Panel is still the hub for most Windows maintenance tasks

Sticky fixes

Don't forget, too, that Windows has long had a number of lower-level maintenance tools for those who aren't afraid to get stuck in (or even for those who are, but find themselves with no choice). The Registry Editor is still the tool to use to perform open heart surgery on Windows 7. Launch it by typing **regedit** into the Start menu search bar and pressing Enter, but, unless you know what you're doing, we'd advise nothing more than taking a backup (click Computer in the left-hand pane, then File menu followed by Export).

MSConfig can, with the right knowledge, be used for intricate maintenance. Launch it by typing **msconfig** into the Start menu search bar and hitting Enter. The safest part to play with is the Startup tab, where items that launch at the same time as Windows 7 can be disabled. This is handy if you need to stop a start-up application from running for a short period without permanently uninstalling it.

Keep it running smoothly

Windows 7 is a better operating system than all previous versions, and a considerable improvement on Vista. However, like its predecessors Windows 7 needs regular maintenance to keep it running smoothly. Don't forget, there are also some very simple things that can be done to speed up your PC. Windows 7 is pretty but all that graphical niceness eats up computing power. For a quick speed boost, try disabling the Aero interface (right-click the Desktop, choose Personalize and then pick any theme under the Basic heading). Finally, keep an eye on notifications posted to the Action Center (in Control Panel), because recommended maintenance tasks appear here. See over the page for more maintenance tips and head to page 86 for some further performance-enhancing hints.

Jargon buster

Bluetooth A technology that allows devices to communicate with each other wirelessly over short distances.

Defragment or 'defrag'. To reorganise the data stored on a hard disk so it can be accessed as quickly as possible by the computer.

Hard disk A high-capacity disk fitted in PCs and used to store applications and documents.

Memory The computer's temporary storage area.

Operating system Governs the way hardware and software components in a computer work together.

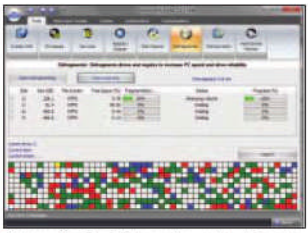
Partition A large hard disk can be split into two or more partitions or 'virtual' drives. Once partitioned, each section is treated by Windows as though it were a separate disk.

USB Universal Serial Bus. A standard that allows quick and easy connection of peripherals to a PC.

For more Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

Alternative tools

One Windows 7's strongest points is compatibility – it works with many more existing applications than Vista did on day one. Any favourite maintenance utilities you rely on in XP or Vista are likely to work just as well in Windows 7. However, some dedicated tools are already appearing.



▲Enhance Myse7en is just one of several tweaking tools designed specifically for Windows 7

Awkward name aside, an early favourite is Enhance Myse7en. This is a suite of tools to keep all parts of a Windows 7 PC in order and, among much else, includes an advanced disk defragmenter and Registry cleaner. A free trial version can be downloaded from **www.seriousbit.com**. We also like Tweaknow Powerpack 2009 (free on this issue's disc): the Registry Cleaner element keeps the innermost part of Windows 7 working reliably.

Looking after your Windows 7 PC

Optimise, clean and speed up your PC with our straightforward maintenance tips

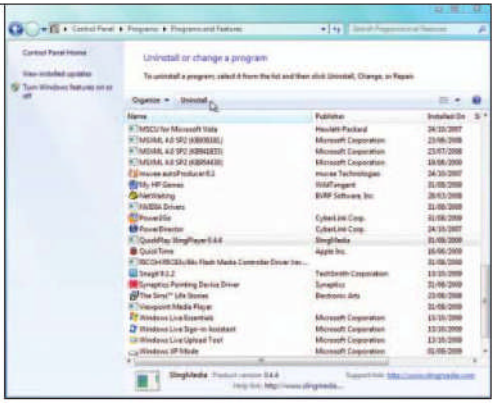
Software on the CD

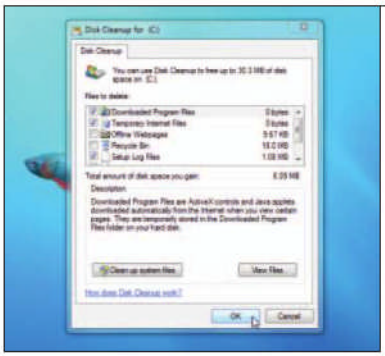
When a new PC first arrives it generally seems fast, starting rapidly and responding at speed to whatever you ask it to do. Leave the system to its own devices, though, and problems soon emerge; start-up and shutdown times increase, **hard disk** space disappears at an alarming rate, and a growing number of irritating crashes mean you often lose your work. But it doesn't have to be this way.

Spend just an extra minute or two a day looking after your system, running quick and simple maintenance tasks, cleaning up occasionally and downloading useful updates, and you'll catch most problems in the very early stages while preventing others from appearing at all. The end result will be far fewer hassles and headaches and far more time enjoying your faster, more secure and reliable PC.

Tip 1

Maintaining your Windows 7 PC starts by taking control of the applications you've installed. The more you have, the more system resources they'll consume and the greater the chance of conflicts, so if you no longer need a program then it's wise to remove it. Click Start, then Control Panel, choose Uninstall a Program (or 'Programs and Features'), and browse the list looking for unwanted programs. Be careful here, you don't want to remove an important component that might break something else, but if you're 100 per cent sure a program is no longer necessary, select it and click Uninstall to begin the removal process. Repeat this by browsing the Uninstall a Program **applet** every month or so. It only takes a moment but will help keep your PC in top condition.



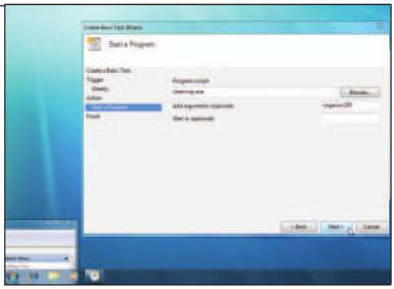


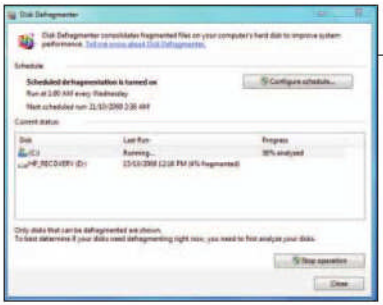
Tip 2

You can free up more hard disk space by removing junk 'temporary' files left behind by Windows and many of your applications. Click Start, type **Disk** and click the Disk Cleanup link, then choose the drive you would like to clean and click OK. Disk Cleanup will then scan your PC and report on the files that it can delete. Choose anything from the list you don't need (in most cases that's just about everything) and click OK to remove them. With a little more work you can tell the Windows 7 Task Scheduler to automatically run Disk Cleanup, perhaps every week, to delete your leftover files. To begin, click Start, type **cmd** and click the cmd.exe link to open a Command Prompt window. Then type **cleanmgr/sageset:200** and press Enter on your keyboard to launch Disk Cleanup again.

Tip 3

Choose the files you would like Disk Cleanup to delete, taking care as the program will run automatically. You probably don't want it to wipe the Recycle Bin, for instance, as this might happen only a minute or two after deleting a file, giving you no chance to recover it. Click OK to save your settings. Now click Start, type **Task** and click Task Scheduler. Click Create Basic Task, and give the task a name. Click Next. Choose how often the program should run and click Next, then choose the time and click Next. Select 'Start a program', click Next. Type **cleanmgr.exe** in the Program/script box, **/sagerun:200** in 'Add arguments', click Next, then Finish and the program should run automatically at the time you selected.



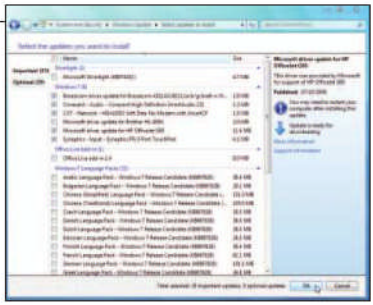


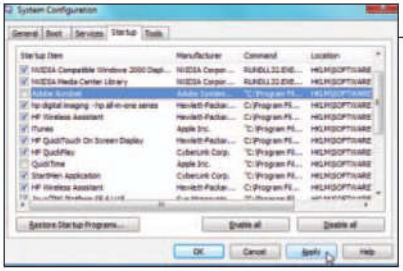
Tip 4

Lots of disk space has been freed up, but to see the real benefits you need to **defragment** your hard disk. This rearranges your files so they load more quickly. It takes a while, but the performance benefits are usually well worth the effort. Click Start, then Computer, right-click your main drive and select Properties. Click Tools, then Defragment Now, and choose the Defragment Disk option. This can take an hour or more on a drive that has not been defragged recently, but you can continue to use your computer as it's working. By default Windows 7 will run defrag automatically once a week. This is usually enough, but you might want to change the day or time. Click Configure Schedule and pick a time and frequency you want.

Tip 5

A big part of PC maintenance comes in ensuring software is kept up to date. Click Start, then Control Panel, choose the System and Security category and click Windows Update. Click Change Settings, and make sure 'Important updates' are set to 'Install updates automatically'. Click OK and your PC will now grab essential Windows updates as they appear. Now click Check for Updates. This will identify 'important' updates, probably security fixes, but also 'optional' updates, such as new **drivers**, that aren't installed unless you ask. Click the Optional link, check any that you would like, and watch as they're downloaded. Install UpdateStar from this issue's disc and it'll do the same thing for your applications, checking the versions you have, reporting on possible updates, and sometimes even installing them in a couple of clicks.





Tip 6

Checking your software's configuration is important, too. Are your applications launching unnecessary components when Windows loads, for instance? Click Start, type **MSCONFIG** and press Enter, then click the Startup tab. If you see a program that you're sure isn't critical, clear the checkbox to stop it loading. Be careful – disabling an important file can mess up your PC. And of course every maintenance kit needs a copy of the System Repair disc, the Windows 7 tool that will try to get your PC working again if for some reason it won't start. Click Start, type **Repair** and click 'Create a system repair disc' to **burn** a CD or DVD. If Windows won't load in future, try to **boot** from this disc instead.

Problem solving

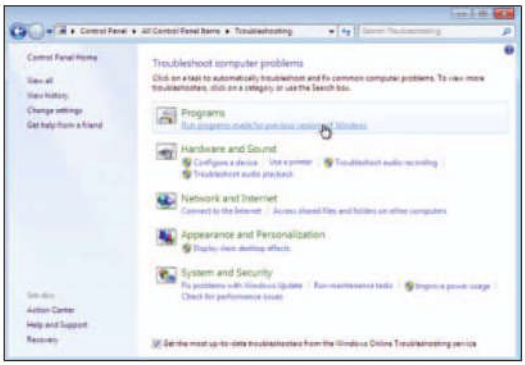
Can you fix it? Yes you can. Read on to find out how to solve Windows 7 problems

We've said elsewhere that Windows 7 is more reliable than previous versions of the **operating system**. But more reliable is not the same as totally dependable – far from it. Inevitably, there will be times when Microsoft's flagship product seems more of a hindrance than a help. Fortunately, Microsoft isn't ignorant of the potential pitfalls for PC users and, as such, has built a bunch of problem-solving tools into Windows 7. Some of them are brand new, while others are old favourites given a spit and polish, but all of them are covered right here.

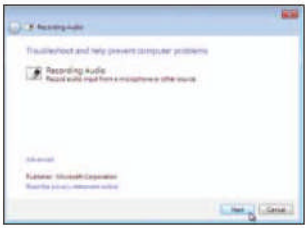
Action stations

Though Microsoft has long included troubleshooting tips in its electronic Help files (Go to Start menu, then click Help and Support), with Windows 7 it has awarded problem-solving its very own section within Control Panel. Called the Action Center, you'll find it in the System and Security panel (alternatively, click Start, type **troubleshooting** and hit Enter).

From here you'll find more than a dozen 'troubleshooters', categorised by problem type (Programs, Hardware, Networking and so on).



▲Windows 7 has a collection of automated troubleshooters in the Control Panel



▲The wizard-like nature of problem-solving with Windows 7 is a welcome advance

They follow the familiar step-by-step '**wizard**' method employed for years by other aspects of Windows. In other words, as well as now openly acknowledging that parts of Windows might sometimes go wrong, Microsoft has built dedicated tools to deal with the most common problems. Applause all round for that.

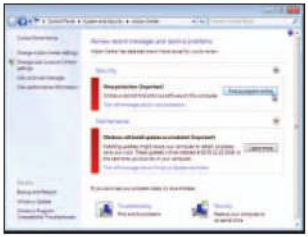
The troubleshooters won't be able to diagnose and fix everything, but they're a good place to start when things begin to go wrong.

Get the message

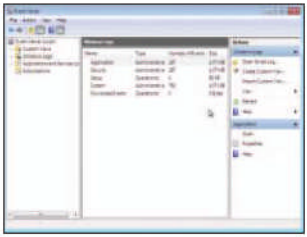
The Action Center, incidentally, is home to lots of other information that may be useful when troubleshooting. Reacting to user complaints, Microsoft has significantly calmed Windows' jumpiness. Previously the **Notification Area** on the **Taskbar** seemed ready to pop up an alert on every mouse moment. Now, all bar the most serious warnings and notifications are directed to the Action Center.

This is a welcome evolution but don't use it as an excuse for complacency. A problem you're attempting to troubleshoot could have been spotted previously by Action Center and headed off at the pass. Equally, a visit to Action Center may explain why an issue is occurring.

A more complex complement to Action Center is the Event Viewer. This isn't new to Windows 7 but it's the operating system's recording hub for all errors encountered by Windows. It's not necessarily one for novices but a click around can't really do any harm and



▲The Action Center in Windows 7 collates important messages for viewing at your convenience



▲Event Viewer hasn't changed much in Windows 7 but is still a useful destination for troubleshooting

it may help to identify the source of a problem. You'll find it in the Control Panel, under the System and Security heading.

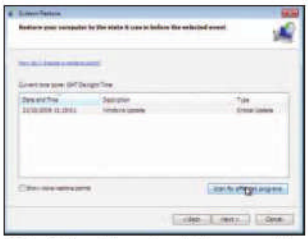
Program compatibility

Windows 7 is better working with older applications than Vista was at the outset but not every hardware and software product will work right away, if ever. If a device or application you own won't work, use the Windows 7 Compatibility Center (***www.snipca.com/x438***) to see if it's a known offender.

If that turns up a blank, Windows 7 can run programs in a 'compatibility' mode. However, Microsoft has created unnecessary confusion here. Windows 7's has a Program Compatibility troubleshooter (in the Action Center) that attempts to work some unwritten magic on irksome older programs. However, if you own the Professional, Ultimate or Enterprise editions of 7, you'll be able to download an additional tool called Windows XP Mode: this provides very reliable **emulation** for essential older applications. For more on solving compatibility issues, turn back to page 44.

Record and recover

If the troubleshooting fails and the problem is a recent one, don't forget System Restore. This is a tool designed to rewind time on a PC, taking it back to a point where it was known to be working just fine. System Restore has barely changed in Windows 7, though it now has a 'Scan for affected programs' button that will detail exactly which applications (if any) will be removed or otherwise altered by using a particular Restore Point.



▲System Restore will now show which programs will be affected by rolling back to an earlier Restore Point

One barely mentioned feature of Windows 7 is the Problem Steps Recorder. This will record key on-screen actions and save them as an **HTML** file that can be sent to a friend or professional for problem-solving purposes. So, if there's a recurrent problem that can be demonstrated by repeating the same steps, use Problem Steps Recorder to capture the event and then send the resulting file to your helper. To launch it, click Start, type **PSR** and hit Enter.

Sorted

So that's a quick guide to all that's new and improved for troubleshooting in Windows 7. Evidently, Microsoft has come a long way on the alerts and problem-solving front. Indeed, these aspects are some of the best parts of Windows 7. However, even though Windows 7 has undergone more testing than any of its predecessors, it remains early days and there are likely to be problems lurking undiscovered. Over the next few pages we'll be looking at how to solve some common Windows 7 installation and performance issues. So, use the tricks and tips here and elsewhere in this Ultimate Guide to help tackle any problems you're currently experiencing, or keep it safe for the inevitable day when the troubles start.

Jargon buster

Emulator A program used to make a computer act like another computer. For example, there are programs that can enable a PC to emulate a video arcade game.

HTML Hypertext Markup Language. The language used to create pages for a website.

Notification Area An area on the bottom of a screen that shows which programs are running in Windows.

Operating system Governs the way hardware and software components in a computer work together.

Taskbar The bar that runs along the bottom of the screen in Windows.

Wizard A step-by-step process that helps you choose settings.

For more Jargon Buster definitions see page 97 or visit: www.computeractive.co.uk

Call in the cavalry

Even with all the troubleshooters on offer in Windows 7 there may come a time when you need more help. Where to go next depends on how your copy of the operating system was obtained. If you bought and installed Windows 7 yourself (ie, you own a boxed copy with the original discs, bearing Microsoft's insignias), then Microsoft Customer Support will – eventually – be prepared to talk to you. However, if Windows 7 came pre-installed on a new PC, Microsoft will refer you to the manufacturer for help. Either way, start the process at **http://support.microsoft.com** and you'll be directed accordingly.

▲Need professional help with Windows 7? Check whether you need to contact Microsoft or the PC manufacturer

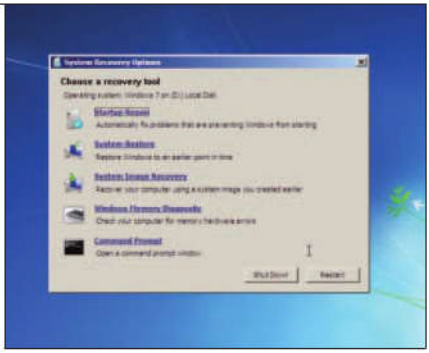
Solve installation or upgrade problems

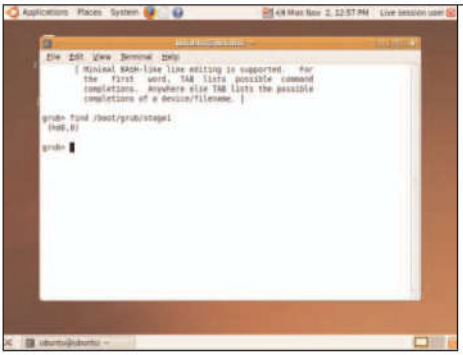
If you're having Windows 7 installation problems don't panic – here are some handy tips

Upgrading an **operating system** is a big step and, while Microsoft makes every effort to make it as smooth as possible, there may still be hiccups. Our first piece of advice is to make a backup of your important files before starting the upgrade or installation process. Ensure that if your backup is on an external disk it is disconnected from the computer before starting. It might be tempting to install Windows as quickly as possible but it is not worth the risk. Also, if you are using a wireless internet connection, it may also be worth considering moving the PC so it is close enough to your **modem** or **router** to connect it with an **Ethernet** cable. That way you will still have access to an internet connection even if something goes wrong and you suddenly discover your **Wifi** adapter isn't supported.

Tip 1

The Windows 7 installation disc comes with a very useful tool for repairing problems when the operating system won't start properly. Insert the disc in the computer and restart. Press the space bar when the message 'Press any key to **boot** from CD or DVD' and Windows will load the files it needs to start the recovery environment. Select the correct keyboard or input method (United Kingdom) from the **dropdown menu** and click on Next. Don't click on Install now, instead click on Repair your computer in the bottom-left corner of the screen. System Recovery will search the computer for the Windows installation. Make sure it is selected and click on Next. The System Recovery Options window will appear. Click on Startup Repair to fix problems with booting the computer. The System Recovery Options window can also be used to access System Restore to reverse changes to the computer such as problematic new **drivers**.



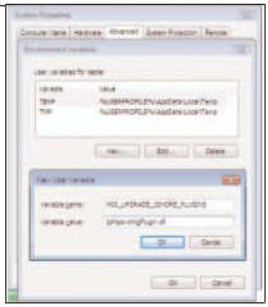


Tip 2

As we saw on page 30, Windows 7 can be installed alongside other versions of Windows in a '**dual-boot**' configuration. Dual-booting **Linux** and Windows 7 is more tricky. So, if you want to keep a copy of Ubuntu installed on your PC alongside Windows, then, short of re-installing, you will need to get your hands dirty with the **command prompt**. Install Windows 7 on a separate **partition** and **reboot** the computer with an Ubuntu **Live CD** (**www.ubuntu.com**). Click on the Programs menu, Accessories and then Terminal. Type **sudo grub** and press Enter on your keyboard. Type **find /boot/grub/stage1** and press Enter again. This will display the location of the Ubuntu boot partition. Now type **root (hdX,Y)** replacing the x and y with the numbers shown in the previous command and press Enter. Type **setup (hd0)** and press Enter. Type **quit**, press Enter and reboot the computer. For more information take a look at **www.snipca.com/x474**.

Tip 3

There is a known problem that affects some users who upgrade to Windows 7 from within Windows Vista. If you are affected by this problem the upgrade will stop at exactly 62 per cent. The problem is caused by a service caused iphlpsvc. If your upgrade is hanging on 62 per cent, reboot the computer and Windows Vista will restore itself. Click on the Start button and right-click on Computer. Left-click on Properties and click on Advanced system settings in the left-hand column. Give UAC permission to proceed. Click on the Environmental Variables button in the Advanced tab. Click on New and enter **MIG_UPGRADE_IGNORE_PLUGINS** as the Variable Name and **IphlpsvcMigPlugin.dll** as the Variable value. Click on OK. Restart the computer and start the setup process again.

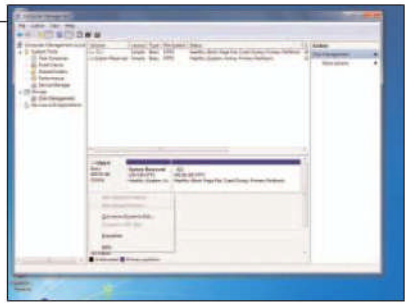


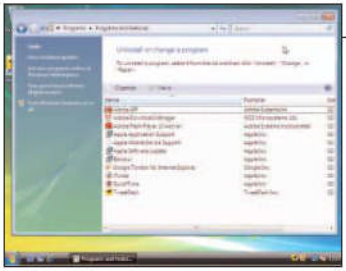
Tip 4

Creating a safe password for Windows is essential but you may forget it. Creating a password reset disk provides an extra safety net and may be safer than writing the password down. Windows 7 can use a **USB memory key** or a **floppy disk**. Insert the disk you intend to use. Cancel the Autorun window if it appears. Click on the Start button, type 'user' and click on User Accounts. Your user account settings will appear in the User Accounts window. Click on 'Create a password reset disk' in the left-hand column. Click on Next in the **wizard**. Select the correct drive and click Next. Enter your password and click on Next. Click on Next and Finish. Keep the disk safe.

Tip 5

If your 'upgrade' install from Vista failed, this may have been because of missing or incorrect drivers. To solve this, you could partition the hard disk and install Windows 7 alongside Vista (as described on page 30). Then, boot to Windows 7, click on the Start Menu and right-click on Computer. Left-click on Manage and click Continue in the UAC warning box. Click on Device Manager and expand Display adapters. Right-click on Standard **VGA** Device and left-click on Update Driver Software. Click on 'Browse my computer for driver software'. Click on Browse and select the Windows folder for Vista. Click OK, check the 'Include subfolders' box and click Next. Windows will search the folder for Vista's drivers, which should work with Windows 7.





Tip 6

It may seem to defeat the object of choosing an 'upgrade' install rather than a 'clean' one, but if you can uninstall some of your applications before starting the upgrade, then do so. The upgrade wizard may warn you that some programs must be uninstalled before continuing. Reports of these include Open Office, some Adobe Air programs (Tweet Deck), iTunes, Virtual PC and Google Toolbar. If you have any of these installed, we recommend uninstalling them by going to Start, then Control Panel and clicking 'Uninstall a program'. If you can bear it, it is probably a good idea to uninstall other unused and rarely used software too. Don't forget to make a list and double-check you have working discs or installation files for the programs you want to re-install after the upgrade is complete.

Find and fix Windows 7 performance problems

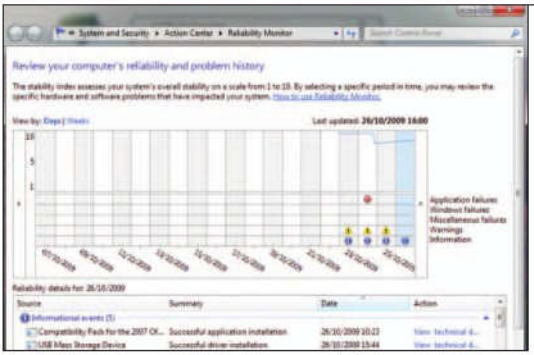
Sort out Windows 7 glitches with our help. Here's how to diagnose and fix problems

Despite the improvements to performance made in Windows 7 there still may be times when it doesn't work as quickly as you might hope. Many of the old tricks for optimising your PC won't work either, as Windows 7 works in a slightly different way to previous versions of the **operating system**.

If you have installed Windows 7 on an older system, you may need to physically upgrade the hardware in your PC in order to significantly improve performance. A good place to start is the System Rating in the Computer Properties window. This will identify the weakest part of your system, normally the one to upgrade first (although you can ignore gaming graphics if you never play games). Before you crack open your computer and start spending money on new components, however, here are some other things to try.

Tip 1

Not everyone wants to open up their PC to fiddle around with performance-boosting hardware upgrades. One way to improve performance without this hassle is to use Readyboost. This feature of Windows uses a **USB memory key** to improve performance. It can do this without risking personal details being stolen if the key is lost or risking losing data if the key is unplugged unexpectedly. The only catch is that not all USB keys are created equal and it must be fast enough to make enough difference. Microsoft says the device must be capable of at least 2.5**Mbytes/sec**. It's not just USB keys, either. If you have an **SD memory card** slot that isn't needed elsewhere you can use this too. Right-click on your USB or memory device in the Computer window, select Properties and click the Readyboost tab for options.

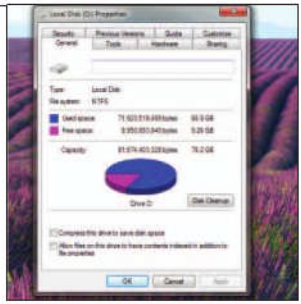


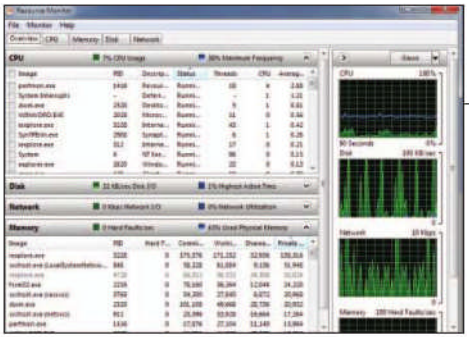
Tip 2

The most important step to solve problems is to find out the cause. Click on the Start button and type **reliability**. Click on View Reliability History and the Reliability Monitor will appear. The recent history of the computer appears as a graph with **icons** showing whether a particular kind of event has occurred. A red circle or a yellow triangle may indicate a problem. Left-click on one of these icons to see more detail. Click on the 'Check for a solution' link to see if there is a fix. Fixes may be released later so check with the Action Center, the flag in the Notification Area.

Tip 3

The ability to search for documents and other files by words contained within them is convenient but it means the computer has to search for this information, which may slow down the computer. If you're willing to forgo this extra help, disabling this indexing feature may help improve performance. Left-click on the Start button and then on Computer. Right-click on Local Disk C: and then left-click on Properties. The General tab should be displayed. Click on the box labelled 'Allow files on this drive to have contents indexed in addition to file properties' so that the tick disappears and click on OK.



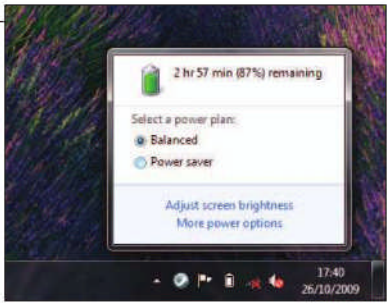


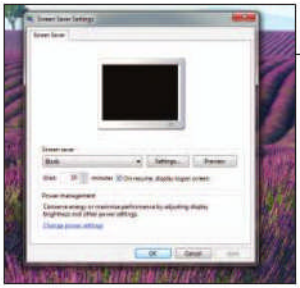
Tip 4

Go to Start, type **resource** and click on the Resource Monitor link. The Resource Monitor gives information about how aspects of the computer are performing. The Overview page shows a summary of the **CPU**, **hard disks**, **network** and **memory** with graphs on the right. Click on the down arrow of the title bar to see more information about what programs are demanding the most from the computer. Click on other tabs for more specific information.

Tip 5

Windows 7 records power settings based on the current power situation when you set them. If you're using a laptop, don't change the settings to something suitable for battery use while the PC is still plugged in. The settings will be replaced by the on battery settings as soon as the power is removed. This is important because the Power-saver mode reduces the speed of the **processor**. This can make the computer seem sluggish even though nothing is wrong. So don't enable Power Saver mode before removing the mains power from a notebook. Double-check the power icon in the **Notification Area** for a plug to show whether the power is connected. Aero Glass can also be disabled when the power is removed.





Tip 6

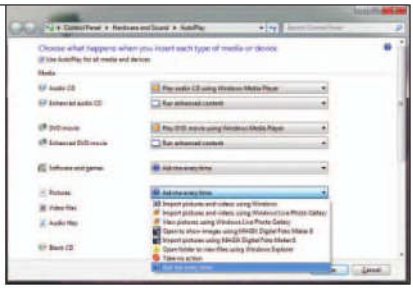
By default, Windows 7 doesn't use a screensaver and you should keep this setting, relying on the Power options to turn off the monitor when not in use. Many fancy screensavers, especially those with 3D effects, put quite a strain on the computer. Not only does this use more electricity but it may prevent Windows 7 from getting many of the background maintenance jobs done while the computer is idle. The exception to this rule is if you want to lock the computer if it hasn't been used. In this case, click on the Start button, type **screensaver** and press Enter. Select Blank from the **dropdown menu** and then select 'On resume, display logon screen option'. Click on OK.

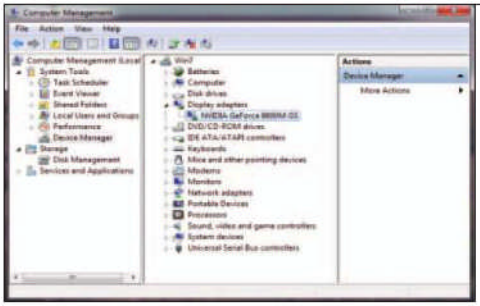
Advanced Windows 7 tips and tricks

Use these handy hints to get even more from your Windows 7 computer

Tip 1

Windows will display a menu of common tasks when you insert a CD, DVD, **USB memory key** or attach an external storage device. This is helpful but it may be quicker to set one of the actions to take place automatically whenever a certain type of media is inserted, rather than being offered a choice of actions each time. Click on the Start button, type **autoplay** and press Enter on your keyboard. The Autoplay window will appear with menus for every kind of media that Windows recognises. Click on a menu and choose the action you want. If there is no entry for the action you want, select 'Take no action' to stop the menu from appearing. This is only the default action so it doesn't prevent you from doing something else with the device.



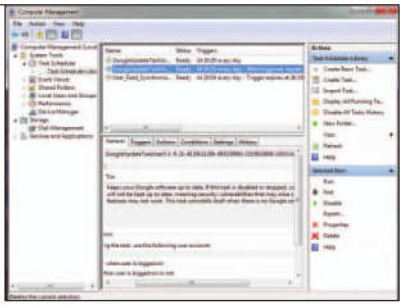


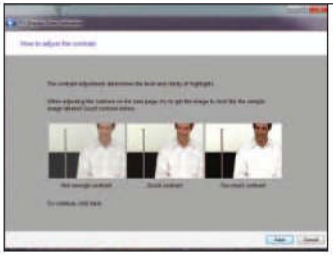
Tip 2

If you are serious about getting the best from Windows 7, you will need to get familiar with the Computer Management window. It allows you to monitor and adjust many settings within Windows. Click on the Start button, right-click on Computer and select Manage. You need to be using an Administrator user account to get the most from Computer Management. A useful starting place is Device Manager. Click on its entry on the left. A list of all the hardware fitted in the computer will appear in the main part of the screen. Any problems will be shown with a yellow triangle or red cross. Right-click on an option to see actions.

Tip 3

Task Scheduler is a great time saver. It can be used to display reminders or start programs at a particular time. Open it from the Computer Management window or type **task** in the Start Menu. Click on Task Scheduler Library to see all the tasks already set up. There may be options for the Google Updater here, for example. Click on 'Create a Basic Task' on the right to start the Task **Wizard**. Name the task, click Next and select when it should run. A useful option is to set the task to run when you log on, which is more specific than just at startup. Click on Next. The task can start a program, send an email or display a message. Turn to page 80 for an example of how to use the Task Scheduler.



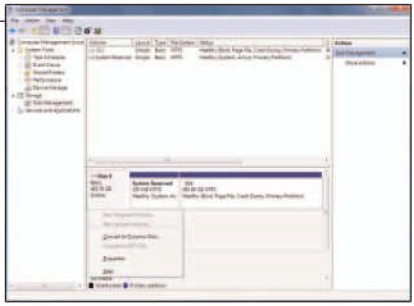


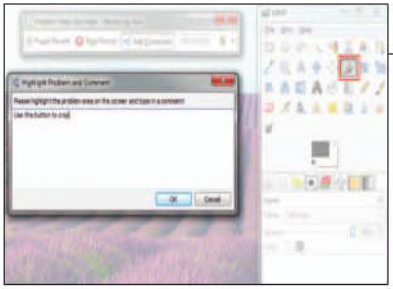
Tip 4

If you work with images for printing, even if it's at home with an **inkjet** printer, it's important to use the right colour settings. If you don't, what looks right on screen may look dreadful when printed. Windows 7 comes with a basic tool for setting up your monitor. Laptop users don't have the same control over their displays but there are still options that can be optimised in this wizard. Click on the Start button, type **calibrate** and press Enter on your keyboard when 'Calibrate display color' is highlighted. Follow the instructions in the wizard and make any changes as necessary. The final step will include an option, already selected, to use Cleartype. This improves text on **LCD** monitors but should be deselected if an older **CRT** monitor is being used.

Tip 5

Windows 7 can use several **hard disks** to improve performance with a technique called 'striping'. This balances work between two or more hard disks. But if one disk has a hardware fault, the information on all the disks used for striping will be lost. The disks should be empty, as they will be wiped during the installation, but you may need to delete existing **partitions** before starting. Click on the Start menu, right-click on Computer and select Manage. Click on Disk Management, right-click an unallocated part of one of the disks you want to use (marked in black) and select 'New Striped Volume'. Follow the wizard to select the correct disks, select a drive letter and **format** the drive.



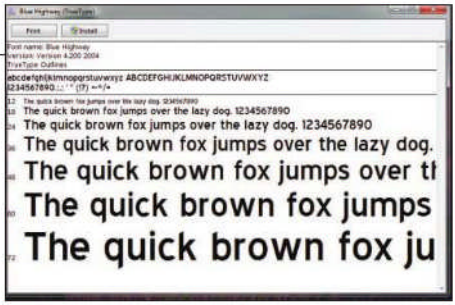


Tip 6

To make describing and fixing problems easier, the Windows Problem Steps Recorder takes a record of **screengrabs** along with a description of what was clicked or typed. Click on the Start menu, type **problem steps** and then click on 'Record steps to reproduce a problem'. Click on the Start Record button and demonstrate either the problem or solution. You can mark an area with a comment by clicking on the Add comment button. Click on Stop record when you are finished. Give the recording a name and click on Save. The resulting **Zip** file contains a web page with screengrabs, comments and information about typing and mouse actions. Watch a video of the utility by Microsoft at **www.snipca.com/x436**.

Tip 7

The old Windows 3.1 **font** installation tool has finally been given the axe and the Font Preview window is used to install fonts. Double-click on a font file to see the preview and click on the Install button if you like it. If there are several fonts to install at once, click on the Start menu and type **Fonts**. Press Enter to see the Fonts folder. **Drag and drop** the font files into this folder to install them. Font families are stacked to avoid cluttering the folder. **Double-click** on a group of fonts to see the individual files. Click on a font once and then on the Delete button in the toolbar to uninstall it.



On the disc

The CD is packed with great software and how-to video guides. We have listed the main applications below, and over the page you'll find tips on how to get started with the best ones

Jargon buster

Anti-virus Software that removes virus-infected files from a computer.

Defragment or 'defrag'. To reorganise the data stored on a hard disk.

Disc image A file that contains an exact copy of a hard disk for backup.

Driver A program that allows Windows to communicate with a peripheral device.

Flash Application used to create animations and video on websites.

Hard disk A disk in PCs used to store data.

Icon A small image used by Windows to identify a file or application.

Javascript A programming language.

Memory card Small cards that can store lots of data.

Network A way of connecting several computers and devices so they can share data.

PDF A file format that allows pages of text and graphics to be viewed and printed on any PC.

Registry A file that stores information on hardware and software on your PC.

Stream Audio or video that can be viewed as it is downloaded.

Taskbar The bar that runs along the bottom of the screen in Windows.

Web browser A program developed for navigating the internet.

For more Jargon Buster definitions see page 97 or visit www.computeractive.co.uk

Software listing

General resources

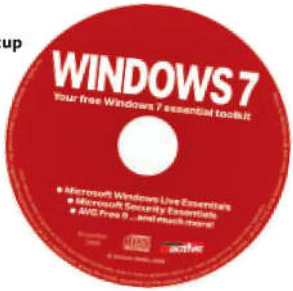
- EssentialPIM Free 3
- Foxit Reader 3
- Mozilla Firefox 3.5
- PeaZip 2
- Windows 7 Upgrade Advisor
- Windows Live Essentials

Windows 7 maintenance

- Auslogics Disk Defrag 3
- CCleaner 2
- CD Burner XP 4
- Recuva
- TuneUp Utilities 2010
- TweakNow PowerPack 2009

Security & backup

- Ad-Aware Free 8
- AVG Free 9
- DriverMax 5
- Dropbox
- EASEUS Todo Backup
- KeePass 2
- Microsoft Security Essentials
- Microsoft Virtual PC 2007
- PC Tools Firewall Plus 6
- SugarSync
- TrueCrypt 6
- UpdateStar 5



How-to videos

- Upgrade to Windows 7 from XP part 1
- Upgrade to Windows 7 from XP part 2
- Upgrade to Windows 7 from Vista
- Can my PC run Windows 7?
- Use the Windows 7 Start menu
- Use the Windows 7 Taskbar
- Use Libraries in Windows 7
- Guide to Snap and Shake in Windows 7 Aero
- Use the Windows 7 Action Center
- Set up Homegroups in a Windows 7 network
- Control a touchscreen PC using Windows 7
- The Windows 7 Control Panel
- Set up a Wifi network in Windows 7
- How to set up email in Windows 7
- How to use Internet Explorer 8 in Windows 7 part 1
- How to use Internet Explorer 8 in Windows 7 part 2

Using the disc inside this issue

The *Computeractive Ultimate Guide to Windows 7* disc uses a web browser-style interface. To get the full functionality, you'll need to use the Microsoft Internet Explorer browser version 5.5 or later. Unfortunately, other browsers don't properly support this software. However, we have provided links to the featured programs so you can still copy them to your hard disk or install them manually (the standard download dialogue box will appear). Programs can be found in the \software\folder on the disc.

Starting the disc

The CD-Rom should auto-start. If it doesn't, double-click the CD-Rom icon in My Computer or open the terms.htm file on the disc.

Problems?

Please note that we cannot give technical support on individual programs contained on this disc. If you have problems running the disc or any of its content, please note these guidelines:

Faulty disc

For details on cover disc support and FAQs about the discs go to **www.computeractive.co.uk/disc-support**. For faulty or damaged discs please email disc_support@computeractive.co.uk for a replacement, giving the details requested on the website. If you have no internet access, call 020 7316 9706 10am to 6pm Mon to Fri.

Installing/running the software

For software requiring registration, Computeractive cannot guarantee that serial codes will be available later than three months from the on-sale date of the magazine. Please avoid disappointment by registering your software promptly.

Windows 7 step-by-step videos

Video on the CD TV Computeractive

Discover how to get the most from Windows 7 with Computeractive's own comprehensive and easy-to-follow video guides

Windows 7 Workshops, features and tutorials are one thing, but having someone show you how to use Microsoft's latest release is even better. So we've created 16 step-by-step videos to explain everything from the upgrade process to the new Taskbar, Start menu tricks, IE8 options, and how to get your **network** running smoothly. And because you're effectively looking over our shoulder every step of the way you'll soon understand all the Windows 7 basics (and some advanced ideas, too).

We've kept the videos compact by using Adobe's **Flash** video format, but that does mean you'll need the latest version of the Adobe Flash Player to view them. If you have any playback problems, point your **web browser** at **www.adobe.com/products/flashplayer** and follow the Download link. Choose the options you want to install, click 'Agree and install now', give permission, if you're prompted.

As a final test, a new browser window should open to display the page at **http://get.adobe.com/flashplayer/completion/dlm**. If it says 'Adobe Flash Player successfully installed' then you're ready to watch the Windows 7 videos. If it doesn't, check the Flash Player Help links on the right of the page.

System requirements Windows 7/Vista/XP, IE6 or later
Contact Adobe **www.adobe.com/products/flashplayer**
Need to know Nothing

▲Our videos take you from the Windows 7 upgrade, to desktop basics, and even network mastery

Windows 7 Upgrade Advisor

Is your PC ready for Windows 7? Here's a quick and easy way to find out

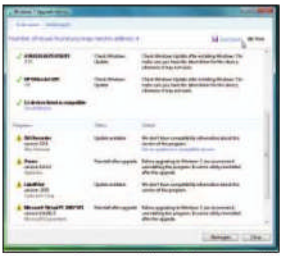
Upgrading to a new version of Windows is a risky business. Your **anti-virus** software may work fine on Windows XP or Vista, for instance, but is it ready for Windows 7? What about the rest of your software and hardware?

Fortunately Microsoft recognises that this can be a problem, and has produced the Windows 7 Upgrade Advisor to help. The program will scan your system, report on any potential issues and let you know how they can be resolved.

The Upgrade Advisor can't check your hardware unless Windows recognises it, though, so be sure to connect and plug in your printer and any other devices first. Then launch the program, click Start Check and wait as it scans your system.

Following the scan you'll see a detailed report on your PC's upgrade possibilities. This starts with a general verdict on whether you'll be able to move to Windows 7, followed by a summary of your main devices and programs. Anything with a green tick is Windows 7-compatible, but yellow exclamation marks indicate a problem to be addressed. Read the report and follow any links it provides for more help.

System requirements Windows Vista/XP, 9MB hard disk space
Contact Microsoft **www.microsoft.com/windows/windows-7/get/upgrade-advisor.aspx**
Need to know If you plan on upgrading to 64-bit Windows, click the '64-bit Report' tab for relevant information.



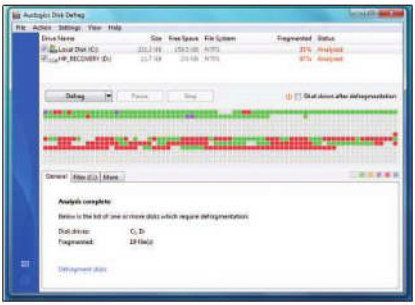
▲Prepare your PC now and the Windows 7 upgrade should go more smoothly

Auslogics **Disk Defrag**

Squeeze the maximum performance out of your hard disk with this useful defrag utility

Have you ever thought your computer seems slower than it used to be? You could be right. As you use your system, install and remove applications, create and edit documents, many files naturally become fragmented, scattered into chunks stored all over your **hard disk**. The greater the degree of fragmentation, the more time it will take to access data and the slower your PC will become.

Windows 7 has a **defrag** tool to help rearrange your files into contiguous blocks, but it takes a while to run and is lacking in features. If you really want to optimise your PCs performance, it's worth considering some alternatives, and Auslogics Disk Defrag is one of the best.



▲Choose the Analyze option to see how fragmented your drives really are

The program can automatically delete temporary files before defragmenting, for instance (no point wasting time moving files you don't need). You can specify files or folders that you don't want to be defragmented, again improving performance. Disk Defrag has a progress bar so you can get a feel for how much of the drive has been defragmented, and how much more time the job will take. Or, if you're in a hurry, you can choose to defragment just a few critical files and folders to speed up one application.

System requirements Windows XP (32/64-bit)/Vista (32/64-bit)/7 (32/64-bit), 50MB hard disk space
Contact Auslogics **www.auslogics.com**
Need to know Disk Defrag is free for home use. If you're a business, you need to purchase a licence. Prices start at around £12, and you can find out more at **www.auslogics.com/en/software/disk-defrag/business**.

Driver**max**

Quickly download and install all the latest Windows 7 drivers for your hardware

Moving to a new version of Windows can result in all kinds of subtle issues with your PC. It might seem less reliable, for instance; startup or shutdown times can increase, and some of your hardware may not behave exactly as it did. Don't rush to blame Microsoft, though, because the real cause of these problems often lies with buggy or outdated hardware **drivers**. It makes sense to get updated versions just as soon as you've installed Windows 7, then, and there's no easier way to do this than with Drivermax.

During installation the program will spend a few minutes examining your system, checking which drivers you have. Then, click 'Check online for driver updates', create a Drivermax account, and a browser window will open with a list of the drivers on your PC. If there's a red cross next to a driver, that means there's an upgrade available, and you can click the download link to the right to install a copy of the latest version.

▲Don't waste time browsing support websites for driver updates – Drivermax finds what you need in seconds

Once you've updated your drivers, return to the main Drivermax program, open the 'Driver backup and restore' section, and choose the backup option to have your drivers saved to a folder somewhere. Copy this to a CD or DVD and they'll be easily accessible if you ever need to re-install Windows in the future, without having to find and download them all again.

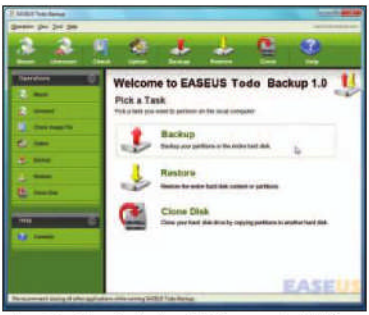
System requirements Windows XP (32/64-bit)/Vista (32/64-bit)/7 (32/64-bit), 12MB hard disk space
Contact Innovative Solutions **www.innovative-sol.com/drivermax**
Need to know Drivermax limits you to downloading two driver updates a day. Moving to Drivermax Pro removes this restriction, gives you faster, higher priority downloads, and optional hourly checks for driver updates. Prices range from less than £7 for a 30-day licence to around £26 for two years, and you can place your order at **www.innovative-sol.com/drivermax**.

EASEUS **Todo Backup**

Protect your valuable files from harm with this image-based backup utility

You've spent plenty of time setting up your Windows system, but if your hard disk fails, that will all be for nothing. You'll have to start again, re-installing Windows, your applications, downloading upgrades and drivers, tweaking your settings – potentially hours of work.

The solution? Take a **disc image** backup of your entire hard disk using EASEUS Todo Backup. You'll probably need a second hard disk to store the image (though a disk on your network will be fine), and running full image backups will take a while, but if your system does ever crash you'll see the advantages. Just replace the faulty hard drive, boot from EASEUS Todo Backup's startup disc, restore your backup, and within minutes everything will be working again.



▲Every Todo Backup function is available from one simple interface

Windows 7 has an image backup tool of its own, of course, but Todo Backup includes an extra trick or two that makes it worth a look. The program can clone your hard disk, for instance, copy a partition from one drive onto another. This is very handy if you've bought a faster hard disk as you can copy your existing system partition there, then switch to it right away, with no need for any tedious re-installations at all.

System requirements Windows XP (32/64-bit)/Vista (32/64-bit)/7 (32/64-bit), 60MB hard disk space
Contact EASEUS **www.todo-backup.com**
Need to know EASEUS recommends you download additional software (all free) to build the recovery disc you'd need if your PC no longer booted. Point your browser at **www.snipca.com/X486** for the instructions you need.

Firefox **3.5**

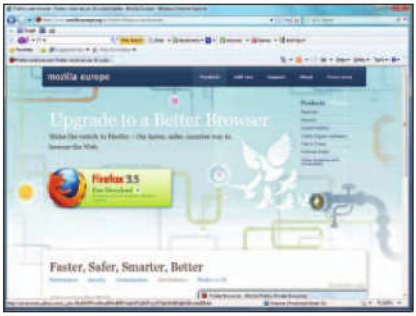
Mozilla's alternative to Internet Explorer is now faster than ever

Install Windows 7 and you'll automatically get Internet Explorer 8 (IE8), which is without doubt the best version of Internet Explorer ever. But there are still plenty of reasons you need a copy of Firefox, too.

Mozilla's browser is faster than IE, for instance, and getting faster still. Mozilla says that Firefox 3.5's **Javascript** engine is more than twice as fast as Firefox 3, and 10 times as fast as Firefox 2. In our experience the web browser is very stable too.

Firefox is also far better than IE when it comes to supporting web standards, which means it's more likely to display web pages as the designer intended. Best of all, the browser has more than 5,000 add-ons that give it all kinds of useful capabilities. There are add-ons to help you find bargains when shopping, for instance, as well as save **streaming** videos to your PC, block annoying Flash ads, post to Twitter from your address bar, download files more quickly and the list goes on.

And even if you're a fan of IE8 and plan to use it most of the time, it's always a good idea to have a second browser around. If a site isn't working in IE you can quickly switch to Firefox, just to see if it delivers better results.



▲No Windows 7 installation is complete without a copy of Firefox

System requirements Windows XP/Vista/7, 52MB hard disk space
Contact Mozilla **www.mozilla.com/firefox**
Need to know Nothing

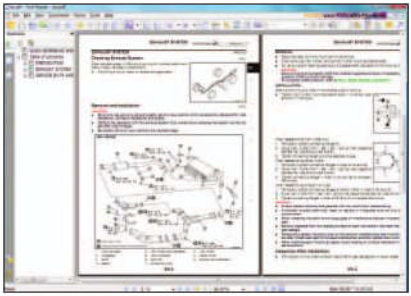
Foxit **Reader**

View, annotate and manipulate PDF files with this fast, versatile utility

Adobe's **PDF** is one of the most popular formats for publishing documents online, and so you'll want to equip your Windows 7 system with a way to read PDF files as soon as possible. You could simply install the standard Adobe Reader – but we have a better idea.

Install Foxit Reader and the benefits start right away. It's compact and light on resources, so if you double-click a PDF file then you see it right away; there's no hanging around.

Have you ever wanted to annotate a PDF file while you're reading it? Foxit Reader can do that, too. You're able to, say, draw an oval around a particular sentence, or use a highlighter to make it stand out. You can even add comments.



▲Even large or complicated PDF files load in a flash with Foxit Reader

The program is also able to save PDF files in plain text, handy if you want a simpler, more compact file. And if you spend some time looking around the Foxit Reader menus there are plenty of other advanced options to be found. There are new ways to zoom in on documents, for instance; you can add bookmarks to the current document; and if you're a real PDF expert you can even add, edit or remove the Javascript functions in a PDF document. It's an excellent reader, and well worth a look.

System requirements Windows XP/Vista/7
Contact Foxit **www.foxitsoftware.com**
Need to know The authors of Foxit also produce tools to create, edit, split or merge PDF files, or design fillable PDF forms. They're reasonably priced, too (you can buy the full set for les than £80), so if you've any interest in PDF authoring visit **www.foxitsoftware.com** to see what's on offer.

Recuva

Quickly restore accidentally deleted files with this industry-strength data recovery tool

Windows 7 contains plenty of new features, functionality and improvements over Vista, but unfortunately none of these are in the area of data recovery. So if you delete an important file, and empty the Recycle Bin before you notice, there's no way to get it back. Unless, that is, you install a rescue tool such as Recuva.

The program couldn't be easier to use. Launch it, choose the type of file you want to restore – Office Documents, say – and tell Recuva where you would like to look (hard disks, **memory cards**, even iPods are supported). It'll then crawl over your system, listing any files matching your description. And if you want to restore any of these, right-click them, select Recover Highlighted, and Recuva will try to bring your data back to life.

Sometimes this won't work, unfortunately. The more time has elapsed since a document was deleted, the greater the chance that crucial information about it has been lost, and so Recuva won't initially detect it. But if you try again, and check the 'Enable deep scan' box, Recuva will search your entire hard disk looking for the file's remnants. This can take a long time, but has a much better chance of finding your data, so be patient.

▲Recuva's straightforward wizard-based approach means you'll immediately feel at home

System requirements Windows XP (32/64-bit)/Vista (32/64-bit)/7 (32/64-bit), 2MB hard disk space
Contact Piriform **www.piriform.com/recuva**
Need to know Nothing

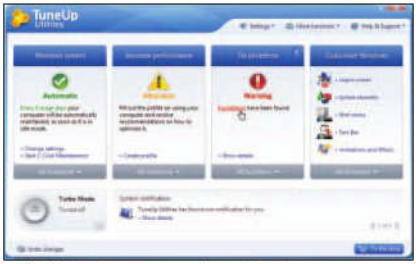
TuneUp **Utilities 2010**

Fix problems, improve performance and customise Windows with this maintenance suite

Keeping your Windows 7 system in peak condition normally requires lots of time, expert knowledge and a library of PC maintenance software. But there is a simpler way. Install this 30-day trial version of TuneUp Utilities 2010 and all the PC optimisation, maintenance and troubleshooting tools you need will immediately be at your fingertips, ready to solve just about any problem.

Does your PC have security issues, for instance? TuneUp Utilities 2010 will take a close look, report on any problems it finds, and provide quick solutions. If your system seems slow the program can help by freeing up hard-disk space, disabling unnecessary programs and defragmenting drives.

TuneUp Utilities 2010 can also remove leftover junk from the Registry, defragment it to save space, and delete broken shortcuts. It can do this automatically or you can run all the program's maintenance tasks in a single click. And if you want to customise your desktop, TuneUp System Control provides complete control over everything from the Windows 7 logon process to your Start menu, **Taskbar**, **icons**, animations, effects, and more. You don't need to be a Windows expert to use it, either.



▲Colourful icons alert you to any problems with your PCs settings

System requirements
Windows XP (32/64-bit)/Vista (32/64-bit)/7 (32/64-bit), 65MB hard disk space
Contact TuneUp
www.tune-up.com

Need to know This is a 30-day trial version of TuneUp Utilities 2010. If you find the program useful and want to continue using it after the first 30 days, you'll need to buy a licence. This costs £29.99, but allows you to run the program on up to three PCs. Click the 'To the shop' link within the TuneUp Utilities to place your order.

Updatestar

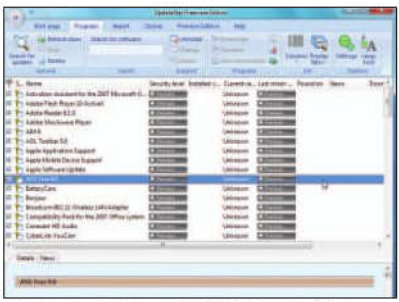
Never miss an update for your favourite programs again

Upgrading your PC to Windows 7 is a positive move, something that will deliver useful features and functionality, as well as fixing several Vista-related problems. The chances are that many of your applications also have updates available, many for no cost. Installing these will also provide new features, performance enhancements and bug fixes that could make a real difference to your PC.

Life's too short to go trawling around every software author's website looking for updates, of course; fortunately there's no need to. Just install Updatestar and one click will start it scanning your installed applications, checking their version numbers to see if you're up to date. A report then identifies any available upgrades, and in many cases you can be downloading the relevant files in a couple of clicks.

Updatestar will even run in the background on your PC, so it can automatically run a weekly check for new updates. If you prefer not to have too many programs launched when Windows starts, though, you can easily switch this off: select the Programs tab, click Settings, then Other and clear the 'Launch at Windows startup' box.

Keep in mind, though, that it's now your responsibility to manually launch Updatestar, every week or so.



▲Updatestar recognises more than 295,000 individual applications

System requirements
Windows XP (32/64-bit)/Vista (32/64-bit)/7 (32/64-bit)
Contact Updateztar
www.updatestar.com

Need to know Updatestar is also available in a Premium Edition that delivers 20 times more update and upgrade information, and comes with a scheduler, **Registry** cleaner and full email support. Prices start at around £19 and you can find out more at **www.updatestar.com**.

Glossary

Jargon buster

32-bit Most home computers are 32-bit, but are being superseded by 64-bit computers.

64-bit A technology that processes memory in larger chunks, and can work with more memory.

Anti-virus Software that detects repairs, cleans, or removes virus-infected files from a computer.

Applet Small utility program within Windows, such as Calculator or Scandisk.

Bios Basic Input Output System. Software built into all PCs to control the basic operation of devices such as the screen, hard disk and keyboard. When a PC is switched on, the Bios automatically kicks in, and looks for a source (eg a hard disk) from which the operating system can be launched.

Blog Short for 'web log', a blog is an online journal or news site. Most blogs provide a download called an RSS feed, which means you can set up a blog reader to download new articles as they appear without visiting the site.

Bluetooth A technology that allows devices (computers, phones, printers etc) to communicate with each other wirelessly over short distances.

Boot The process a PC goes through after it is switched on performing a quick self-test, loading Windows, and so on.

Broadband A fast internet connection, such as ADSL.

Burning The act of writing data onto a CD or DVD.

CRT Cathode-ray tube. The glass tube-based technology used to produce an image in most TV sets and computer monitors.

Command prompt Also known as Dos prompt. The Windows environment lets you point and click to navigate your way around the computer. However, the predecessor to Windows, Dos (Disk Operating System) requires typed-in commands to control the PC, and these are entered at the command prompt.

CPU Central processing unit. The heart of a computer. The CPU does most of the hard work and the faster it is, the better the PC is likely to be.

Cursor A flashing shape on the screen showing where the next character you type in will appear.

Defragment or 'defrag'. To reorganise the data stored on a hard disk so it can be accessed as quickly as possible by the computer. A fragmented disk can adversely affect performance.

DLNA A standard for media streaming devices.

Dialogue box A window that pops up to display or request information.

Double-click To click twice quickly in succession on a mouse button. If you double-click on an application icon, Windows will then attempt to launch the application.

Drag and drop To move something by clicking it, then holding down the left button on a mouse.

Driver A program that allows Windows to communicate with a peripheral device.

DRM Digital Rights Management. Software that protects media files from illegal copying.

Dropdown menu A list of options that appears when you click a menu bar or button.

Dual boot Installing two operating systems on a single PC. The user can choose which to load when the PC is switched on.

EPG Electronic Programming Guide. An on-screen guide to scheduled broadcast television programmes.

Ethernet A type of wired network.

Firewall Software or hardware that prevents unauthorised access to a computer over a network.

Firewire A type of connection commonly used for digital camcorders.

Flash memory A type of memory with no moving parts that maintains its contents even when the electricity is switched off.

Floppy disk A small, rigid square of plastic used to store data.

Font A set of letters, numbers and other symbols in a particular style. Popular Windows fonts are Arial and Times New Roman.

Format To prepare a disk for use.

Graphics card The part of a PC that displays the image you see on a computer's monitor.

Hackers People who break into other people's computers and networks, often in an attempt to steal sensitive information.

Hard disk A high-capacity disk fitted in almost all PCs and used to store both applications and the documents and files they create.

Icon A small image used by Windows to identify a file or application.

Inkjet printer Type of printer that squirts tiny dots of ink onto the page to form text and images. Almost all inkjet printers print in colour as well as black and white.

IP address Internet Protocol address. An identifying number of a computer attached to a network. A computer's IP address is similar to a phone number in function. Every computer connected to a network must have an IP address. IP addresses are written as four sets of numbers separated by full stops – for example, 204.171.64.2.

ISP Internet Service Provider. A company that provides you with an internet connection, either for a fixed monthly fee or for the cost of local call charges.

Kbits/sec Kilobits per second. A measure of data transfer.

For more on Jargon buster, visit www.computeractive.co.uk

Jargon buster

Lan Local-area network. Describes two or more computers connected with the ability to share resources, such as printers.

LCD Liquid-crystal display. Technology used to create low-power, slim display panels.

Linux An operating system that can be freely modified and distributed by its users.

Live CD A 'bootable' CD-Rom or DVD-Rom containing a computer operating system.

Malware A generic term for software designed to perform harmful or surreptitious acts.

Mbytes/sec Megabytes per second. A measure of data transfer speed. Equal to 8Mbits/sec.

Media player Software designed to organise, play and share music, video and photo files.

Memory The computer's temporary storage area, measured in megabytes (MB).

Memory card Small cards that can store many megabytes (MB) of data.

Memory key A term used to describe thumb-sized USB storage devices.

Modem A device that enables two computers to communicate with each other over a telephone line.

MP3 A standard for compressing digital audio. The sound quality of an MP3 file is close to that of CD audio but needs much less storage space.

Network A way of connecting several computers and devices so they can share data.

Newsgroups Discussion areas on the internet, where you can post a message and read replies from other people, like an office noticeboard.

Notification Area An area on the bottom of a screen that shows which programs are running in Windows.

Operating system Governs the way hardware and software components in a computer work together.

Optical drive A computer device for reading or writing 5in discs, including CDs, DVDs and Blu-ray discs. Not all drives read or write all kinds of disc.

Partition A large hard disk can be split into two or more partitions or 'virtual' drives. Once partitioned, each section is treated by Windows as though it were a separate hard disk.

Phishing A form of internet fraud that tries to trick you into revealing personal details.

Pop-up A window that is displayed by a website, usually over material already on the screen.

Processor The chip that is the 'brain' of the computer. The faster the processor, the better a computer will perform.

Reboot To restart a computer. Normally, this is by using the 'Restart' option on the Windows Start menu. However, it may be necessary to press Control-Alt-Delete or even to use the Reset button if one is fitted to the PC.

Resolution The amount of detail shown in an image, whether on screen or printed.

Rip To digitally extract the music data from a CD-Rom or audio CD. Ripping a track from an audio CD is the first stage of compressing it as an MP3 file.

Router A device used to connect more than one computer or other device to the internet.

RSS Really Simple Syndication. A simple format for automatically distributing news headlines and other content from the web.

Sata Serial ATA. An interface for connecting modern hard disks and optical disks to a computer.

Scanner A device that uses a light sensor to convert a drawing, photo or document into a digital file.

Screen grab Also screenshot. An image of what was displayed on screen. A screen is captured to the clipboard in Windows by pressing the Print Screen key. You can then copy it to a graphics file or print it off.

SD card A secure variant of the postage stamp-size memory card.

Serial port A socket on the back of a PC used to connect serial devices, also known as a Com port. Often used on a PC to connect an external scanner. Largely superseded by USB sockets.

Server A computer on a network, such as the internet, that distributes information to other PCs.

Spam Junk email sent to large groups of people offering such things as money-spinning ideas.

Spyware Software installed (usually surreptitiously) to monitor and report back on a computer's use.

SSID Service Set Identifier. A name used to identify a wireless network.

Stream Audio or video material that can be viewed as it is downloaded from the internet or transferred from another computer. Streaming media sometimes stalls if the source material is received slower than it is played back.

Tag A keyword used to describe a file.

Thumbnail A small image used to give a quick preview of a larger image.

TV tuner An expansion card that, when fitted into a PC, receives TV signals.

USB Universal Serial Bus. A standard that allows quick and easy connection of external peripherals such as storage devices to your PC. Devices can be added or removed while your PC is switched on.

VGA Standard socket for connecting a monitor to a computer.

WAV file Also known as a Wave file and saved with a .wav extension. An audio file, used for recording music and other sounds to disk. Because they are uncompressed, WAV files can be very large. The file format was developed by Microsoft and IBM.

Web browser A program developed for navigating the internet, particularly the world wide web.

Webmail An email account that is accessed via a website.

Wifi An umbrella term for various standards for wireless networking.

Wizard A step-by-step process that helps you choose settings.

WMA Windows Media Audio. A compressed digital music format developed by Microsoft that allows secure encoding of music tracks.

WPA/Wep Wifi Protected Access/Wired Equivalent Privacy. Systems that protect data over wireless networks.

Zip file A file that can contain a number of compressed documents or files.

For more on Jargon buster, visit www.computeractive.co.uk

COOL WINTER OFFERS!

.com

to the World´s largest Web Host

Over 9 million customers have spoken. Thank you for your loyalty and trust which have helped make us the leading web host worldwide!

For over 20 years 1&1 has provided cutting edge services and products to millions of users. A total of over 70,000 servers run in our state-of-the-art data centres. We utilise green energy and the latest technology to ensure that the high-security, speed and power demands of your website are met with ease.

1&1 invests in the future, we develop new technologies, are financially stable and dependable and will be hosting your website for many years to come!

DOMAINS

.com

BEST OFFERS IN THE UK

~~£8.99~~ per year*

£4.99 first year*

WEB HOSTING

Powerful hosting solutions for small to medium business sites.

1&1 Business Package
- NEW: 20 GB Web Space
- NEW: UNLIMITED Traffic
- 3 FREE .uk domains included

GET 3 MONTHS FREE*

~~£8.99~~ per month

£0.00 for 3 months*

.co.uk, .me.uk, .org.uk domains now only £2.49 first year*

*Terms and conditions apply, please see website for further details. Get 3 months free on selected web hosting packages when you sign up for a 1 year package! Special offers available as of 01/11/2009 and for a limited time only. Prices exclude VAT.

MEMBER OF united internet

Call 0871 641 21 21 Calls cost 6p per minute from a BT landline, calls from other operators and mobiles may be higher.

or visit us now www.1and1.co.uk

1&1

Windows®. Life without Walls™.
MEDION® recommends Windows.

MEDION®

SAVE UP TO £100 ON MEDION® AKOYA® NOTEBOOKS AT Argos

All of these notebooks come with a FREE[1] Windows® 7 upgrade.

Make the switch
Windows 7
with the voucher inside

1 MEDION® AKOYA® P6613 – Argos cat.no. 508/1615

- Genuine Windows Vista® Home Premium
- Intel® Pentium® T4200 processor
- 16" HD Display (16:9 cinema format)
- 4 GB RAM[2] / 320 GB hard drive
- NVIDIA® GeForce® G105M graphics with HDMI
- **Includes free carry bag and mouse**
- **FREE PAYG Mobile Broadband from 3 worth £ 19.99 – 508/2078**

2 MEDION® AKOYA® E5211 – Argos cat.no. 508/1598

- Genuine Windows Vista® Home Premium
- Intel® Pentium® T4200 processor
- 3 GB RAM / 320 GB hard drive

3 MEDION® AKOYA® P8610 – Argos cat.no. 508/1639

- Genuine Windows Vista® Home Premium
- Intel® Core™2 Duo T6500 processor
- 18.4" HD Display (16:9 cinema format)
- Blu-ray player / DVD-ReWriter
- Dolby Home Theater® certified sound system with subwoofer[3]
- 4 GB RAM[2] / 500 GB hard drive
- NVIDIA® GeForce® 9600M GS graphics with HDMI

*Original price – £549.99 / **Original price – £399.99 / 1 Offer valid until 31 January, 2010. An extra €19.95 will be added for material, shipping and processing fees. Dispatch of Windows® 7 CD/DVD only after official market launch on 22.10.2009. The bank you have instructed will debit the sum of €19.95 at the current exchange rate, plus any fees incurred. Please contact your bank for further information. / 2 For computers that have 4 GB working memory the full memory is not available to the operating system and applications. The usable memory can vary and depends on the system configuration. / 3 Dolby and Dolby Home Theater are registered trademarks of Dolby Laboratories

www.argos.co.uk

Argos