



NEW WINDOWS REVEALED!

GET READY FOR THE INCOMING CREATORS UPDATE

23

PAGES OF WINDOWS  
STEP-BY-STEP GUIDES  
MAKE YOUR PC PERFECT



# Windows Help & Advice

✓ Stop slowdowns

✓ Fix common problems

✓ Perform essential maintenance

## KEEP YOUR PC **HEALTHY**

Extend your PC's life with these great **Windows tips & tricks**

40+  
COMMON PC  
PROBLEMS  
SOLVED!

**PARENTAL  
CONTROLS**  
KID-PROOF YOUR  
PC NOW!



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& RATED**

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- HUAWEI LAPTOP
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- ✓ Speed up your PC
- ✓ Remove malware
- ✓ Fix your photos
- ✓ Windows basics

Future

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XBOX ONE



Windows 10



Special Edition Xbox Wireless Controller  
– Winter Forces



Xbox Wireless Controller  
– Red



Xbox Wireless Controller  
– Green/Orange



Special Edition Xbox Wireless Controller  
– Ocean Shadow



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# Welcome

Keeping your PC in tip-top condition is something we all want to do, and in this month's lead feature we address over 40 of the most common PC issues you're likely to face – from misbehaving hardware to the sudden disappearance of previously useful features from the latest Windows update. All will be revealed on page 14.

We solve problems of a different kind on page 48 where we look at the parental control features of Windows 10. You'll

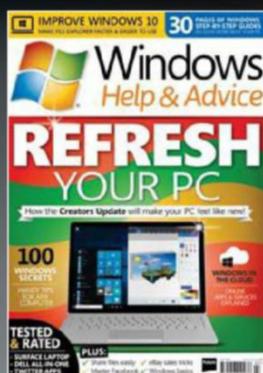
find lots of useful advice for setting up and managing child accounts on your PC – and how to make sure your offspring don't circumvent any protections that you put in place.

On page 58 we explain how to make your home network, faster, easier and more reliable to access and use. And elsewhere you'll find the usual selection of tips, tricks and step-by-step guides to help you make the most of Windows.

Enjoy the issue,

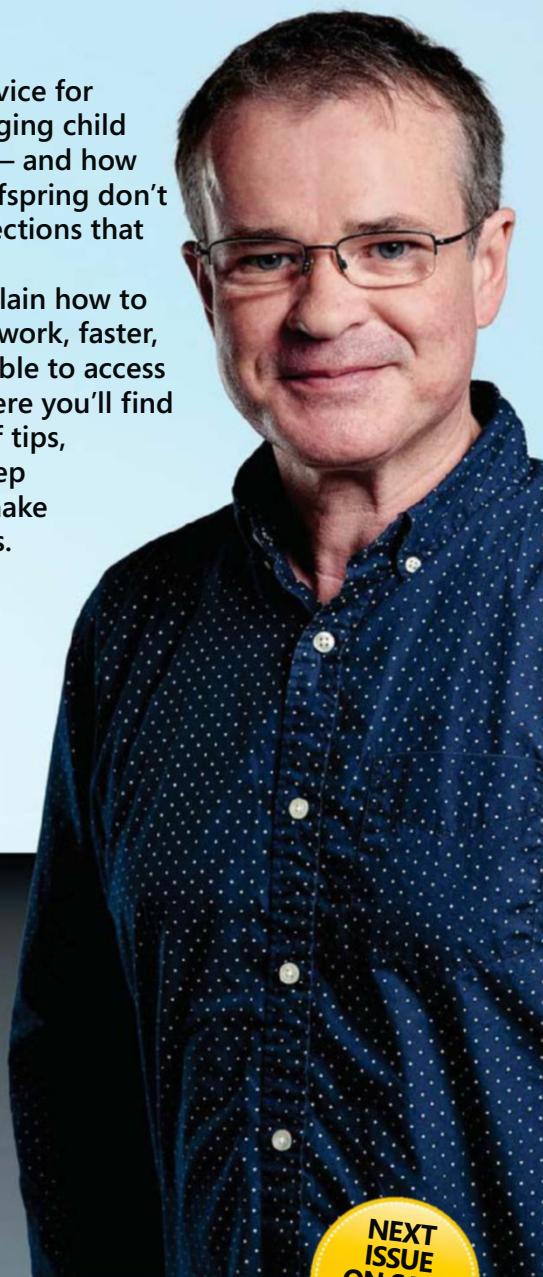
*Rob*

**Rob Mead-Green** Editor  
[www.facebook.com/windowsmag](https://www.facebook.com/windowsmag)



SUBSCRIBE TO THE MAG TODAY AND SAVE – JUST TURN TO PAGE 24!

We pride ourselves in being the only magazine on the shelves to show you exactly how to get the very best from the Windows operating system, whether you're using Windows 10 or Windows 8.1. Also, don't forget to take a look at how you can read the magazine on your laptop, smartphone or tablet.



NEXT ISSUE  
ON SALE  
18 August  
2017

Don't miss our **NEXT ISSUE**, when we will show you how to...

- Reinstall Windows 10 → Keep Windows 7 alive → Make your PC faster
- Make the most of Cortana → Batch rename photos → Master the Twitter app

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# Windows Help & Advice

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Fast fixes and simple solutions for over 40 of the most common PC problems

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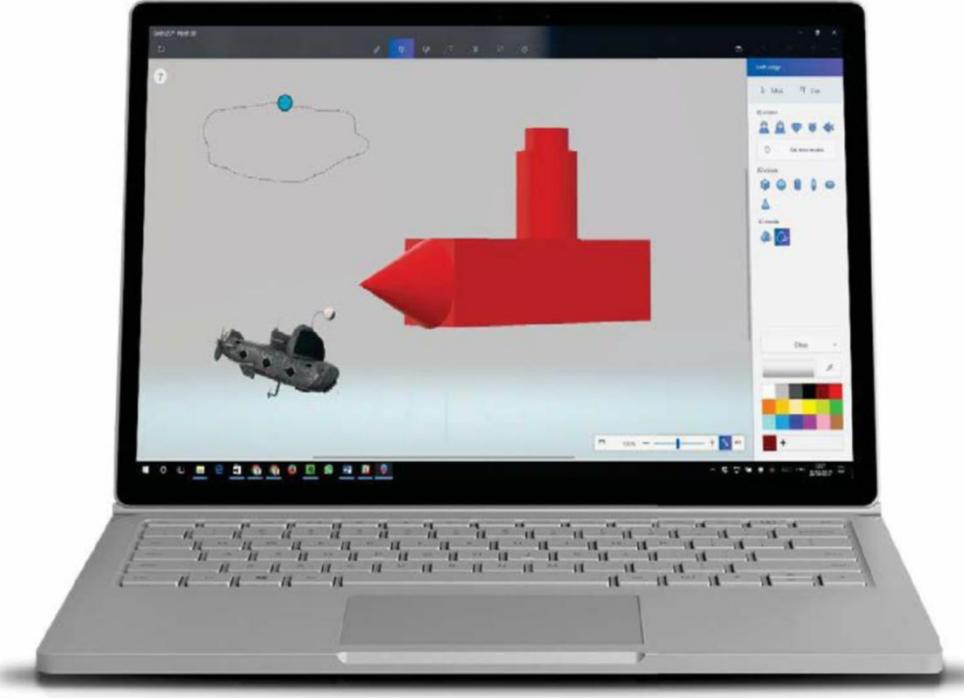
The next big update to Windows 10 is on its way – this is what you need to know

### 58 Set up the perfect network

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"If you're looking for better ways to use your home computer, then this is the place to start. We'll show you all the tips and tricks the experts use and more!"

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ON THE COVER

## KEEP YOUR PC HEALTHY

**14** Over 40 tips, tricks and fixes for the most common PC problems



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## SET UP THE PERFECT NETWORK

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# Transform your life with health and fitness tech

Enjoy the outdoors, eat better and improve your fitness today, without spending a fortune on unnecessary gadgets

With every technological innovation available to us today, there's no real excuse for not getting out, getting fit, and losing a bit of that excess weight. But the truth is that you don't need to invest in a stack of gadgets. Put down that Apple Watch, forget the Fitbit: with a PC and a smartphone, you already have everything you need.

Calories in, calories out. While there is certainly a vast amount of dissenting opinion, the fact is that if you burn off more than you put in, you're likely to lose a bit of weight.

## YOU ARE WHAT YOU EAT

Using a service like MyFitnessPal ([www.myfitnesspal.com](http://www.myfitnesspal.com)) is a great way to learn what you should be eating and keeping tabs on what passes your lips every day, particularly when tied in with its ultra-convenient mobile app.

Calories are only half the battle, though; you need proper nutrition. MyFitnessPal can also help you keep tabs

on what you're taking in, but a service like Eat This Much ([www.eatthismuch.com](http://www.eatthismuch.com)) will offer up a full, balanced diet plan, based on the amount that you want to consume each day.

Once you're eating right, you need to start moving right too. Your phone will be able to take care of step counting, which will help you track the calories you burn, and you can record your activities and diet progress on the likes of FitDay ([www.fitday.com](http://www.fitday.com)).

There are certainly plenty of ways to get structured exercise. Try the 'Couch to 5K' program (check your

mobile app store) which will – over a number of weeks – drag you away from your sedentary lifestyle into one where you can run a full five kilometres. There are plenty of 'Couch to 5K' apps to choose from, but our favourite is the one from Public Health England, which includes vocal encouragement from UK celebrities including Olympic athlete and BBC pundit, Michael Johnson.

## SLIM BUT STRONG

Asus' laptop does it all

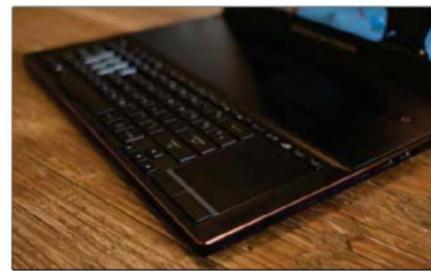
It used to be that if you wanted a laptop, which could also play games you'd have to invest in a hardly-portable and distinctly ugly brick of a machine. Not any more: thanks to nVidia's latest mobile graphics miniaturisations, we're going to start seeing laptops like this Asus ROG Zephyrus becoming the norm. Super-thin yet equipped with top-of-the-line pixel pushing technology, tomorrow's high-end laptops will finally balance aesthetics with muscle.



**BRIGHT OUTLOOK** Small stature doesn't mean you lose out on amenities like RGB-backlit keyboards.



**TRIM FIGURE** At its thickest point the Asus ROG Zephyrus is just 1.8cm – half of what you'd expect.



**OFF-CENTRE** Asus has moved the touchpad to the side and the keyboard to the front for space.

## The Knowledge...



### System on a chip

#### What's this, then?

System on a chip, or SoC, is a name you should take both literally and with a pinch of salt. Basically, it's about boiling down all the things that make a computer a computer into an efficient package that can be stored, for the most part, on a single silicon chip. It doesn't mean that your next PC will be made of one chip, though – just fewer chips.

#### What makes it important?

Think about it in terms of economics. If a computer manufacturer can order up one thing to replace a number of different components, there's a massive cost saving which will be passed down to you. SoC reduces complexity and heat, meaning PCs can start to get smaller and lighter. And SoC allows different PC components to be cleverly interconnected, massively improving efficiency.

#### Have I used SoC?

You've almost certainly had your hands on a SoC device, quite literally: most modern phones have one at their heart. The huge popularity of smartphones has accelerated the development of these chips, meaning they're now powerful enough to start powering proper PCs.

#### So what's happening?

Chip manufacturer Qualcomm is entering into a partnership with Microsoft and a number of well-known PC manufacturers to launch a range of SoC-based fanless, super-light, all-day battery laptops running the full version of Windows 10. They might not quite be up to playing games – running software meant for one processor on another kind of processor isn't easy – but if you need to get work done they'll be perfect.

#### When are they due?

That part's not entirely clear. The initiative was announced in Taiwan at this year's Computex technology show, and we expect the new hardware to land somewhere towards the end of 2017. We'll take a look at it as soon as we can.

A share of the action

## Playing the game – or not

Twitch takes streaming, and gaming, to brand new places... and even allows players to dabble in the stock market

Game-streaming website twitch.tv is, to many, an oddity. Owned by e-commerce giant Amazon, Twitch is a service primarily based around players broadcasting their gameplay live to the world. That might sound dull or – whisper it – pointless, but it turns what's often a solitary pursuit into something that's half-social and half-performance, and attracts a huge audience: certain individuals have attracted over 200,000 concurrent viewers, while some competitive e-sports streams have topped over one million.

Twitch has been able to achieve these heights partly because of its history of user interaction, and many streamers make a living from sharing their play with viewers. Popular games – such as *Playerunknown's Battlegrounds*, a 100-player battle royale on a weapon-filled island – mean viewers get a chance to game with their heroes.

But it goes further: Twitch viewers have famously – and awkwardly – completed several Pokémon games by typing commands into its chat window, and many

new titles are now integrating such interactions into their makeup. Roman gladiator simulation *Domina*, for example, encourages viewers to give a thumbs up or thumbs down to their favoured combatant, influencing the outcome of battles or even playing Caesar and putting losing fighters to the death.

Games aren't Twitch's only content. It has recently launched an 'IRL' category which focuses on streamers' real lives, and people are coming up with more creative ways to use the service. Mike Roberts, an Amazon software engineer, is putting a lot of faith in viewer interaction, allowing visitors to <http://stockstream.live> to invest \$50,000 of his own money in the stock market. Every five minutes while the New York Stock Exchange is open, a voting round is held,

and the top rated share is bought or sold. Viewers score points based on whether they back winners or losers, with top investors being added to a leaderboard. Even with limited trades being made, this seems a risk, but Mike's money seems reasonably safe – the portfolio has made a small profit at the time of writing.



Download this...

### Spotify

[www.spotify.com](http://www.spotify.com)

Music streaming juggernaut Spotify isn't new. It's a service that's been around for a while and, if you read some statistics in just the right way, might have even eclipsed the US music sales market in terms of revenue. But what is new is its Windows 10-specific app, which does everything the traditional desktop and mobile apps do with one key difference: it's going to be compatible with every version of Windows 10. This includes the education-focused Windows 10 S, which restricts you only to applications downloaded from the Windows Store.

You can listen to Spotify for free with a restricted, ad-heavy freeloader account, and subscribe to Spotify Premium, with its full 30 million song library and access to mobile apps, from £4.99 per month for a student account to £14.99 per month for a 5-user family account.



**LISTEN UP** Spotify has made tuning into your tunes easier with its Windows 10 app.

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[www.facebook.com/windowsmag](http://www.facebook.com/windowsmag)

## THE 60-SECOND QUIZ

Pens at the ready, your time starts now!

1 Approximately how many English articles are on Wikipedia?

- A 3.5 million
- B 5.5 million
- C 7.5 million

2 How many edits are made to Wikipedia each day?

- A 8,000
- B 86,000
- C 864,000

3 What is Wikipedia's longest article?

- A List of Australian treaties
- B List of Microsoft staff
- C List of fidget spinner uses

4 What is Wikipedia's most visited article?

- A Lemon
- B Kangaroo
- C Wiki

5 Who founded Wikipedia?

- A Jimmy Wales
- B Davey Scotland
- C Barry France

6 Which was the first foreign language version of Wikipedia?

- A Catalan
- B Slovenian
- C German

Answers 1B, 2C, 3A, 4C, 5A, 6C

NEXT ISSUE ON SALE

Friday

18

August



XBOX ONE X: WE'VE TRIED TRUE 4K GAMING

# T3

The Gadget Magazine

**NEW  
iPAD  
PRO**



REVIEWED!

+ iMac  
Pro

Oh, and meet  
iPhone 8

**16**  
WIRELESS  
SPEAKERS



Sony's  
amazing  
4K phone  
on test

## HOMEPOD

Apple takes on Amazon Echo and Google Home for control of your smart home

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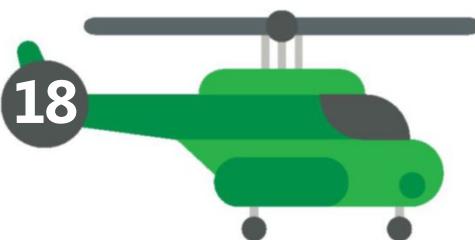
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# Facts & figures

Rob Mead-Green reveals a host of fascinating digital facts



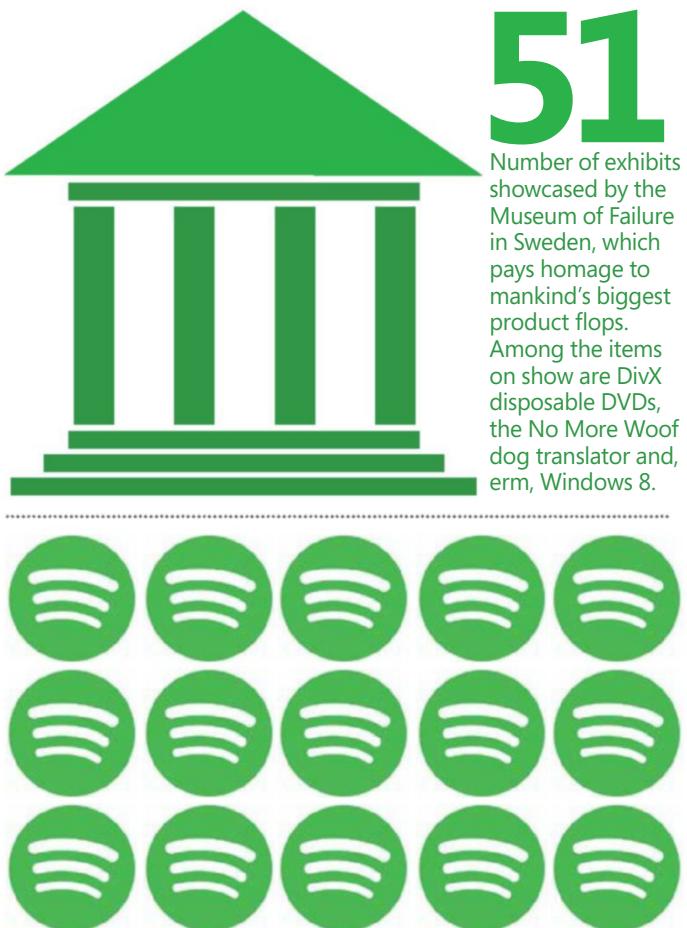
Number of rotors on the Volocopter 2X – a German-made and designed autonomous electric helicopter currently undergoing trials in Dubai. If the trial is successful, the Volocopter will go into service as a flying taxi later this year.



Size in inches of the new Dell UltraSharp 38 Curved Monitor (U3818DW). This huge 21:9 display offers 4K Ultra HD resolution (3,840x1,600 pixels) and can display 1.07 billion colours. It also includes six USB 3.0 ports. The price? A cool \$1,449 (£1,181).



Price, in dollars, of the new Xbox One X games console. Formerly known as 'Project Scorpio', the 4K console features a custom 2.3GHz, 8-core AMD processor and 12GB of GDDR5 RAM, giving it six teraflops of graphics power. It goes on sale worldwide in November.

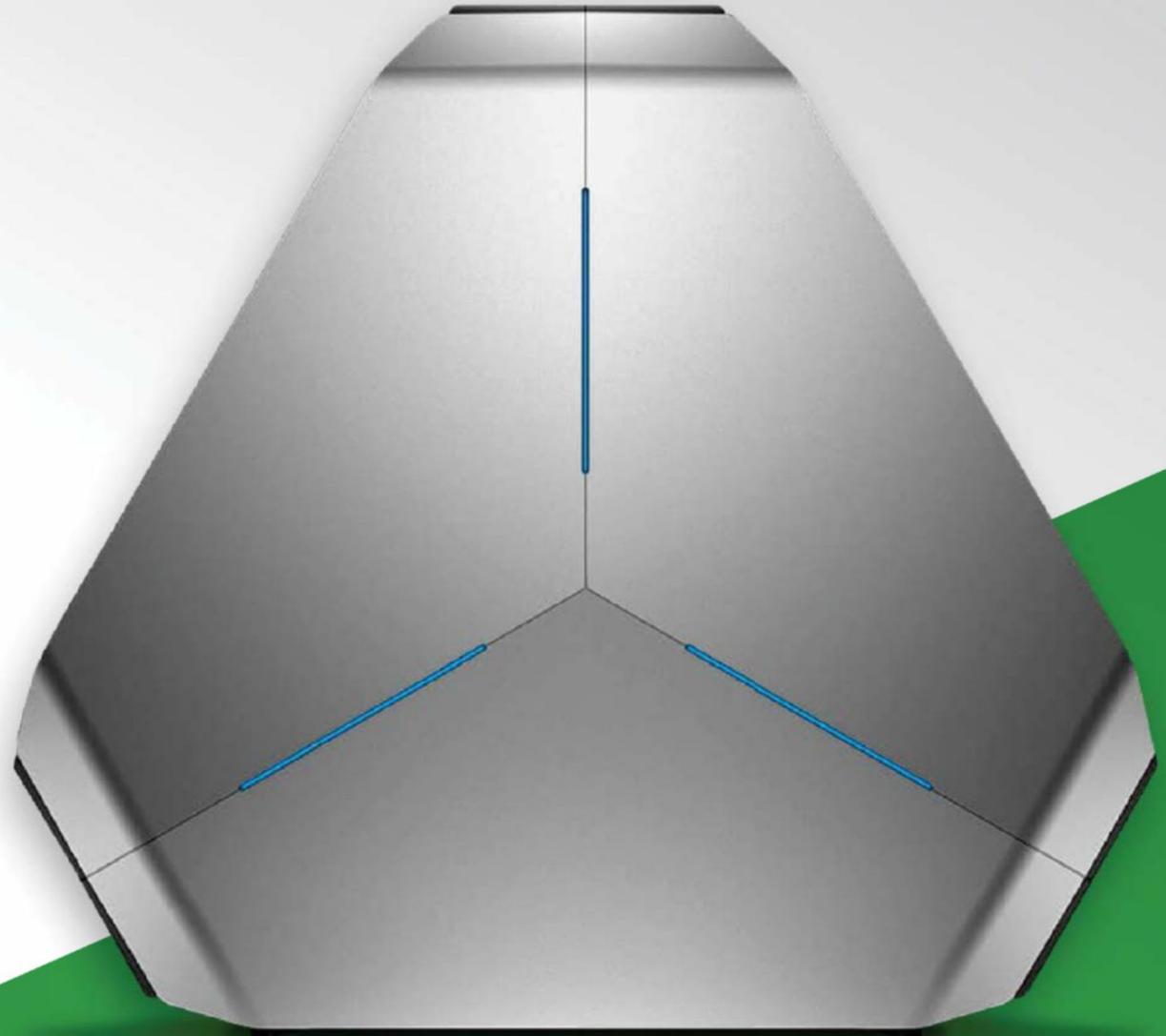


140,000,000

Number of active users on Spotify, 90 million of which use the free, ad-supported version of the music streaming service.

# >> Incoming

The hottest new Windows hardware on the horizon!



## Alienware Area-51

From £1,649, [www.dell.com/alienware](http://www.dell.com/alienware)

Announced at E3 in June, the updated Alienware Area-51 is a Windows 10 desktop for gamers, 'megataskers' and those of us who simply want the most powerful hardware that money can buy.

First up is the Area-51 Threadripper Edition. On sale at the end of July, it's the first PC to be equipped with AMD's incredible 16-core/32-thread Threadripper processor. It will be followed at the end of summer by a Core-X Series edition, which will feature Intel's 4.5GHz 10-core Skylake-X Core i9 CPU at the top-end.

Whichever edition you choose, you'll be able to kit out the Area-51's 'triad' design case with up to three discrete graphics cards, up to 64GB of RAM and your choice of M.2 SSD, hard drive, hybrid drive and optical disc drive tech from the long list of build-to-order options. Both are 4K/8K ready too. Want.

# KEEP YOUR PC **HEALTHY**

Discover how to resolve some of  
the most annoying PC-related  
niggles and glitches known to man.

**Nick Peers** is your guide

**Y**ou could say that if there's one thing Windows is guaranteed to be good at, it's annoying people. With each new release comes a host of new features, while existing features get dropped or moved somewhere obscure. Then there's the frustrating problems caused by glitchy hardware or misbehaving apps, never mind the shortcomings of the internet and the questions of security and privacy.

We've rounded up over 40 of the biggest annoyances we've come across – with your help through the pages of Support Squad – in the years we've been running Windows. We've dug out workarounds and fixes, and found ways to restore

missing features. We've focused on those niggles that have most universal appeal, and made sure our solutions are easy to follow.

We cover everything from fixing sound-related problems to playing DVDs and Blu-rays in Windows for free. Discover how to put Cortana back in her place and get rid of unwanted built-in Windows apps (while restoring useful features, such as Windows Photo Viewer). It's all here – and more.

And the next time a particularly annoying feature or problem raises its head? Don't keep it to yourself, email Support Squad at our new shiny address – [windows.helpline@futurenet.com](mailto:windows.helpline@futurenet.com) – and if we select your question for publication we'll be in touch to discuss possible solutions with you.



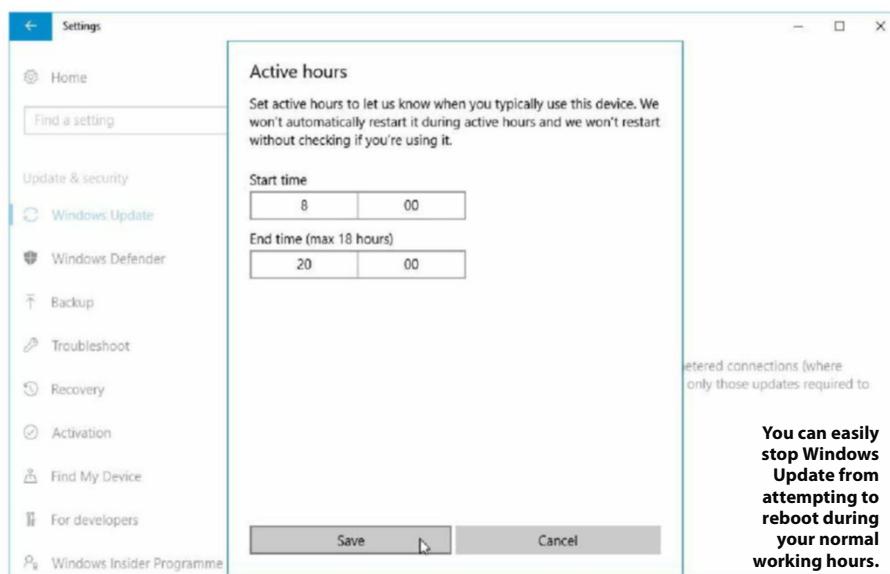
# Fix Windows problems

The following tips and tricks will help you restore missing features, as well as curb some of Windows 10's more annoying habits

**L**et's start by checking that System Restore is enabled (it's switched off every time Windows 10 performs a major update). Type 'system restore' into Cortana's search box and then choose 'Create a restore point'. Check your system drive – if it's off, select it and click Configure... Choose 'Turn on system protection', then set the slider to 5GB or 5% of available space before clicking OK.

Worried that Windows Update might suddenly attempt to reboot without warning while you're using your PC? Click Settings > 'Update & security' and choose 'Change active hours' under Windows Update. Set your start and end times – and Windows Update won't automatically restart during these hours. While you're here, select Advanced Options > 'Choose how updates are delivered', then select 'PCs on my local network' or flick the switch off to stop your PC being used to deliver updates to other computers over the internet.

Microsoft is doing its best to reduce reliance on the System Control Panel by replacing it with Settings, and the Creators Update makes it even harder to find. If you're a Control Panel fan, you can still jump straight to it by pressing [Win] + [Pause/Break]. You can also press [Win] + [R], type 'sysdm.cpl' and then press [Enter] to go to its Advanced, System Protection and Remote tabs.

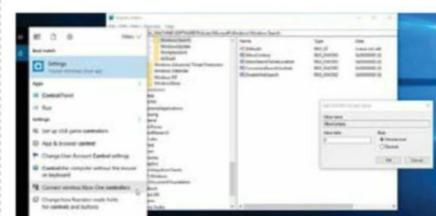


## Disable Cortana

Microsoft makes it harder to disable its Cortana search tool with every release – if you didn't click 'No' when setting up the Creators Update, you can disable Cortana and convert the Search box into a regular search tool.

Press [Win] + [R], type 'regedit' and hit [Enter] to open the Registry Editor. Browse to **HKEY\_LOCAL\_MACHINE\SOFTWARE\Policies\Microsoft\Windows\WindowsSearch**. With WindowsSearch highlighted, look for a value marked AllowCortana in the right-hand pane. If it's not present,

choose Edit > New > DWORD (32-bit) Value to create it. Once created, double-click the AllowCortana value and change its value to 1. Click OK.



**Remove Cortana and turn the Search box into a tool for exclusively searching your computer.**

## SIMPLIFY WINDOWS TWEAKS

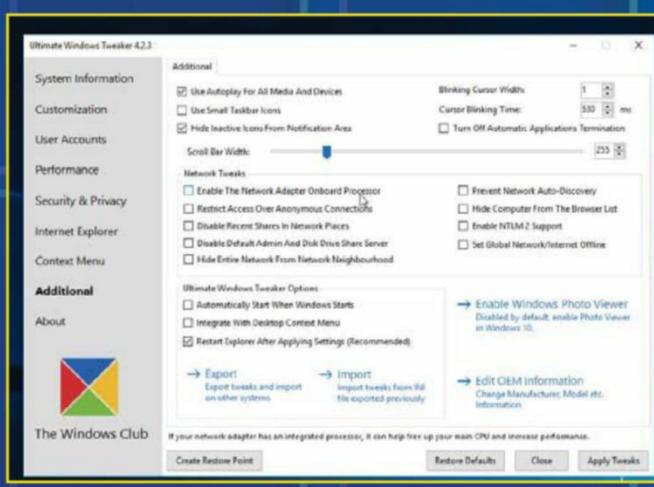
Many useful settings are hidden away in the Registry, but if you download and run the free Ultimate Windows Tweaker 4.2 tool from [www.thewindowsclub.com/ultimate-windows-tweaker-4-windows-10](http://thewindowsclub.com/) – a mere 495KB – you'll find over 200 tweaks to wrest back control of Windows.

Highlights include shortcuts to several Windows tools on the main screen, while the Customisation section contains no less than four tabs packed with settings, such as restoring the classic battery and volume control pop-ups in the Taskbar notification area. Look under the 'This PC' tab to restore

classic system tools hidden away in Windows 10.

Another favourite of ours: switch to the Additional section and then click Enable Windows Photo Viewer to bring back the classic Windows 7 photo-viewing tool. You then navigate to Settings > Apps > 'Default apps' where you can restore it as your default photo viewer by clicking 'Choose a default' and selecting it from the list.

You can find out more about individual tweaks in the Ultimate Windows Tweaker 4.2 tool by rolling your mouse over them, and click 'Restore Defaults' to undo all your tweaks if necessary.

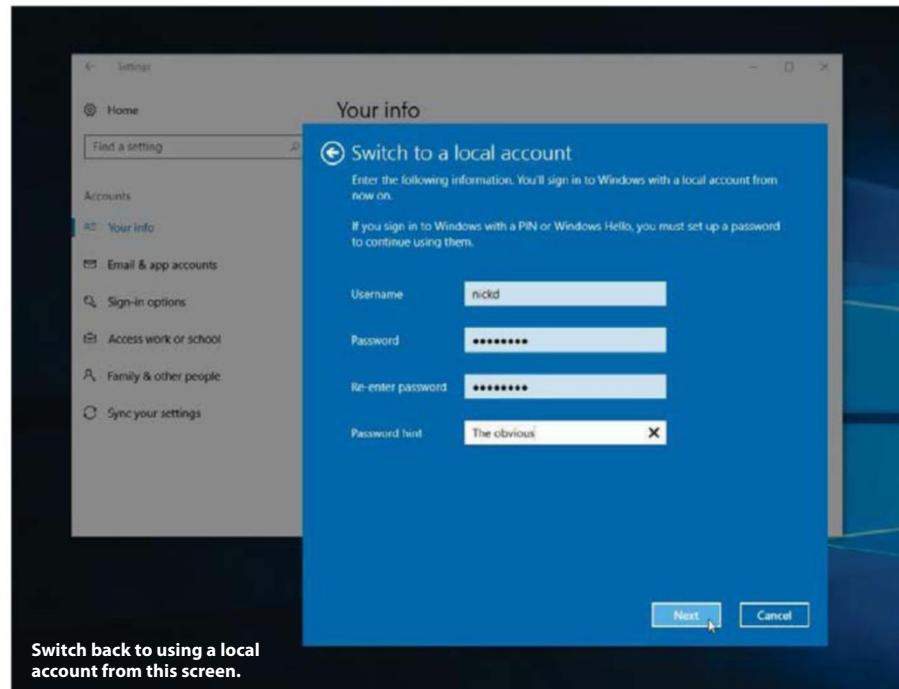


Finally, either reboot or right-click the Taskbar and choose Task Manager. Choose 'More Details' to bring up the Processes tab, scroll down, select File Explorer and click Restart. The search box should now simply say 'Search Windows' – use it to search for files, folders, programs and settings.

### More tweaks

If you have resisted logging in with a Microsoft account when you upgraded to Windows 10, you may now want to switch for convenience's sake. To do this, go to Settings > Accounts > 'Your info'. You'll see an option to sign in with your Microsoft account instead – select it and follow the prompts.

If you want to go back, you can do that from the same dialogue box – this time, choose 'Sign in with a local account instead'. Enter your Microsoft account password, then choose a local username, password and password hint. Click 'Next' to sign out and back in – you'll need to sign into the Windows



## "One new feature in Windows 10 is that you can now scroll inactive windows without selecting them"

Store to access apps you've previously installed from there as well as other cloud services if you use them, but the underlying account will be a local one.

One new feature in Windows 10 is that you can now scroll inactive windows without selecting them – move the mouse over the window and scrolling affects that window, not your currently selected one. If the behaviour doesn't suit, go to Settings > Devices > Mouse and flick the 'Scroll inactive windows when I hover over them' switch to Off.

If you upgraded to Windows 10 from a previous version of Windows, you may wonder what product key you'll need should you ever reinstall it on your PC. The answer is: none. If you're ever prompted to enter a product key during setup, just click Skip and Windows will activate itself with no problem.

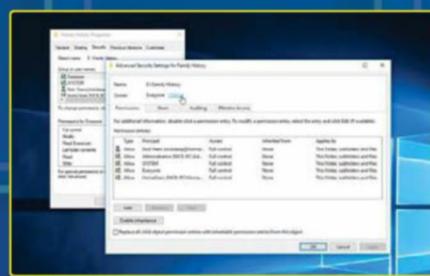
Finally, some programs continue to use the old Windows XP Help system, which was retired a while back. It used to be offered as an optional download, but no more. Don't let that stop you: go to [www.komeil.com/download/1230](http://www.komeil.com/download/1230) to

download winhlp32-windows-7-x86-x64-komeil.cab to your PC. Save it to your hard drive, then double-click the CAB file and drag the three files into a new folder to extract them. Right-click the extracted Install.cmd file and choose Edit. Add the following two lines to the ':: Settings' section:

```
set WindowsVersion=7
goto :BypassVersionError
```

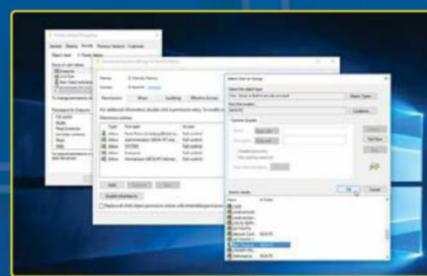
Save the file and exit Notepad. Now right-click Install.cmd again, but this time choose 'Run as administrator'. Click Yes when prompted. A command window should appear, indicating files copied and Registry entries updated successfully. Close the command prompt window and reopen your program. Press [F1] and you should find that Help works properly again.

## Reclaim ownership of a folder



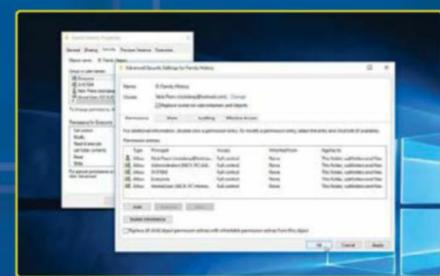
### 1 Access owner

Open File Explorer and browse to the folder in question. Right-click it and choose Properties, then switch to the Security tab. Click 'Advanced' and then click Change next to the current owner's name. You'll need administrator level privileges to be able to do this.



### 2 Locate user

Type part of your username into the 'Enter object name to select' box and click Check Names – if nothing is found, click Advanced... and simply click 'Find Now' to view all of the available users. Finally, scroll down to select your name, then click OK twice.



### 3 Final tweaks

As things stand, you will only be made the owner of the folder itself, not its contents. To rectify this, tick the 'Replace owner on subcontainers and objects' box before clicking OK. Wait while the owner is updated on all the selected files and folders. It shouldn't take long.

# Fix hardware problems

Discover some easy fixes for troublesome computer components – with our guide to solving your Windows hardware woes

## O

ne of the annoying things about upgrading Windows is when you suddenly discover that your older hardware is no longer supported.

You plug it in, and either nothing happens, Windows tells you drivers aren't available or – in the case of AMD graphics – it installs a basic display adapter that's stuck at a low resolution.

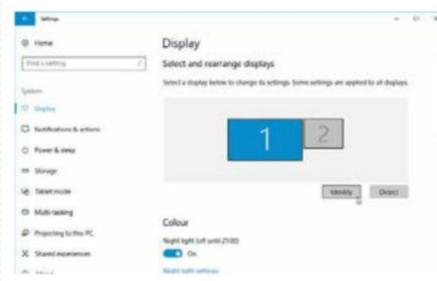
Before you throw out the baby with the bathwater, press [Win] + [Pause/Break] to open the System Control Panel and confirm your operating system type (32-bit or 64-bit). Now visit your hardware manufacturer's website and

seek out the latest version of its driver, making sure it matches your system type – Windows 8, 7 and even Vista drivers should work.

If you own two or more printers, it can be a hassle switching between them. One workaround is to switch default printer to whichever one you printed to last – click Start > Settings > Devices > 'Printers & scanners' and flick the 'Let Windows manage my default printer' switch to On.

Struggling to get your network printer working? If your wireless printer doesn't have a WPS switch for easy connection to the network, connect it to your PC with a USB cable after

**Plug your laptop back into your main monitor if you can't get the display working to troubleshoot.**

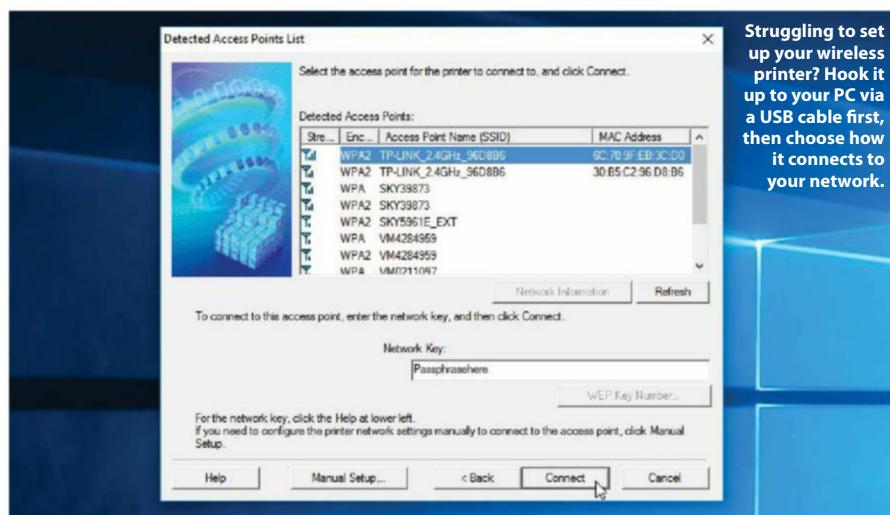


downloading and running the latest printer software – be sure to select Wireless during setup to allow the installer to help you connect the printer to your wireless network.

## Common laptop issues

Problems with your laptop screen? If the screen flickers or the resolution is too cramped, open Device Manager (press [Win] + [R], type 'devmgmt.msc' and press [Enter]). If a yellow exclamation mark is present next to either the Display Adapter or Monitor then double-click the entry to find out what the problem is; look for an updated driver from your laptop manufacturer or take a closer look at any error codes or troubleshooting options offered.

If the screen appears to be dead and you recently plugged it into a monitor, it may still be set to output to the HDMI port – check for special keys that enable



## HARD DRIVE HEALTH

Make sure your hard drives are in tip-top condition. You can check their physical health using tools such as Speccy ([www.piriform.com/speccy](http://www.piriform.com/speccy)), which uses a drive's S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) status to alert you to early signs of potential disk problems. Also periodically run the Disk Check tool outside of Windows to pick up errors the Windows-based tool seems to miss.

To do that, right-click the Start button and choose 'Command Prompt (admin)', then type the following line:  
**\$ chkdsk c: /f /r**

Press [Y] when prompted, then

reboot your PC to run the disk check, which will attempt to fix any errors it finds. If the disk check keeps appearing on startup, click Start > Settings > 'Update & security' > Recovery and click 'Restart now' under 'Advanced start-up'. At the recovery menu, choose Troubleshoot > Advanced Options > Command Prompt. Your PC will reboot and you'll need to select your username and enter your password. When the prompt appears, type the following, substituting 'c:' for whatever drive letter you're scanning:  
**\$ chkdsk c: /f /r /x**

This should fix the problem.

Attribute name	Real value	Current	Worst	Threshold	Raw value	Status
05 Reallocated Sectors Count	0	100	100	10	0000000000	Good
09 Power-On Hours (POH)	308d 19h	98	98	0	0000001C73	Good
0C Device Power Cycle Count	1,051	98	98	0	00000073B	Good
B1 Wear Leveling Count	137	98	98	0	0000000089	Good
B3 Used Reserved Block Count (Total)	0	100	1	10	0000000000	Good
B5 Program Fail Count (Total)	0	100	100	10	0000000000	Good
B6 Erase Fail Count (Total)	0	100	100	10	0000000000	Good
B7 Runtime Bad Block (Total)	0	100	100	10	0000000000	Good
B8 Uncorrectable Error Count	0	100	100	0	0000000000	Good
B9 Temperature Exceed Count	39	81	90	0	0000000027	Good
C3 ECC Rate	0	200	200	0	0000000000	Good
C7 CRC Error Count	0	100	100	0	0000000000	Good
E8 Power Recovery Count	317	99	99	0	0000000013D	Good
F1 Total LBAs Written	47,817,543,082	99	99	0	002258CDAA	Good

Speccy enables you to view each hard drive's S.M.A.R.T. attributes in detail, highlighting any potential issues that may shorten its life.

**Troubleshoot**

- Blue Screen
- Bluetooth
- Hardware and Devices
- HomeGroup
- Incoming Connections
- Keyboard

**Run the troubleshooter**

you to cycle through available displays – typically something like [Fn] + [F3] – to see if the screen comes back, or re-connect it to a monitor and go to Start > Settings > System > Display. Look under ‘Multiple displays’ to set the default screen back to the laptop.

If the problem persists, then it may be a physical problem. You could source a service manual online and open your laptop to check for a loose connection, or try an online service such as www.hplaptoprepair.co.uk, which offers a parts-only or fully-fitted repair service.

Other common driver issues may be linked to your laptop’s trackpad not working as it should – it’s worth looking on your manufacturer’s website for a dedicated driver. If one exists, go to Start > Settings > Devices > ‘Mouse &

## “Most sound-related problems come down to the incorrect playback or recording devices being selected”

touchpad’ and click ‘Additional mouse options’. Look for a Device Settings tab where you may find some configurable tweaks to make it more useful.

Finally, head to Windows 10’s battery saving feature via Start > Settings > System > Battery, where you can tweak your laptop’s battery saver settings to come on earlier and so prolong the time it lasts between recharges. Also look at switching your web browser to Opera ([www.opera.com](http://www.opera.com)), which comes with its own built-in battery saver to extend browsing time too.

## More tips

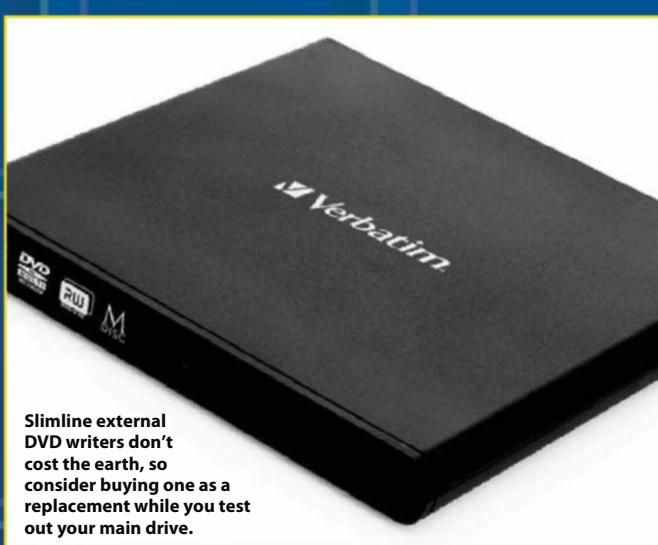
Sleep-related computer problems can usually be fixed once you know which component is refusing to play nicely. Right-click the Start button and choose ‘Command Prompt (admin)’. Type ‘powercfg –energy’ and hit [Enter]. When complete, browse to C:\Windows\System32 and double-click the energy-report.html file to review in your browser. Make a note of errors and then identify suspect devices in Device Manager. Double-click each in turn and look under the Power Management tab (if it exists) for settings to prevent that device from bringing your computer prematurely out of standby.

Most sound-related problems come down to the incorrect playback (speakers) or recording (microphone) devices being selected. Click the ‘^’ button in the Taskbar notification area and look for a white speaker icon. Right-click this and choose either Playback or Recording devices to see a

list of available devices, including which one is currently the default. Select the correct device and click Set Default – you can click the down arrow next to it to choose different default devices for regular sound and communication through applications such as Skype.

Finally, go to Start > Settings > ‘Update & security’ > Troubleshoot where you will now be able to access all the available Windows troubleshooters. Start with the Hardware and Devices option to see whether this can help resolve the issue for you.

## DVD DRIVE ISSUES



Problems with your CD or DVD drive? There’s no longer a dedicated troubleshooter for this problem, so you’ll need to search for a solution at <http://support.microsoft.com/kb/314060> – here you’ll find a handy step-by-step guide that covers most of the steps you’ll need to follow to resolve the issue, such as making sure the drive is visible in Windows, and that third-party burning software (particularly if it was installed prior to you upgrading to Windows 10) isn’t responsible for the problem.

If you’re struggling to burn DVDs or CDs, eliminate all software problems before assuming the drive itself is faulty (remember, some drives use different lasers for CD and DVD, so the drive may appear to work when in fact it needs replacing if you’re able to burn or read one type of disc, but not the other). If all else fails, buy a low-cost external model – around £15–£20 – and plug it into your PC. If that works okay, then the original drive may have failed and can be replaced by your new one.

# Internet and security

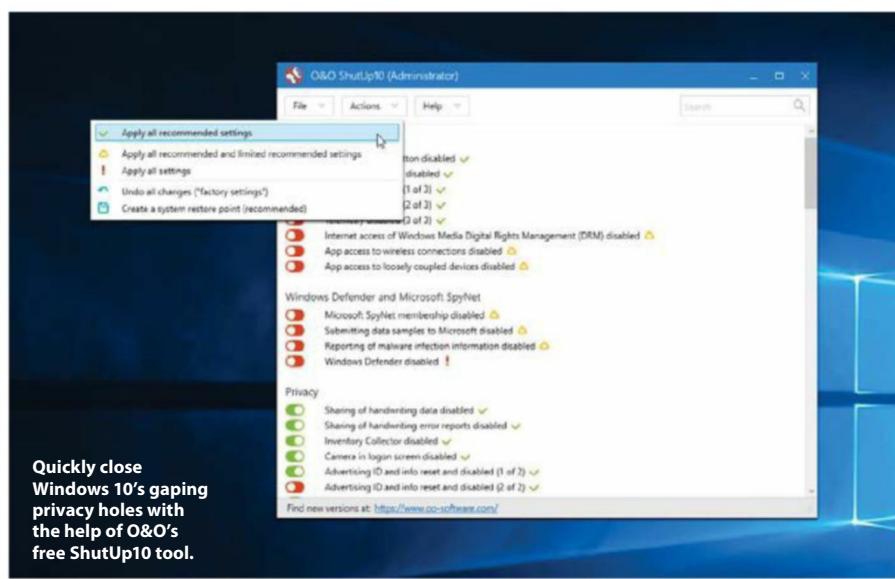
Reduce spam, improve your privacy and fix all kinds of network and internet-related problems with these useful tips

**L**et's start by tightening Windows 10's privacy controls. Even if you diligently went through the setup wizard when you installed the current Creators Update, it can be confusing knowing which settings to pick – and even then, you'll find that there are other privacy tweaks you should consider applying.

Windows 10 thoughtfully scatters these settings far and wide throughout your PC, but by downloading the latest version of the free O&O Shutup10 tool from [www.oo-software.com/en/shutup10](http://www.oo-software.com/en/shutup10) you can view and manage them easily. Once downloaded, double-click OOSU10.exe and give it administrator access when required.

If you've previously run the tool, it'll detect previous settings; otherwise, you'll see a list of switches you can click on for an explanation. Either flick switches manually, or go with O&O Shutup10's recommendations via the Actions menu. All changes can be undone, and a System Restore point is taken, just in case.

Shutup10 can be used to stop Windows 10 from displaying app 'suggestions' (otherwise known as ads) appearing in the Start menu via its Miscellaneous section. Windows will also nag you to set up or install OneDrive if you don't already use it in File Explorer – to switch this 'nagging'

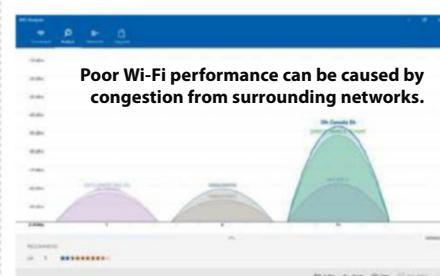


off open File Explorer and click Options under the ribbon's View tab. Switch to the View tab of Folder Options and untick 'Show sync provider notifications' under 'Advanced settings'.

## Fix connection problems

Are you struggling with your internet connection? If you've tried the Network Connection Troubleshooter (access it from the network icon in the Taskbar notification area) with no success, take a System Restore point. Now download and run the Complete Internet Repair tool from <http://www.rizonesoft.com/>

[downloads/complete-internet-repair/](http://www.rizonesoft.com/) – click the 'i' next to each repair to find out more about it. We recommend trying repairs one at a time, but verify

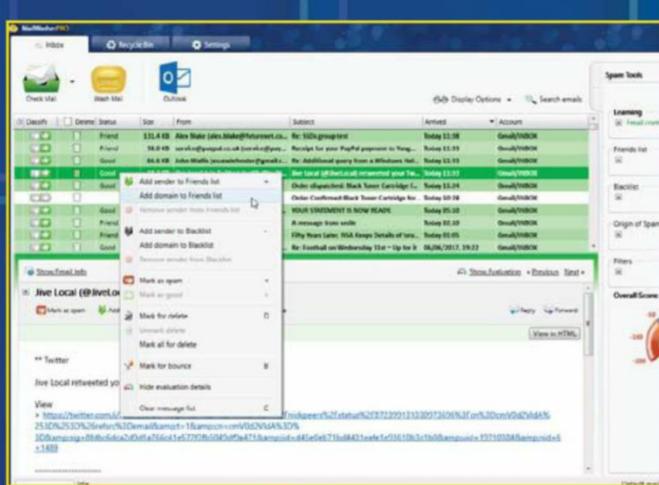


## BLOCK SPAM

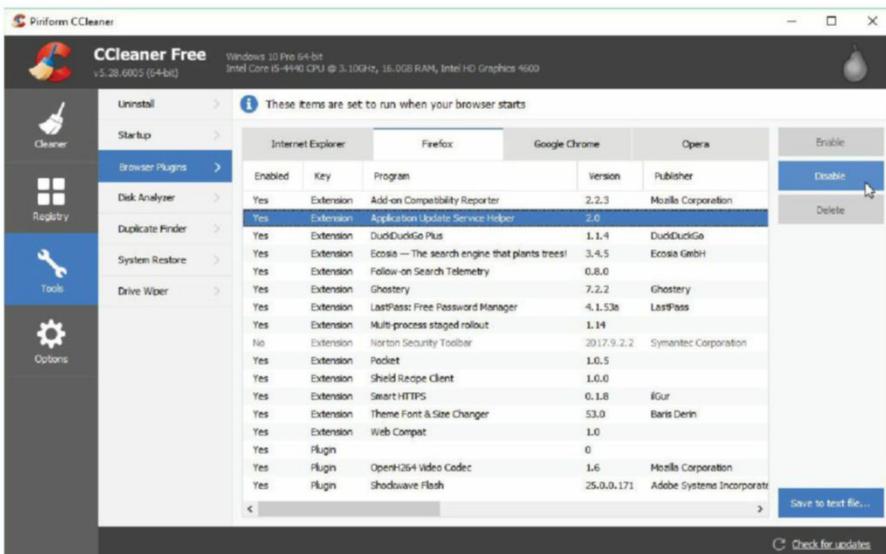
There's no foolproof way to completely stop yourself from receiving spam – if your email address falls into the hands of a spammer, all you can do is find effective ways of filtering it out. Consider installing a third-party tool such as Mailwasher ([www.mailwasher.net](http://www.mailwasher.net)) that you can use to screen your emails. Once installed, take the time to 'train' the app so it recognises the kind of spam emails you receive and then configure it so it deletes them automatically before they reach your inbox. You can also minimise spam by switching to plain text view

by default and never opening a spam message – it'll almost certainly contain some form of tracking device to alert the spammer to the fact your address is active and in use. If you do open a message, don't click any links – instead, simply mark the message as spam so your email provider knows what to do with it in future.

Finally, take the time to check your junk mail settings to fish out legitimate emails – if you recognise a marketing email as genuine, take the time to unsubscribe rather than marking it as spam.



Use Mailwasher to build up a list of trusted contacts as well as known spammers – it'll help filter unwanted mail out of your mailbox.



Clear out dodgy add-ons and their files with CCleaner's help.

the problem is with your PC and not your wider network before running it.

If your internet connection works, but is periodically sluggish, check that your cloud storage provider isn't hogging all the available bandwidth and, if it is, restrict its upload speeds. OneDrive users should right-click the OneDrive Taskbar notification area icon and choose Settings > Network. Make sure 'Adjust automatically' is selected; other cloud providers should offer a similar setting (you can choose 80% if no automatic setting is provided).

Problems with your Wi-Fi connection could be down to interference from another network – search for 'Wi-Fi

Analyzer' in the Windows Store and use that to locate a channel (typically 1 or 11) where congestion is lowest. Change the channel setting itself through your router's configuration utility in your web browser – see our 'Create your perfect network' feature on page 58 for more.

Having problem connecting to your Homegroup? Consider dropping it entirely and use regular file sharing instead; otherwise, if the Homegroup troubleshooter fails to yield a solution, start from scratch. First, leave the current homegroup on all your PCs. Then switch them all off except for one. Create a new homegroup on this PC, then connect the others to the new

homegroup one at a time – this should remove the 'ghost' homegroup and get things working again.

### Tighten security

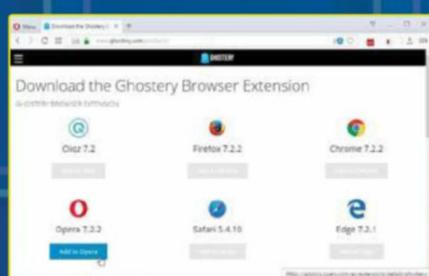
If you're in the process of switching to a new security product, make sure all traces of the old tool are removed first. Most security providers offer a manual removal tool that should purge all traces of it from your system – visit <http://support.eset.com/kb146/> for a list if you're struggling to track one down. Try running the tool even if you've already removed the program and it's interfering with your new software.

If you have not yet done so, switch on two-step verification to offer additional protection for accounts that use them (at the very least protect core services such as LastPass or your webmail provider). Not all programs support two-step verification, but any online service worth its salt will allow you to generate one-time app passwords that you use to connect the program to your service without compromising security. Look in its Security settings for the app password generator.

Malwarebytes Anti-Malware ([www.malwarebytes.com](http://www.malwarebytes.com)) is an essential tool for any user – it can remove infections, like potentially unwanted software that other tools miss. But if those infections keep coming back, you need to identify the source. Check where the files originate – if they're inside your browser's cache, you should check to see what add-ons are installed as one of these could be responsible. Use a tool like CCleaner ([www.piriform.com](http://www.piriform.com)) to clear your browser cache and disable or even remove suspicious add-ons. Or consider buying the Professional version of Malwarebytes to provide real-time protection against these and other threats (such as malicious websites).

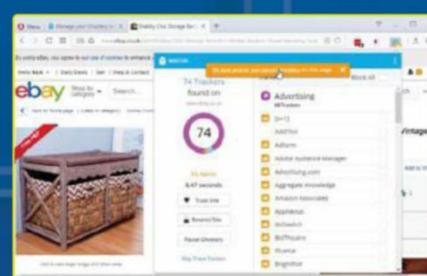
## "Having trouble connecting to your Homegroup? Consider dropping it entirely and use file sharing instead"

### Manage web cookies with Ghostery



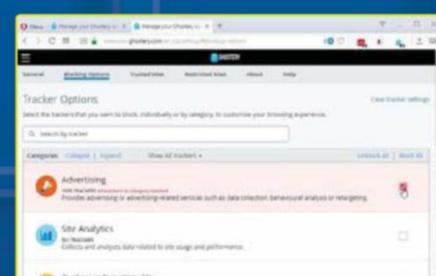
#### 1 Get Ghostery

Browse to [www.ghostery.com](http://www.ghostery.com) and click the Install button, then follow the prompts to install Ghostery via your browser's add-on repository. Choose whether to share anonymised data, then create a user account to access Ghostery across multiple browsers or computers.



#### 2 Basic functionality

Keep an eye on Ghostery's icon in your browser's toolbar when you visit websites. It'll list the number of tracking cookies – click for a summary. Be sure to pay attention to specific warnings – click 'Restrict site' to apply site-wide restrictions or review and manage individual cookies.



#### 3 Block trackers

Right-click the Ghostery icon and choose Settings to manage your account through your browser. You can review current settings, plus go to Blocking Options to automatically block known trackers based on their type to quickly benefit from Ghostery's tools.

# Fix software problems

We've tamed Windows 10, your hardware and the internet – now it's time to tackle your applications with these handy tips

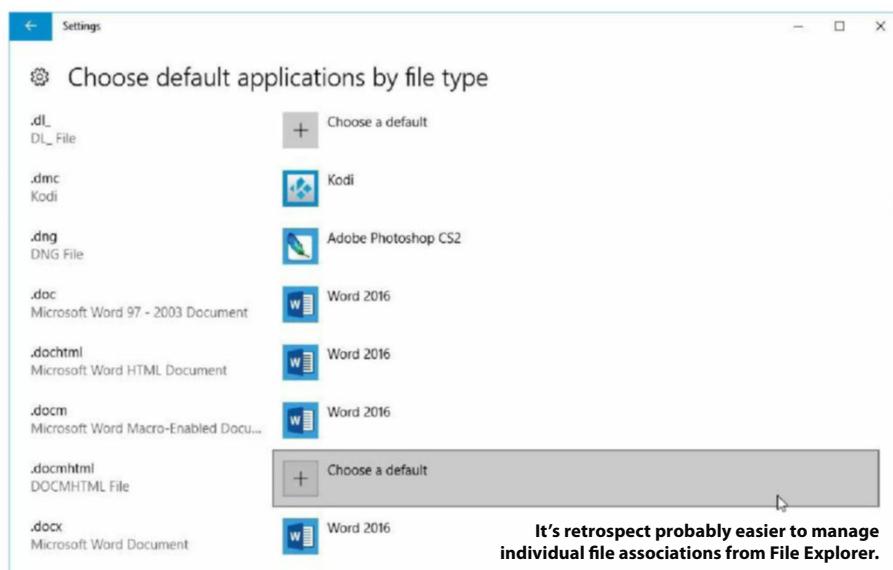
**W**hen a program controls a file association, it will always open when you double-click that file type. Windows 10 makes it harder for third-party programs to seize control of file associations, but it's still possible, and every time a new Windows update is released, you can easily be tricked into handing back associations to Microsoft's choice of app, not yours.

Start fixing problems by clicking Start > Settings > Apps > 'Default apps'. From here you can quickly switch or set defaults for email, maps, music, photos, video and web browser – just click the appropriate button and choose your desired app. Other universal changes can be made too – start by clicking 'Set defaults by app' to access a list of all your programs. Click one to find out what defaults it has and to either allocate it all the defaults it wants or to select which ones it can have.

You can also choose individual applications for specific file types – either by clicking 'Choose default applications by file type' from this Settings dialogue, or by right-clicking one of the files in question in File Explorer and choosing 'Open with > Choose program'.

## Manage apps better

Have you noticed how there are no entries for some of Microsoft's default



apps under 'Apps & features'? You can remove these apps via the PowerShell command prompt, but it's fiddly. IObit Uninstaller ([www.iobit.com/en/advanceduninstaller.php](http://www.iobit.com/en/advanceduninstaller.php)) lets you remove default Microsoft apps as well as other Windows Store-installed apps: skip prompts to add a tab before downloading the program, and untick

'Install Advanced SystemCare...' before clicking Run Now to install it.

Once IObit Uninstaller has launched, navigate to Windows Apps and extend the Windows Apps section to remove the apps you don't want – you can always reinstall them through the Windows Store later. While you're here, use IObit Uninstaller to more thoroughly

**"From here you can quickly switch or set defaults for email, maps, music, photos, video and web browser"**

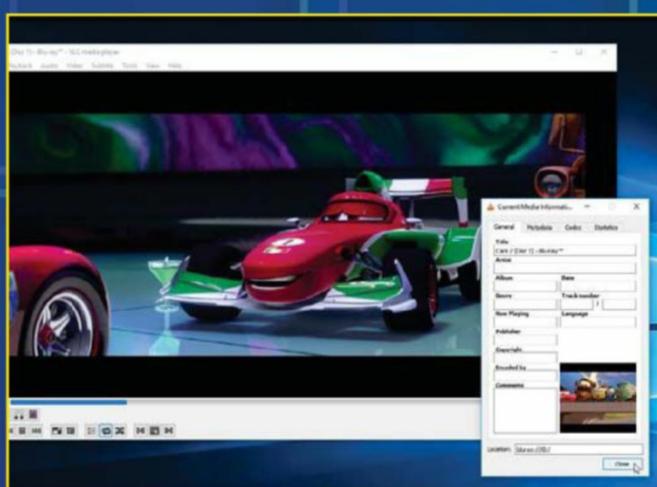
## PLAY DVD AND BLU-RAY MOVIES IN WINDOWS

Want to play DVD-Videos in Windows 10? Both Kodi ([www.kodi.tv](http://www.kodi.tv)) and VLC Media Player ([www.videolan.org/vlc](http://www.videolan.org/vlc)) offer free support (including menu access) – VLC should work with non-region 2 discs too. Simply pop the disc in and it should play like normal.

Blu-ray discs are trickier – the following free add-on should allow you to play most older AACS-encrypted discs along with a handful of BD+ discs too. Head over to [www.labdv.com/aacs/](http://www.labdv.com/aacs/) where you'll find a download link for a portable version of VLC that includes the required libraries to play

Blu-ray discs. Extract this to your hard drive, and ignore any warnings from your security software (it's safe).

Next, download, install and run the aacs-updater tool, which in turn downloads and installs the latest AACS encryption keys. Click OK when done, then launch VLC Portable and pop your Blu-ray into a compatible drive. Choose Media > Open Disc. Select Blu-ray, choose your starting title (there's no menu support sadly) and click Play. After a delay – and if you're lucky – you'll be able to watch your Blu-ray!



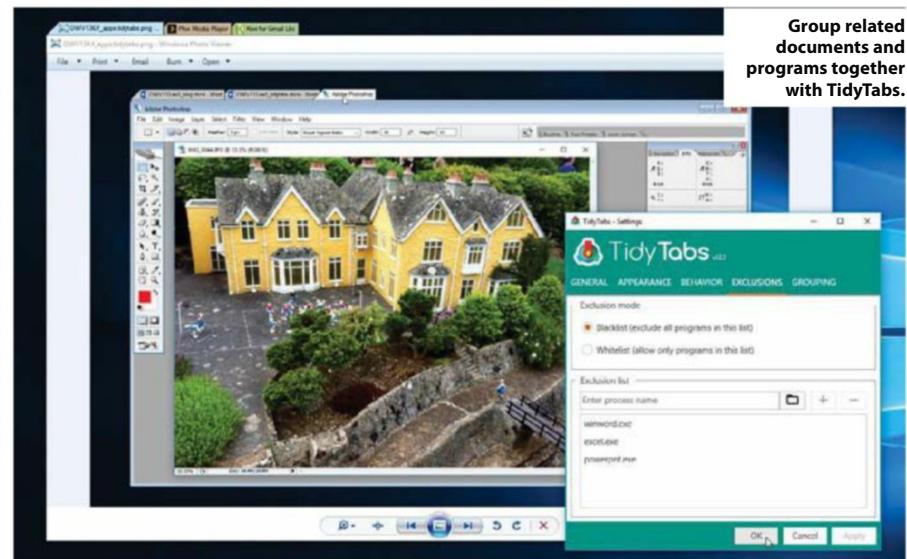
Armed with the right downloads you can play a decent number of Blu-ray movies for free with a specially adapted version of VLC Media Player.

uninstall programs as well as apps from your PC, and click its toolbox icon to access a Forced Uninstall button that can help you get rid of programs that have 'lost' their uninstaller.

Speaking of the Windows Store, if you run into problems getting it to work, try a pair of Microsoft fix-it tools – browse to [http://aka.ms/diag\\_apps10](http://aka.ms/diag_apps10) and [http://aka.ms/diag\\_cssemrg7008](http://aka.ms/diag_cssemrg7008) respectively to download and run them.

If you navigate to Start > Settings > Apps > 'Apps & features' you'll see it's possible to move apps installed through the Windows Store to another drive or partition – handy if your main drive is an SSD and is running low on space. You can move regular desktop apps too – for this you'll need a program called Steam Mover, which you can download from [www.traynier.com](http://www.traynier.com) – check out tips 4 and 5 on page 58 of issue 136 for a guide to using it.

If this sounds like too big a step – or you want to cut back on the number of installed apps altogether – then look at PortableApps ([www.portableapps.com](http://www.portableapps.com)). This handy platform lets you build, run and manage a collection of programs from a single folder, which you can store anywhere, even on a USB flash drive. No Registry entries mean these apps travel with you. Visit your favourite program websites and look for portable builds in the download section. Then download the zip file, extract the contents to a



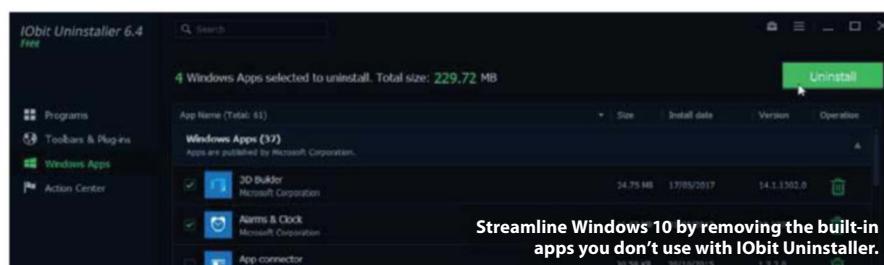
folder inside the PortableApps folder and open the PortableApps platform – your new program should be detected and added to the list under 'Other' (right-click the shortcut to move it to a different category).

### Tidy your desktop

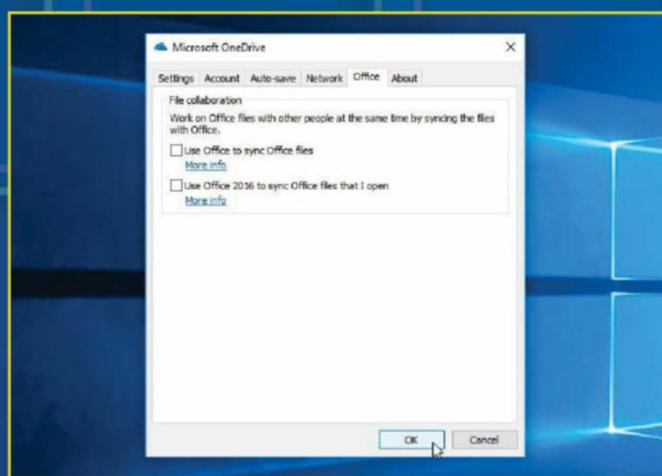
If you frequently have loads of program or document windows open, save time moving between them by organising them into tabs instead, just like your web browser. TidyTabs ([www.nurgo-software.com/products/tidytabs](http://www.nurgo-software.com/products/tidytabs))

enables you to group related windows from different programs together – upgrade for \$9 (£6.96) to group more than three windows together at once as well as other enhancements. TidyTabs works with Microsoft Office, but it can be a little glitchy – instead, investigate OfficeTab (\$29/£22.44 after free trial, [www.office-tabs.com](http://www.office-tabs.com)), which offers similar functionality, but only works with Word, PowerPoint and Excel.

Finally, struggling to get older apps to run in Windows 10? If you can't source a newer version or an update (use <http://alternativeto.net/>), try right-clicking the program shortcut or installer file and choosing 'Troubleshoot compatibility' to see if Windows can apply compatibility settings. If all else fails, and you have an older copy of Windows lying around, you can create a virtual machine using VirtualBox ([www.virtualbox.org](http://www.virtualbox.org)). Choose 32-bit for maximum compatibility, and run your old application inside that instead. It works surprisingly well. ■



## TAKE BACK CONTROL OF OFFICE



Microsoft's OneDrive tries to force Office 365 to save directly to the cloud, which slows things down. Make it default to your hard drive instead.

Microsoft is incredibly keen for you to use Office 365, which is why Windows 10 will regularly prompt you to download and install it. But if you get fed up with its nagging, click Start and locate the 'Get Office' shortcut. Right-click this and choose Uninstall to remove it.

If you're an Office 365 user you may be frustrated by the way it works with OneDrive, saving directly to the cloud by default rather than to your local OneDrive folder. To stop this behaviour, you need to open each Office app in turn, then choose Options from the File tab on the ribbon. Select

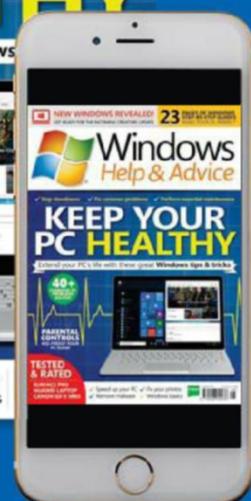
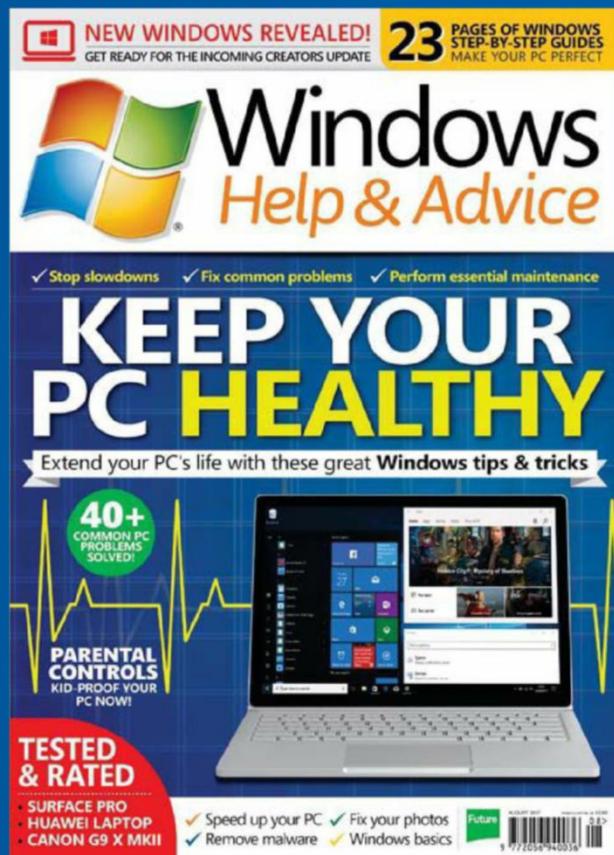
Save and tick 'Save to Computer by default'. You're not done yet – next, click '^' in the Taskbar notification area, right-click the OneDrive cloud icon and then choose Settings. Now switch to the Office tab and untick both sync boxes before clicking OK.

Here's another tip to save you time switching between controls on the Office ribbon. Right-click a favourite tool and choose 'Add to Quick Access Toolbar'. If you run out of space, click the down arrow next to your existing shortcuts and choose 'Show Below the Ribbon' to locate it there.



# Windows Help & Advice

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# Explore

► WINDOWS TIPS ► INTERNET ADVICE ► EXCITING NEW PROJECTS

## Welcome



In this month's Explore section we're going to show you how to protect your PC against ransomware – the malware that encrypts your data, and then demands you pay up to get your files back.

You'll discover the simple steps you can take to stop your PC from becoming infected on page 36 – and how to get your stuff back if it's been infected already. We'll also show you how to take advantage of the new features of Edge on page 32; get creative with the new Paint 3D (page 38) and a simple technique to liven up dull skies in photos (page 28). Enjoy!

### Rob Mead-Green

Editor

rob.mead-green@futurenet.com

## Full listing...

**28** Liven up dull skies in photos with web-based editor, Pixlr

**32** Make the most of new features of Edge in the Creators Update

**36** Protect your PC against ransomware with these tips

**38** Discover the art of drawing in three dimensions with Paint 3D

**42** How to use your PC's volume control for music, movies & more

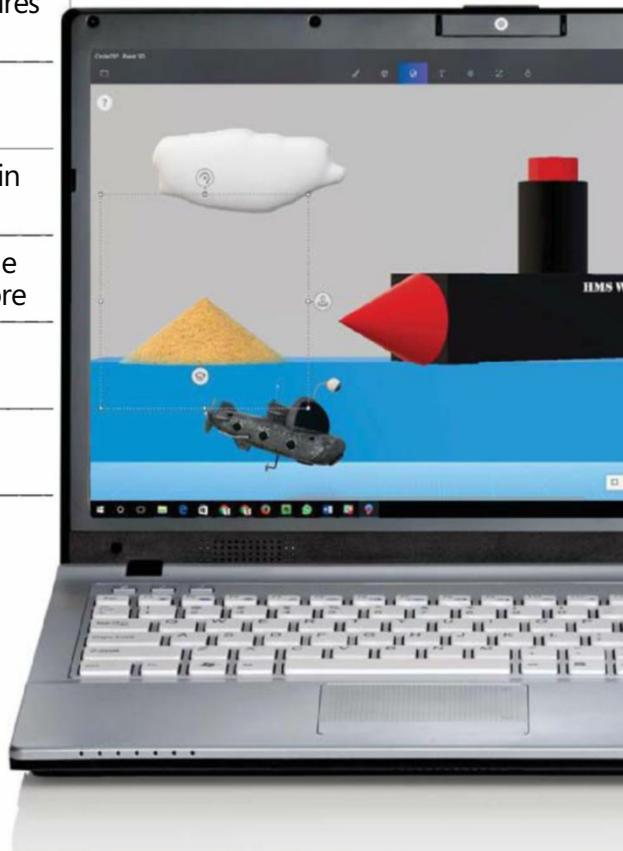
**44** Speed up your PC with the awesome System Ninja

**46** Record and share your Windows desktop with ease

Your guide  
Dan Graham says...

"Create great-looking 3D objects quickly and easily with Paint 3D"

Turn to page 36  
to find out more



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Get more from Windows, software and all your favourite sites

### Packed with informative tutorials

Every issue, we guarantee to pack the magazine with great tutorials teaching you all the best things you can do with your PC. Each article features step-by-step instructions to make learning new skills fast and enjoyable.

### Customise Windows to work your way

We all know how to do the basics but getting the most from Windows isn't always easy. Our dedication to the operating system means you get the very best tips and tricks for all versions of Windows.

### Get more from your favourite websites

We all have our list of favourite sites but often we miss out on great features because they're difficult to use or hidden from sight. We'll show you how to do more online, for a more satisfying web life.

### Discover new programs with our help

From speed-up and security software to superb photo apps, there's always something new to try on your PC. The Windows Store in Windows 10 and Windows 8.1 is packed with software to download.



Learn how to...

# Replace a dull sky using Pixlr



Your guide *Ian Evenden* says...

"Your photos need never have dull backgrounds with this wonderfully cheaty image editing technique"

## At a glance

### Skill level...

- ▶ Anyone can do it
- Straightforward
- Tricky in parts

### Suitable for...

- Windows 10
- Windows 8.1
- Windows 7

**S**kies can be tricky things to photograph. Significantly brighter than anything down here on Earth, they tend to become washed out as many digital camera sensors don't have the dynamic range to capture their tones.

Dynamic range is the difference between the brightest and darkest tones a camera can represent in the final image file. This is measured in stops, and the best cameras output slightly more dynamic range than the human eye can manage. But even so, it's quite possible to find all your dynamic range crammed into the darker tones of an image, leaving the brighter ones to clip to white – which is what often happens with the sky.

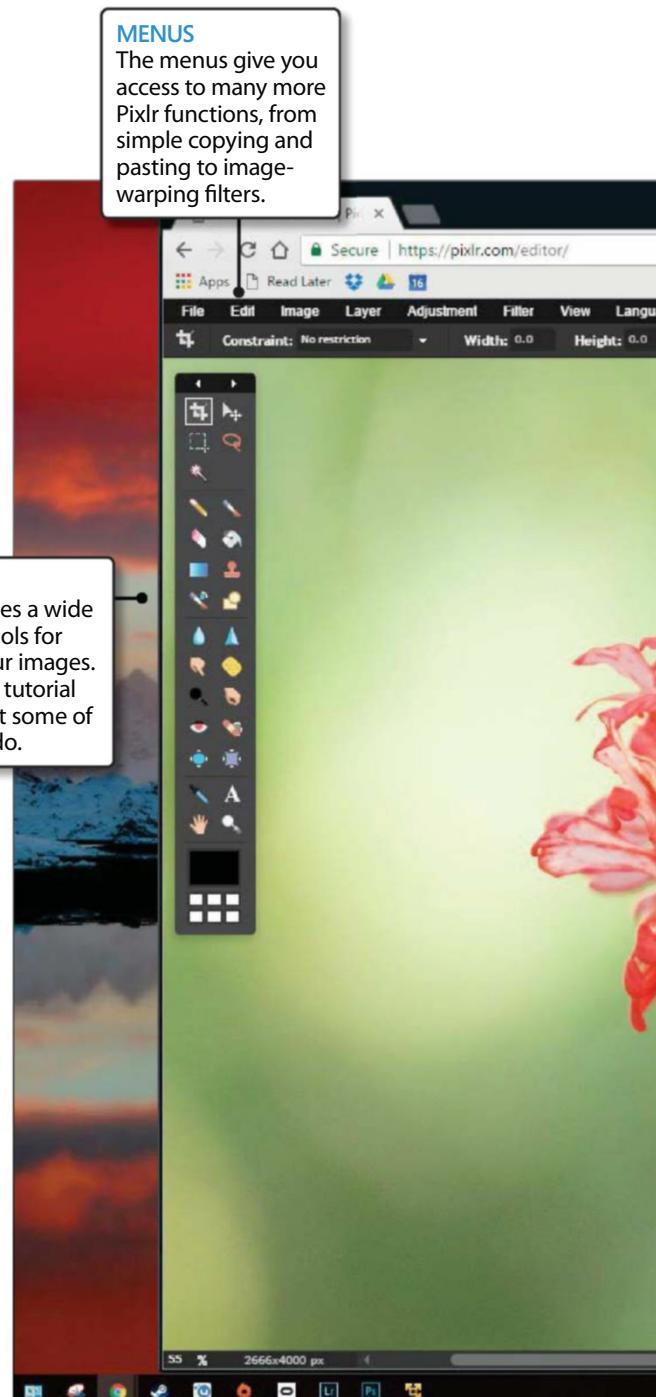
It's better to have a washed out sky than for the subject of your photo to be too dark, however, and this is the problem HDR modes on cameras were invented to combat. Or you can always cheat – as we're doing here.

## Step-by-step | Improve the sky in your photos



### 1 Choice of app

We're using Pixlr, since it's a powerful layer-based editor that's also completely free. It runs in your web browser at [pixlr.com/editor](https://pixlr.com/editor/) but needs the Flash plugin to function. You may have this switched off, as it's a well-known source of security problems, but clicking the link to the [Flash](#) site from the Pixlr site should set it up for you. Pixlr works like any other image editing app.



### 2 Add your image

Opening an image in Pixlr is simple enough – the option is right there in the splash panel that greets you when it loads, or you can use the File menu. You can open an image from your PC, paste in the URL of a web image, or find one in your Facebook albums. We're using one on our PC, so the familiar File Explorer window appears enabling you to navigate to it.

# Explore

## Replace a dull sky using Pixlr

**YOUR IMAGE**  
Zoom in and out of it using the mouse wheel, or hold [Space] to drag it around when zoomed in.

**LAYERS**  
The Layers palette is used for controlling and navigating the different layers of your image, as well as how they interact.

**NAVIGATOR**  
This palette enables you to see exactly where you are in your image even if you have zoomed in a long way.

**HISTORY**  
The History palette acts as a multi-level undo function, which enables you to return your image to any state.

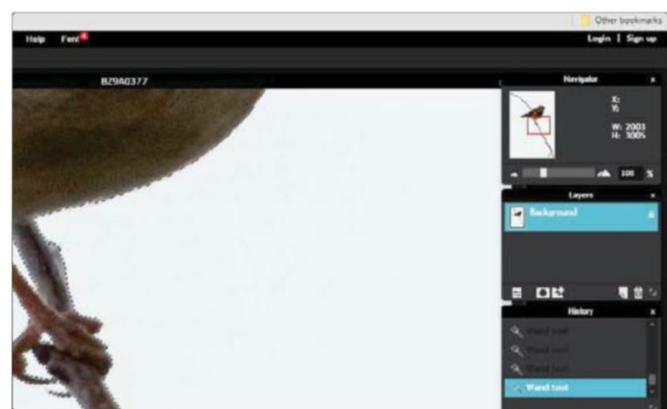
**Jargon buster!**

**► Layers**  
Splitting an image into layers allows you to do many clever things, such as changing how they blend into one another, or making holes so lower layers show through.

**► Flash**  
A plugin that allows applications to run inside your web browser. In the process of being replaced by HTML5, Flash, from Adobe, is still very common.

**► JPEG**  
A common image file format that can be opened on just about any device. Alternatives include PNG and TIFF.

**IAN'S BEST TIP!**  
Sign up for a Pixlr account to unlock a library where your pics can be stored and accessed from any device.

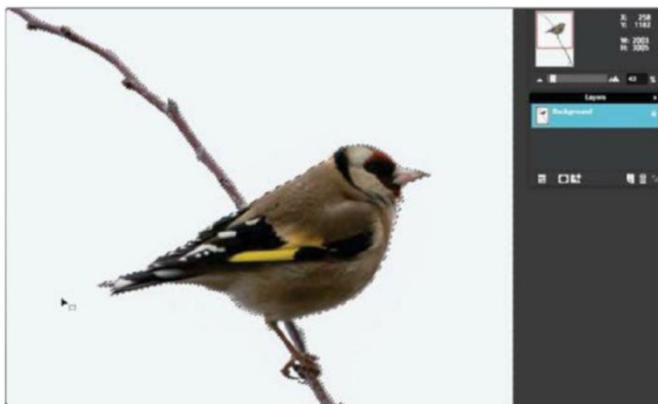


### 3 Start work

We'll also need another image for the replacement sky. You can either take your own or use one from a public domain photo site. Try to find one in the same orientation, and about the same size, as your other image. Open it in the same way as the first, so they're in two separate windows within the larger Pixlr window. You'll be able to see from this how close they are in size.

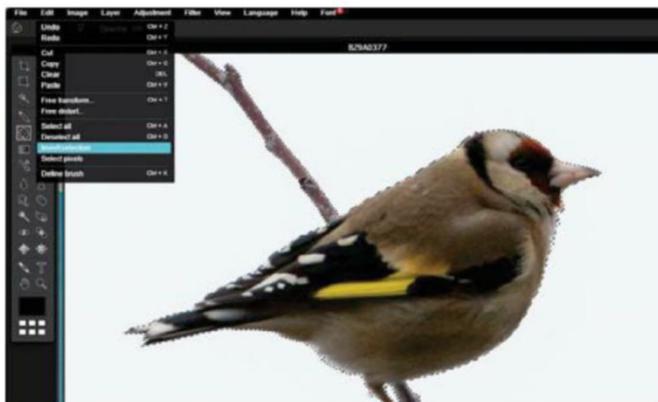
### 4 Select your sky

Image editing programs like Pixlr allow you to select an area of your image to work on, rather than applying an effect to the whole thing – although you can do that too if you've got nothing selected. To select the sky you want to replace, there are a couple of options: you can either get your PC to choose it; or you can do it yourself – this is more accurate, but also more time consuming.



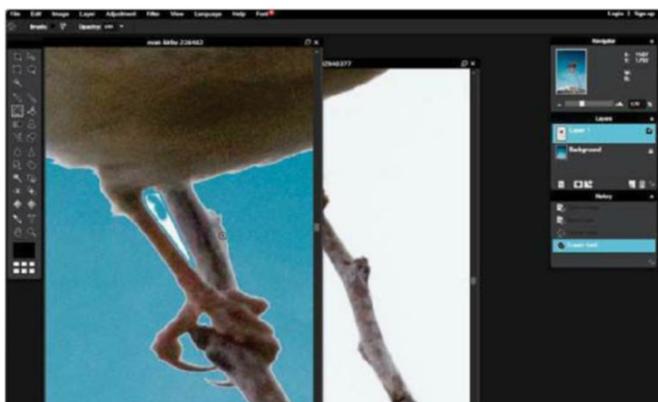
## 5 Wave the Magic Wand

The best automatic way, if you have a blown-out sky, is to use the Magic Wand tool. This selects pixels of the same, or similar, colours, controlled by a Tolerance number which tells the app how many shades to deviate from the pixel you click on. With a white sky like ours it's easy to select the lot in three clicks, with [Shift] held down for the last two to add the areas to the selection.



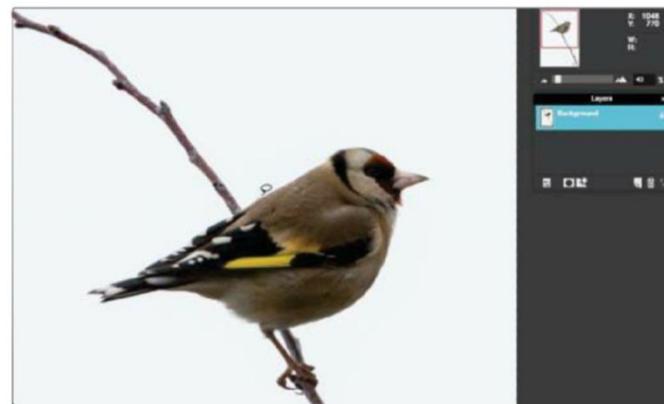
## 7 Drag 'n' drop

Once the sky's selected, go to Edit > 'Invert selection'. Unlike Photoshop, GIMP or Elements, Pixlr doesn't allow you to adjust a selection once it's made, and nor can you paste into a selection, so we need to move our foreground object – the goldfinch – onto the new background. Once the selection is inverted, use the Move tool to drag it across to the other image.



## 9 Edit the image

Select the Eraser tool, and choose a small, soft-edged brush from the Brush drop-down, top left. Making sure the foreground layer is selected in the Layers palette, brush away any white bits that still cling to your foreground, releasing the mouse button between strokes so a new entry appears in the History palette – this way you get multiple undos if you mess up.



## 6 Use the Lasso tool

If you've have a steady hand, or maybe some sort of pen input device, you can draw around the area you want to select using the Lasso tool. With a mouse, this isn't recommended, as we find the pointer wobbles everywhere. The Lasso tool is better used for quick selections of areas without high-contrast edges, where you just want to adjust the brightness or colours.



## 8 Using a new layer

As Pixlr doesn't allow you to fine-tune your selection, you may have a slight white border around your foreground object where it was against the white sky. We do around our goldfinch, so we're going to use the Eraser tool to remove it. This is possible as the object you dragged over to the sky image was placed on a new layer, so it can be edited independently of the background.



## 10 Crop and save

We've got a mountain and some twigs at the bottom of our photo we don't need, and the chances are you'll have bits of your image that don't look right too. Remove them using the Crop tool. Drag its box across your image until only the bits you want to keep are within it, then double-click to crop. Once done, save your composition to your computer as a JPEG, using File > Save. ■

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# Learn how to... Explore the Edge update



Your guide **Matt Hanson** says...

"The Creators update brings lots of new features to the Edge browser. Here's how to use them!"

## At a glance

### Skill level...

- ▶ Anyone can do it
- Straightforward
- Tricky in parts

### Suitable for...

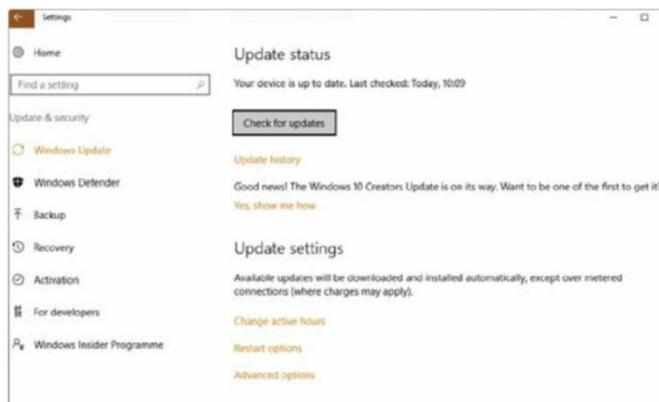
- Windows 10
- Windows 8.1
- Windows 7

The Windows 10 Creators Update is a free download for every Windows 10 user, and comes with a huge number of new features, as well as tweaks and improvements to existing Windows tools and applications. While, as the name suggests, Microsoft has focused on bolstering the creative aspects of Windows 10 (see issue 137, page 12) one of the applications that has benefited most from the update is the Microsoft Edge web browser.

While Edge is a vast improvement over the Internet Explorer browser it replaced, there's still room for tweaks and enhancements that will make the experience of using it even better.

Outlined here are some of the new features for you to explore and enjoy, from improved tab handling when browsing multiple web pages; to the ability to add third-party extensions and make Edge even more powerful and capable than it is already.

## Step-by-step | Make the most of Microsoft Edge



### 1 Make sure you have the Creators Update

The features in this guide are only available if you have the Windows 10 **Creators Update** installed. To make sure you do, open Windows Update by typing 'Windows Update' in the search box next to the Start Menu. You should see a message saying that the Windows 10 Creators Update is on its way. If it's not already installed, click 'Yes, show me how' to download it manually.

**TABS SET ASIDE**  
When you want to restore the tabs you've set aside, click this button to open the menu that displays your tabs.

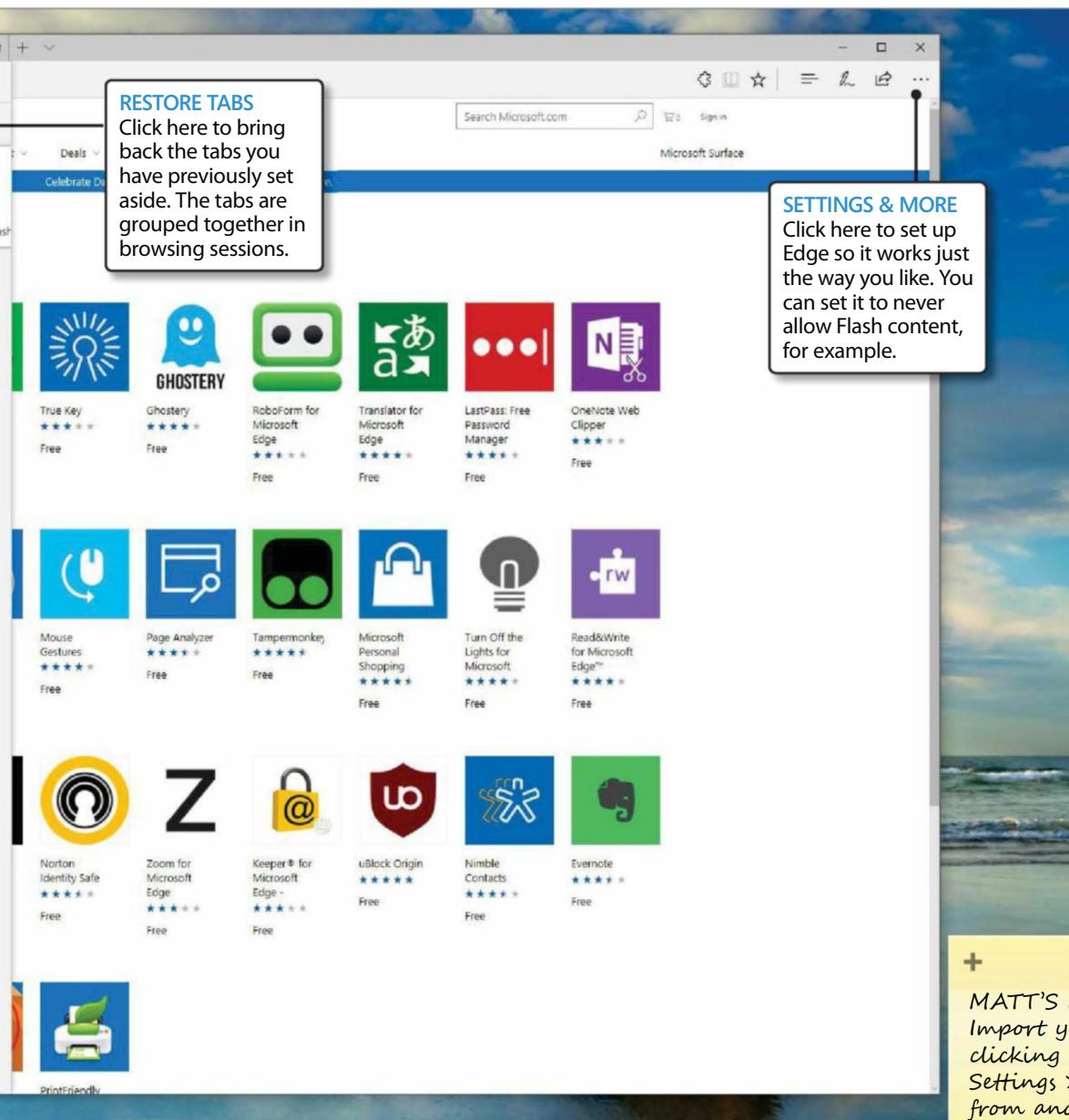
**SET ASIDE TABS**  
When you have tabs open you would like to save, click on the 'Set these tabs aside' button. This closes them and saves them for later.

**TAB PREVIEWS**  
Thumbnails that show you a preview of the tabs you've set aside, so you can see which ones you want to restore.



### 2 Open up Edge

With the Creators Update installed, you can open up Edge. Don't worry if it initially looks the same – you can be assured that all the new features have been added, and that there has been a lot of work done behind the scenes. None of your bookmarks, favourite websites or browsing history will have been deleted in the upgrade – everything should be exactly where you left it.



### Jargon buster!

#### ► Creators Update

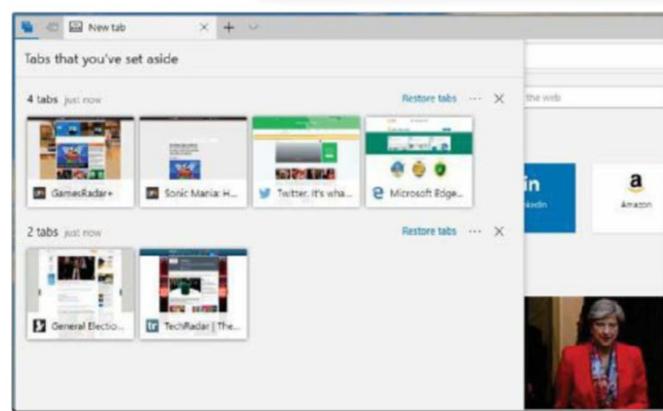
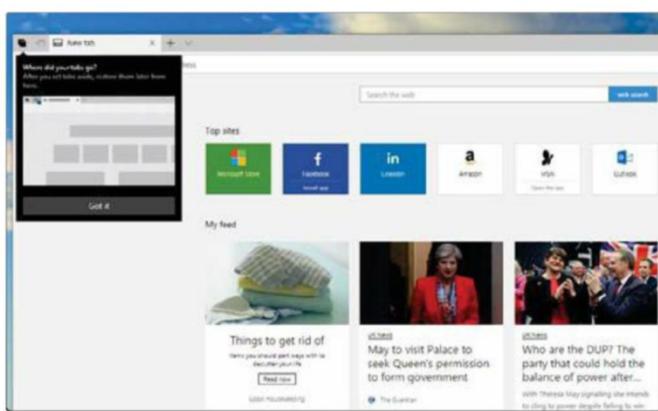
A major update to Windows 10, which brings new features to the OS. These include a new Game Mode, improved Cortana support and some new additions to the Edge browser.

#### ► Tabs

Rather than opening each website you want to browse in a new window, tabs enable you to open it in its own silo in the existing Edge window instead. This makes your desktop less cluttered, and means that you can switch more easily between websites.

#### ► Windows Store

An online store within Windows 10 where you can download apps, games, music, movies and eBooks.

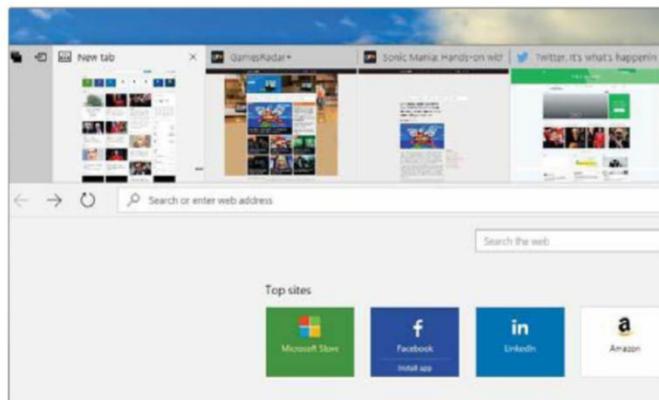


### 3 Save tabs for later

If you end browsing sessions with lots of **tabs** open that you want to return to later, you'll love 'Set these tabs aside', a new feature included in the Creators Update. Click its button next to the row of tabs you're currently using. All your tabs will close, but will be saved so that you can reopen them later on. This makes Edge feel far less cluttered when browsing the web.

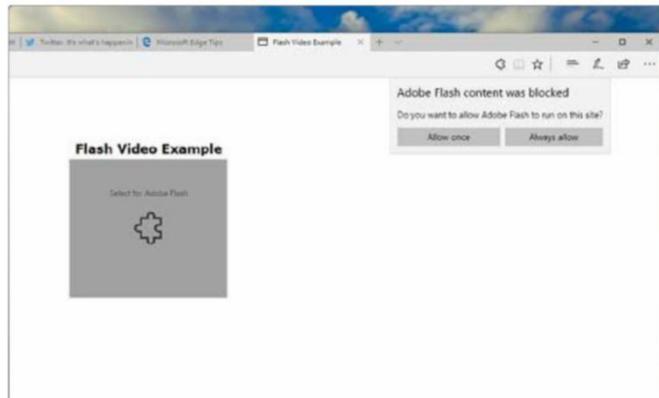
### 4 Restore those tabs

To restore any tabs you've previously saved, open Edge and click the 'Tabs you've set aside' icon in the top-left corner of the browser's window. You'll now see all the tabs you've previously set aside, grouped together in sessions. Using this option, you can choose either restore a single tab, or restore a whole set of them – perfect for carrying on where you last left off.



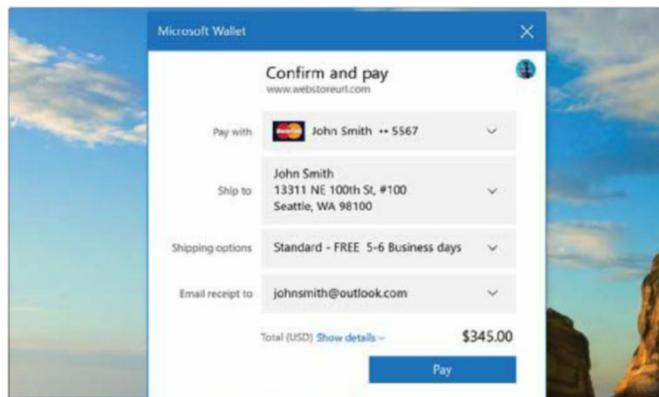
## 5 Master tabs

Edge's new tab features don't end there. Thanks to the new tab preview feature, you can quickly see a thumbnail of your open tabs, making it easy to find the right tab with the website you want on it. To do that, click the 'Show tab previews' arrow located on the right of the new tab button, then click the thumbnail of the tab you want so you can open it and continue browsing.



## 7 No more annoying Flash animations

The new, improved Edge now blocks all Adobe Flash content unless you say you want it to run. This means you won't see quite so many annoying animation and auto-run movies. It also makes your PC more secure as Flash has been known to carry viruses and other nasties. By blocking Flash, Edge also saves power – making your battery last longer as in Step 6.



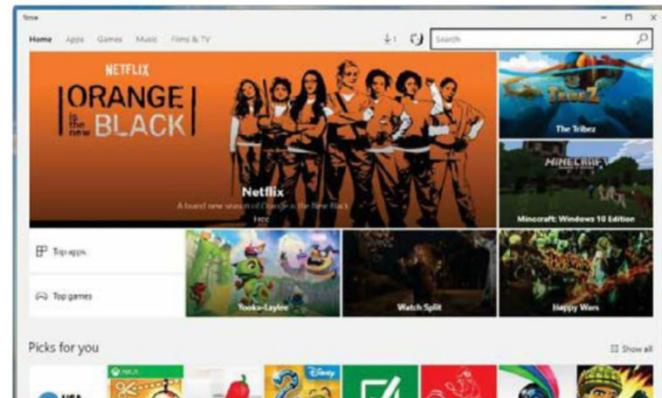
## 9 Make payments more easily – and securely

Microsoft has been working with web developers to make paying online through Edge easier and more secure. This will lead to simpler checkouts when buying goods and services using your Microsoft account (used to log into Windows). You may not see these changes straight away, but as developers update their websites for the new version of Edge, they will start to appear.



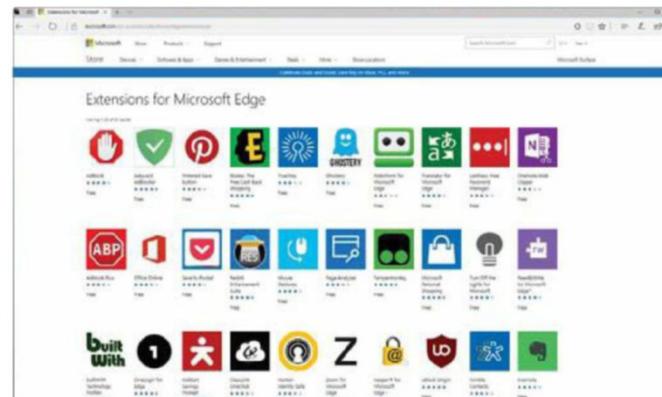
## 6 Enjoy longer battery life

One of the best things about the Edge update is that it's less power-hungry, so your batteries will last longer when you're browsing on a laptop or tablet. It does this thanks to some nifty technology behind the scenes – you don't have to do anything except enjoy longer browsing times. Microsoft says Edge now uses 31% less power than Chrome, and 44% less than Firefox.



## 8 Read books

You can now use Edge to read eBooks you've bought from the [Windows Store](#) or downloaded from the web, without having to download or install any additional software. This new feature, included in the Creators Update, makes it easy to browse your library and it even comes with a Read Aloud mode, turning eBooks into audiobooks for you to listen to.



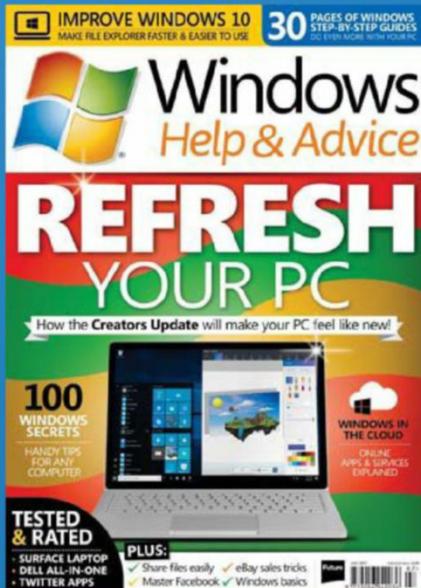
## 10 Expand Edge with Extensions

Another one of the welcome improvements to Edge is a huge boost in the number of third-party extensions that are now available. Extensions are mini-applications that add even more capabilities to Microsoft's web browser. To see which Extensions are available, and to install them quickly and easily, visit [www.microsoft.com/en-us/store/collections/edgeextensions/pic](http://www.microsoft.com/en-us/store/collections/edgeextensions/pic).

Back issues  
Don't miss out!

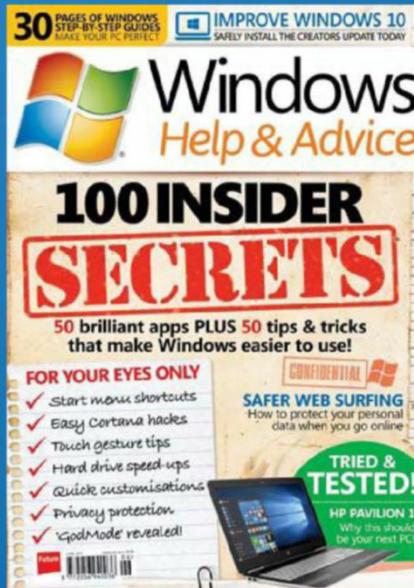
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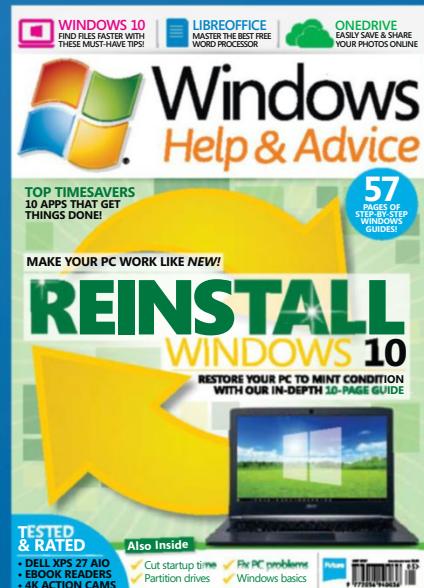
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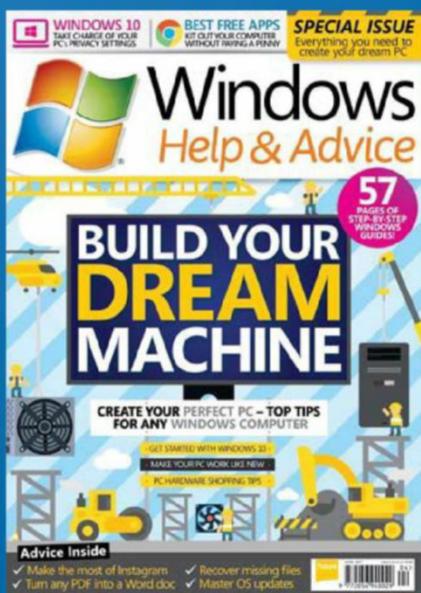
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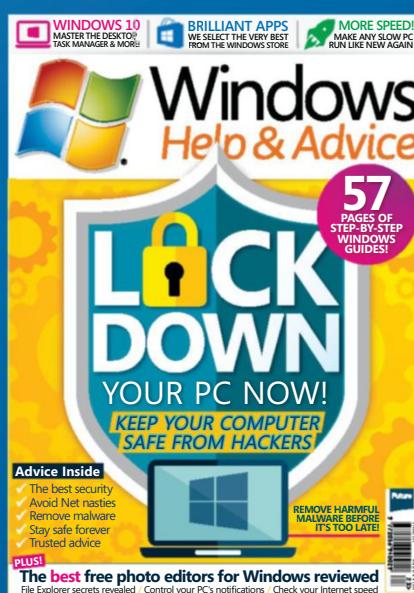
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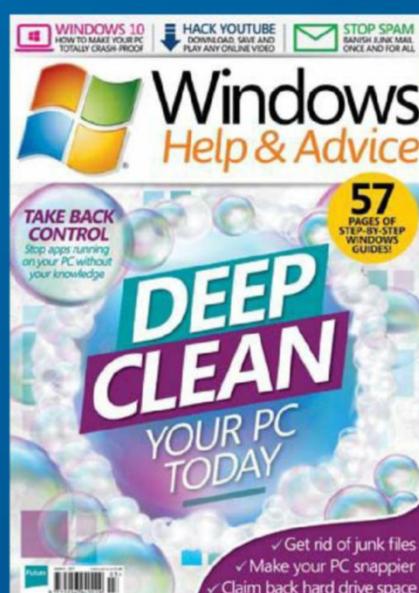
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Learn how to...

# Protect yourself from a ransomware attack



Your guide *Cat Ellis* says...

"In this tutorial we're going to show you how to avoid ransomware, or rescue your PC if it's already infected"

## At a glance

### Skill level...

► Anyone can do it

Straightforward

Tricky in parts

### Suitable for...

 Windows 10

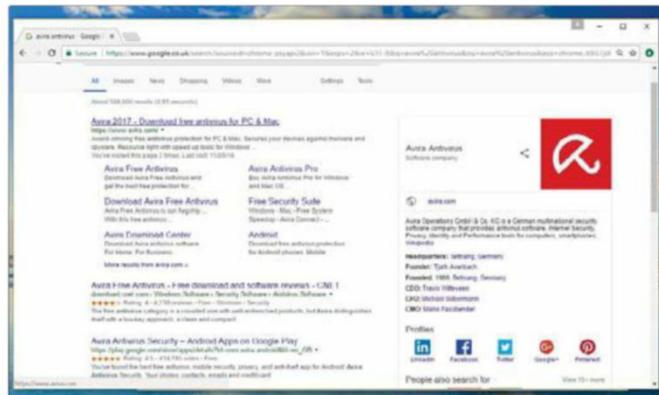
 Windows 8.1

 Windows 7

**R**ansomware is a particularly nasty type of malware (malicious software) that encrypts your valuable files and won't release them until you've paid a fee – usually several hundred pounds. Earlier this year, computer systems in over 150 countries were affected by a virulent strain of ransomware called WannaCry, with victims including universities and hospitals. It's a serious problem, but there are ways to avoid it, and to protect your files in case the worst happens.

If your PC is infected, you might be unable to access your documents, or you might not be able to log in at all. In either case, the most important thing is not to panic, and don't be tempted to pay the fee to unlock your files. There's no guarantee that they will be released, and even if they are, your money will be lining the pockets of criminals. Take a deep breath – it'll be fine.

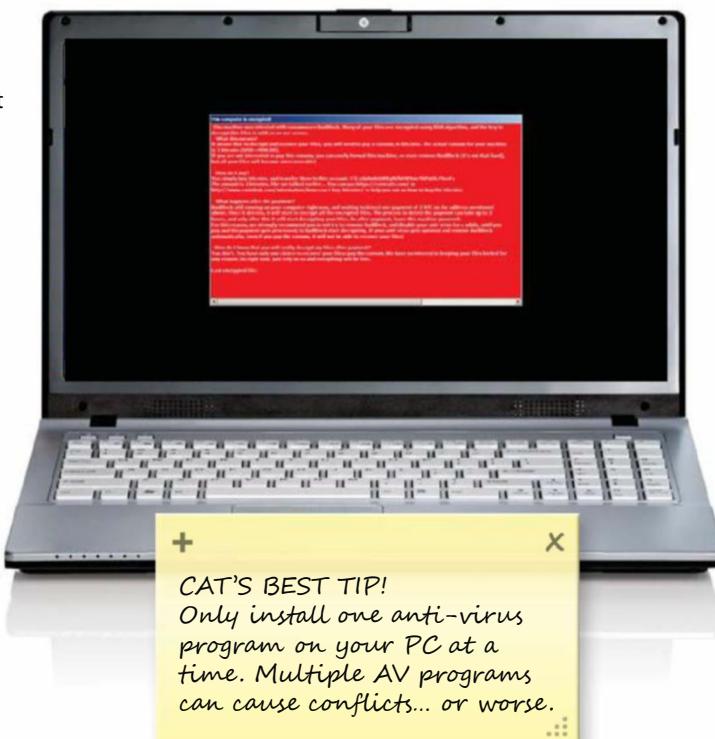
## Step-by-step | Avoid or remove ransomware



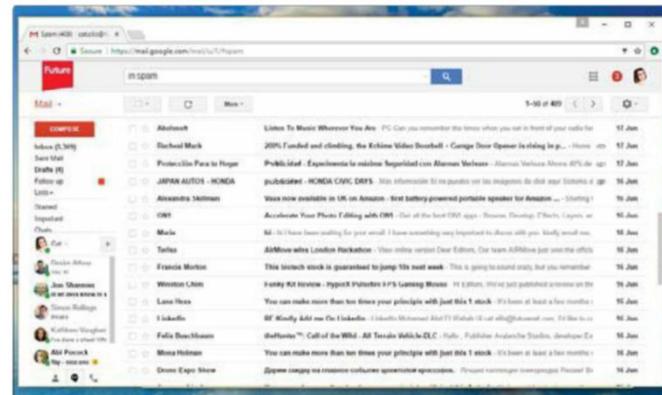
The screenshot shows a Google search results page for "Avira Free Antivirus". The top result is a link to the official Avira website, which displays the Avira logo and navigation menus. Below the search results, there are several other links related to free antivirus software, including "Avira Free Antivirus Pro" and "Avira Free Security Suite". The overall layout is typical of a search engine results page.

### 1 Download safely

Malicious programs, such as ransomware, can be attached to files and programs downloaded online, so always be careful. When you're downloading a new app, make sure you get it from the developer's own site, not a third-party source, and make sure the URL begins 'https', indicating that it's certified secure. If you use torrent sites, only download from legal, legitimate sources.



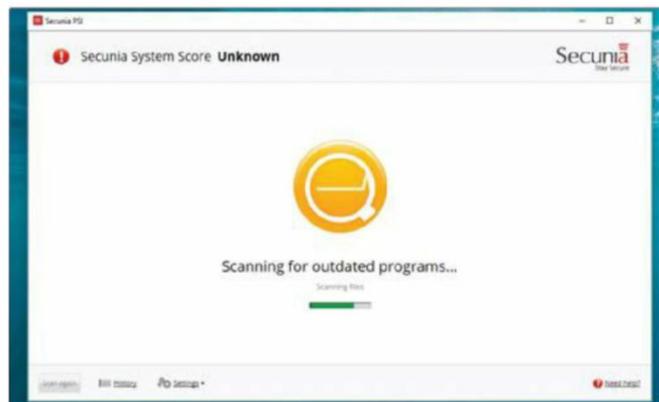
A laptop screen shows a red warning message from a ransomware program. The message states: "We're sorry to inform you that your files have been encrypted using RSA algorithm, and the key to decrypt them has been sent to you via email. Please follow the instructions in the email to receive the decryption key. If you do not receive the email, please contact us directly. Your files are now safe, and nobody can access them. If you have any questions, please feel free to ask us. We are here to help you 24/7. Thank you for choosing our service." A yellow sticky note on the right side of the screen contains the text: "CAT'S BEST TIP! Only install one anti-virus program on your PC at a time. Multiple AV programs can cause conflicts... or worse."



An email inbox from Gmail shows several spam messages. One message from "JAPAN AUTO - HONDA" is highlighted. The subject line is "Wise now available in UK on Amazon - Best battery-powered portable speaker for camping ...". Other messages include "Accurate Your Photo Telling with CMOS" and "This latest stock is guaranteed to jump 10% next week". The inbox is labeled "IN SPAM" and shows a list of contacts and their recent activity.

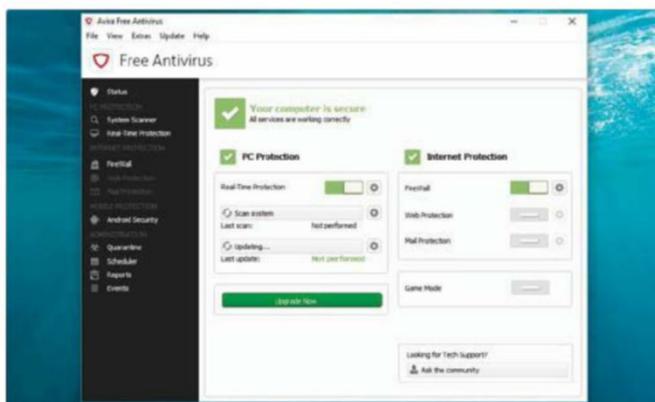
### 2 Take care with emails

When you receive an email with an attachment – even if it's from someone you know – think carefully before opening it. Criminals often try to trick you by sending emails about parcels you aren't expecting or invoices that need paying, and sometimes your friends' email accounts can be hijacked to send messages. If you see an email that looks dodgy, delete it without opening it.



### 3 Back up your files

Prevention is better than cure. If you back up files regularly, you can simply restore them in the event of a ransomware attack – while also protecting them against physical damage or theft, if you keep the backup in a different physical location. Try AOMEI Backupper (<http://bit.ly/2tbK5VO>). It's a great free tool that makes backing up and restoring files as easy as can be.



### 4 Update your software

Criminals often exploit security problems in Windows and other software. To avoid falling victim, make sure you install all Windows security updates when prompted. Many other programs update themselves automatically, but for those that don't, try the free Secunia Personal Software Inspector (<http://bit.ly/2sKEQwd>). It scans your PC for older software and downloads any updates.



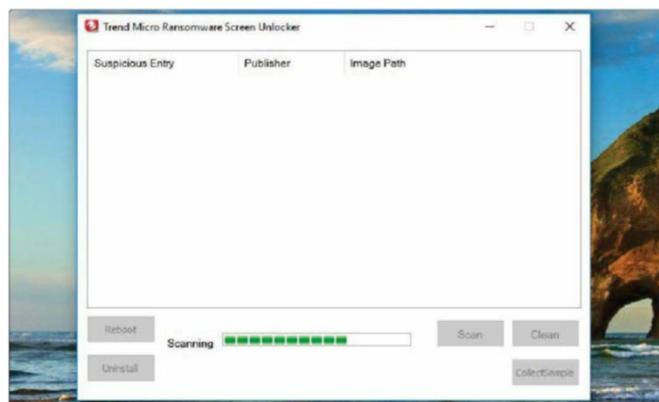
### 5 Strong security software

No PC should ever be without an anti-virus program, but some cover a broader range of malware than others. Windows 10 comes with Windows Defender, but it doesn't have the best detection rates. If you're looking for an alternative, try Avira Free Security Suite ([www.avira.com/en/get-antivirus](http://www.avira.com/en/get-antivirus)). It's easy to use, and particularly good at detecting and blocking ransomware.



### 6 Restore and recover

All of these steps will help you avoid ransomware infection, but if something nasty slips through the net, don't panic. If you've backed up your system with AOMEI Backupper, you can restore it using the guide at <http://bit.ly/2rSOLMA>. Alternatively, insert your original Windows disc and select the option to repair or reinstall the OS. Microsoft has a guide at <http://bit.ly/2nLIUdi>.



### 7 Decrypt files for free

If you don't have a backup, there are still ways to solve the problem without paying. Not all ransomware works the same way, so Avast has created a set of free decryption tools that you can use to unlock your files at <http://bit.ly/2tbCiay>. Clicking on the name of a program on the website will reveal the symptoms it causes, and download the tool you need to remove it.

### 8 Unlock your screen

If your PC's screen has been locked, you need Trend Micro's Ransomware Screen Unlocker Tool (<http://bit.ly/1qiSmSp>). This comes in two versions: one for ransomware that still lets you start Windows in Safe mode (see the guide at <http://bit.ly/299ejN1> to see if you can), and another if you can't. Either way, install the tool you need and the wizard will unlock your display in no time. ■

# Learn how to... Get started with Paint 3D



Your guide *Dan Graham* says...

"Creating 3D objects has never been easier than with Microsoft's new, accessible Paint 3D app"

## At a glance

### Skill level...

- Anyone can do it
- Straightforward
- Tricky in parts

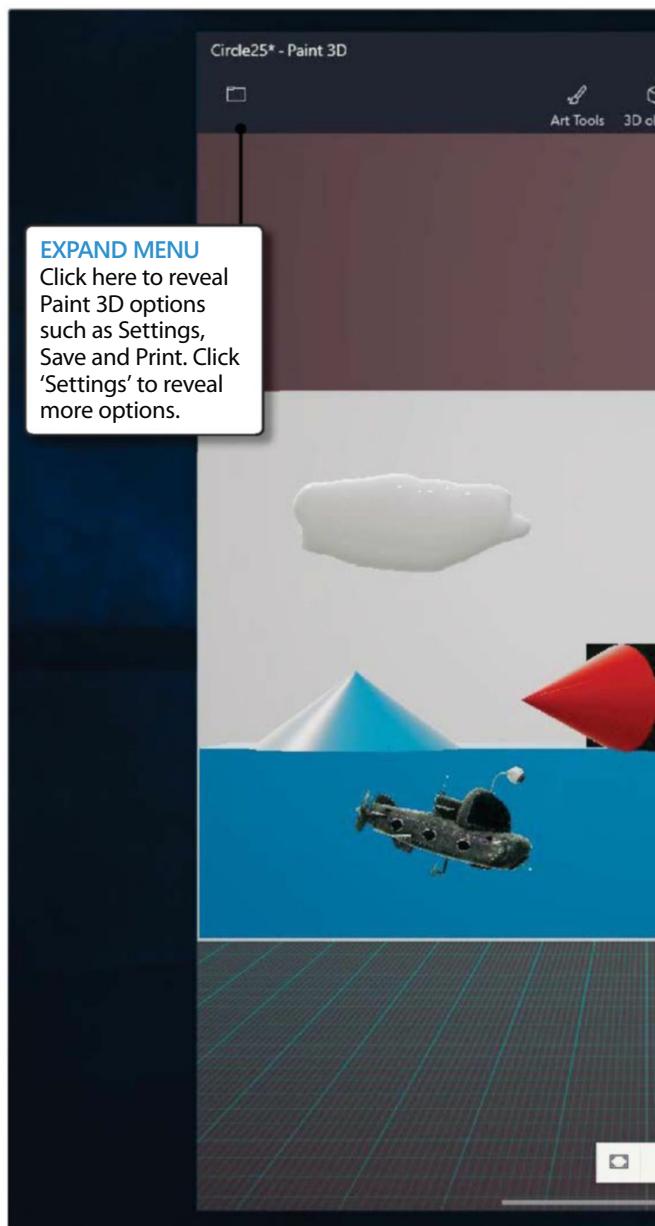
### Suitable for...

-  Windows 10
-  Windows 8.1
-  Windows 7

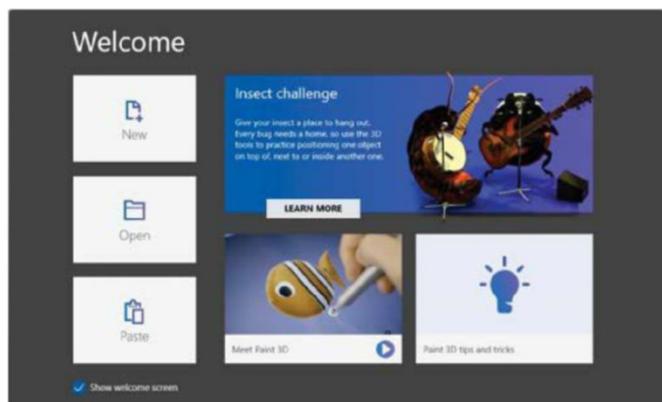
**P**

aint 3D is a new version of Microsoft's venerable Paint app. It's included with the Windows 10 Creators Update so chances are you have it on your Windows 10 PC already. If not, download it from the Windows Store. Several 3D apps were included with the Creators Update including View 3D and 3D Builder. Paint 3D is intended to be a user-friendly way to combine shapes and be able to make a 3D model from them – it also includes full stylus support.

Paint 3D includes 3D people, animals, geometric shapes, text, and doodles, while there are also 2D 'stickers' you can place on the 3D objects. You can change how objects are placed and rotate them. 2D and 3D text can be used and played with. When you've finished your creation, you can share them within Windows or add them to Remix3d.com, so others can find and use them!

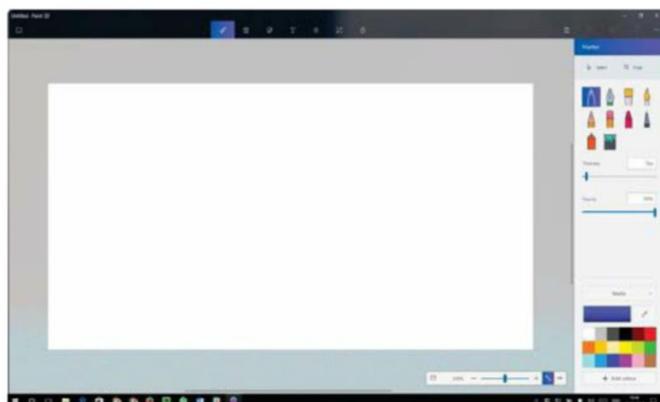


## Step-by-step | Create your first 3D objects



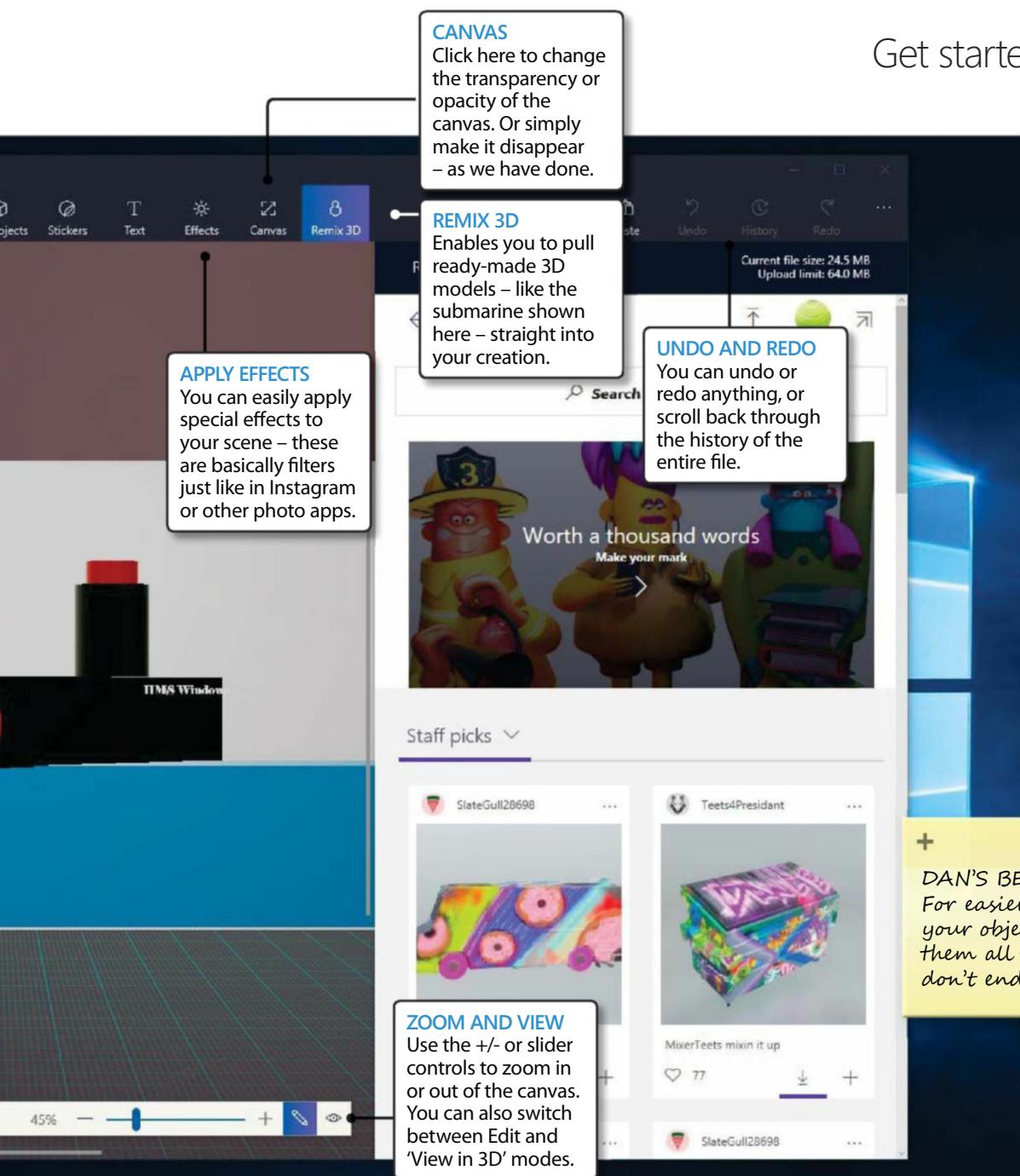
### 1 Welcome screen

When you first open the app, you're greeted with a welcome screen. Click or tap the New button. The welcome screen offers tutorials and information about Paint 3D, as well as options for starting a project or opening an existing one. Paint 3D has been designed so you can quickly create fun scenes that you can share. Everything is easy to do – we'll show you how!



### 2 Easy to use

The best thing about Paint 3D is that it's easier to create something worthwhile than it is in the old Paint app. It has a new user interface to enable you to do two key things: firstly, creating 3D objects; and, secondly, placing them within a scene. The white area is your Canvas, a 2D backdrop. On the right you'll see some painting tools and you can create a 2D backdrop here if you want.



## Jargon buster!

### ► Stickers

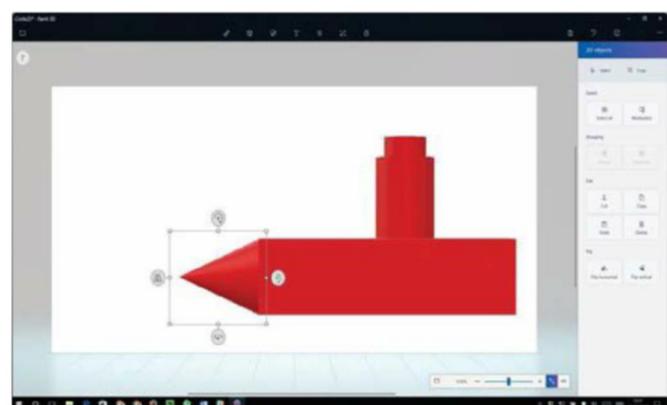
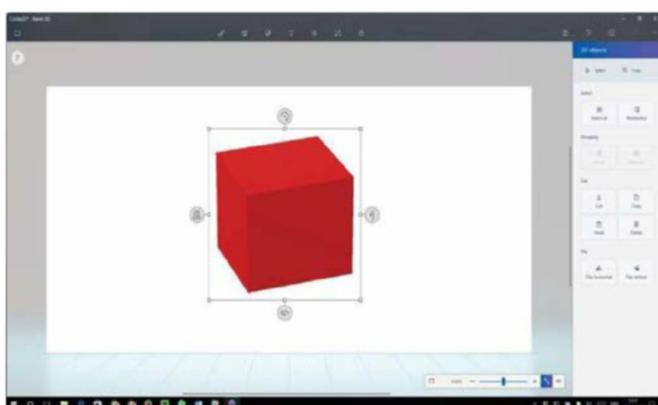
In Paint 3D, a 'sticker' is any 2D effect that's applied to a 3D object, so it could be a texture like sand, some text or an emoji-style image.

### ► Diorama

A diorama is an exciting scene inside a small space – and that's exactly what the Paint 3D enables you to create.

### ► Remix 3D

Microsoft's dedicated community website for Paint 3D. You can download any of the objects here for use in your creations. You can, of course, return the favour by uploading your own objects too.

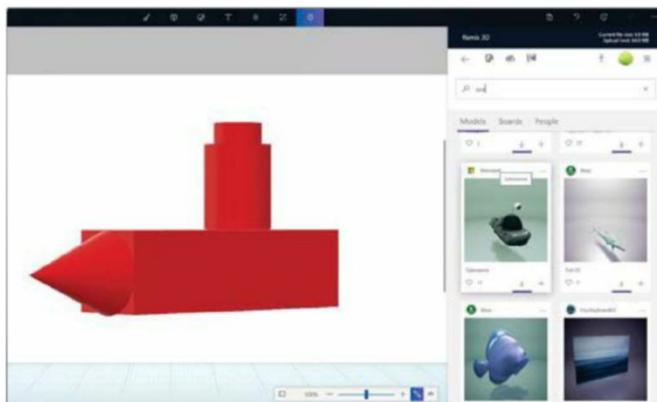


## 3 Go 3D

The toolbar is controlled by the icons at the top. Click the '3D objects' icon to select an object in the menu on the right – a cone, for example – then click on the canvas. Controls will appear that enable you to transform, flip, cut, paste, delete or rotate the object. Using the sidebar, you can control multiple objects. Click the 'Select all' option to rotate all the objects at once.

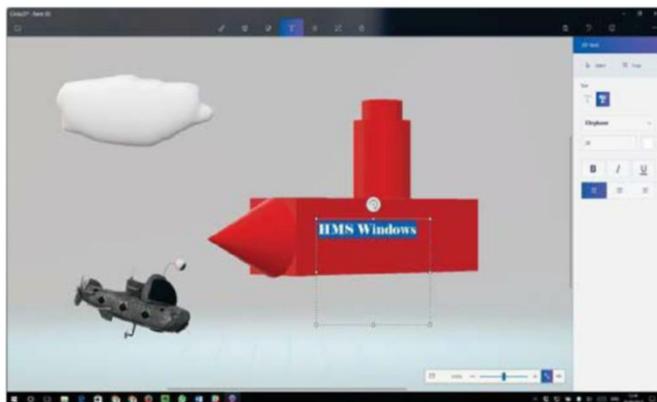
## 4 Positioning objects

The most interesting control around any shape is the one on the left – you can pull the object closer to you. It's when you have multiple objects in play that things become a bit trickier. That's because you'll want to reposition the objects relative to one another, and aligning different elements can be complicated. Bear in mind there are zoom controls at the bottom of the screen.



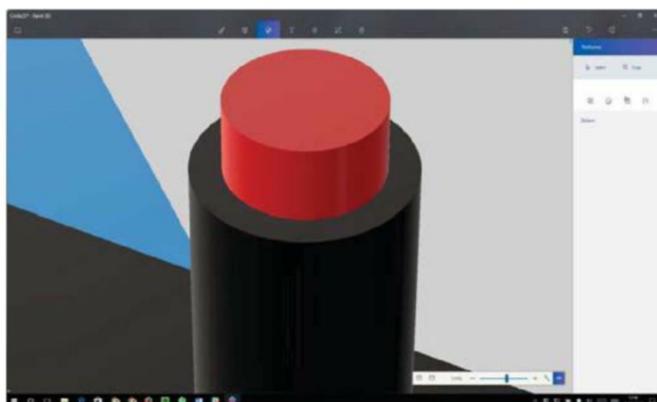
## 5 Existing models

Using the sidebar you can choose either existing 3D models or – more excitingly – click ‘Get more models’ to browse through the existing creations on [Remix 3D](http://www.remix3d.com) ([www.remix3d.com](http://www.remix3d.com)). The site includes some pretty complex objects that you can download and use to add some pizzazz to your own 3D masterpiece. You can also search Remix 3D if you’re after a specific creation.



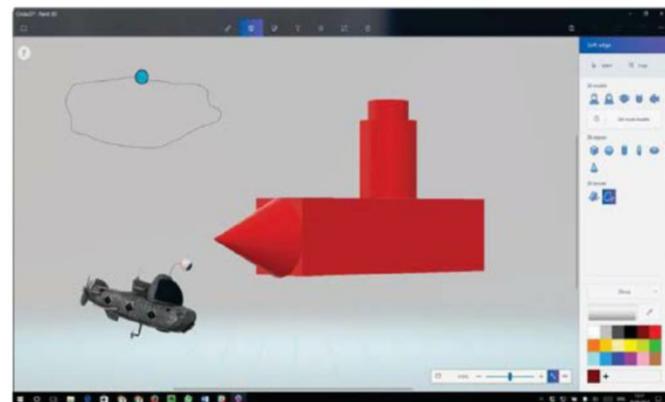
## 7 Adding text

When it comes to giving your objects a bit of life, you can colour them, add stickers or text. Let’s look at text first. Click the Text icon at the top of the screen to add copy to your image. This can be in any font and size and you can choose whether to add the text to your scene in 3D or 2D. 3D text can look a bit odd at times, so it’s worth playing around with.



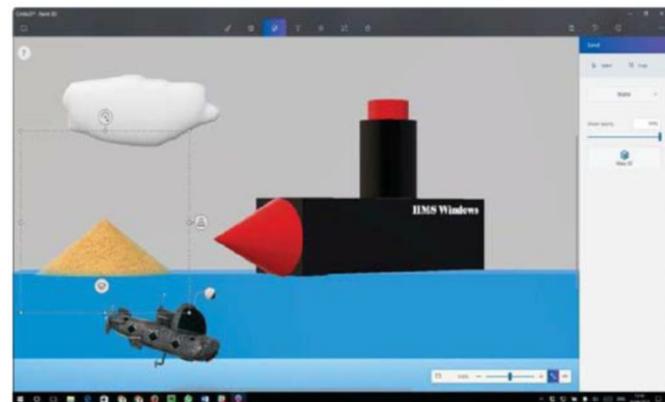
## 9 View in 3D

When you’ve finished, click the ‘View in 3D’ button on the Zoom toolbar at the bottom of the screen. This will show you your **diorama** in glorious 3D, which you can then save as a Paint 3D object or export as a PNG or JPEG file using the options in the Expand menu on the top left. When you’re viewing your creation it really becomes obvious just how powerful an app Paint 3D is.



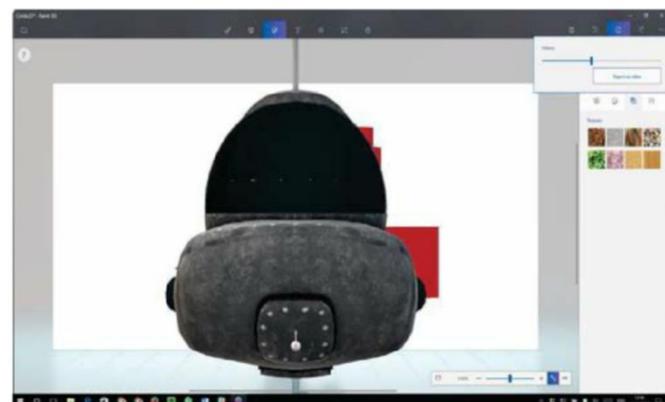
## 6 Get doodling

You don’t have to create boring regular objects, either – ‘3D doodle’ is a way to create an odd-shaped 3D object. Within the 3D object sidebar, choose whether you want a Soft-edged or Sharp-edged object. The former is best for objects like clouds where you don’t want them to be regular. When you’ve finished your doodle, Paint 3D will turn it into a 3D object you can control.



## 8 Stickers and effects

From the Tools sidebar, you can select and fill a 3D object with colour (or paint it) while there are also texture options: matte, gloss, and metal so you can have silver or gold, too! **Stickers** are more sophisticated than they sound and, while you can add 2D items or images as shapes, you can also add textures such as bark or sand. There are plenty of options to choose from.

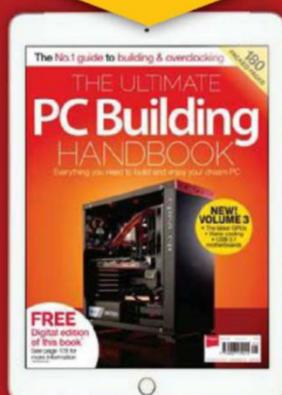


## 10 Go back in time

While Paint 3D includes the usual Undo and Redo options, there’s a handy History feature, too. This enables you to scroll back through your edits so you can see where your creation came a bit unstuck. You can export your History as a video so you can show people how you made your 3D object. You can also use it to view your finished design so you can see how it progressed. ■

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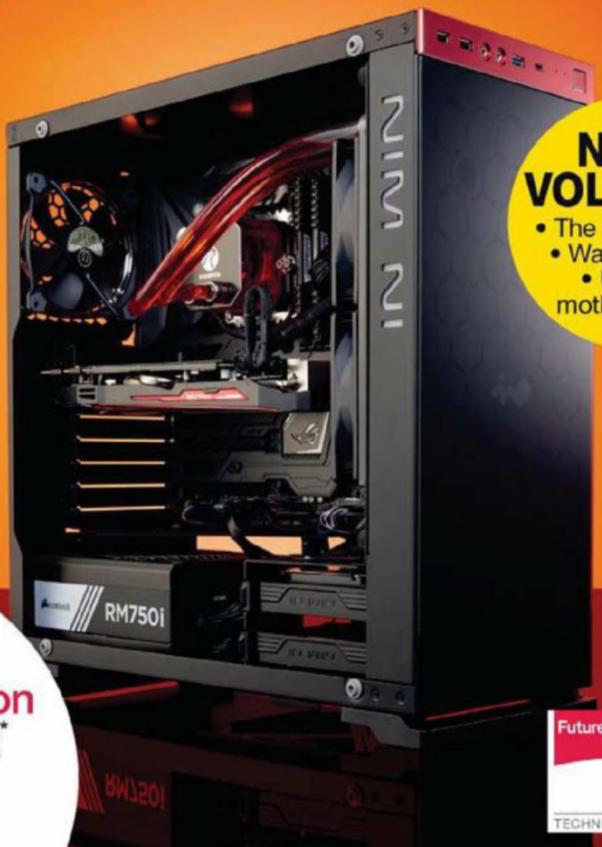


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Learn how to...

# Use Windows 10's volume controls



Your guide [Matt Hanson](#) says...

"Getting to know the volume controls of Windows can make listening to music, playing games and watching movies far more enjoyable"

## At a glance

### Skill level...

► Anyone can do it

Straightforward

Tricky in parts

### Suitable for...

Windows 10

Windows 8.1

Windows 7

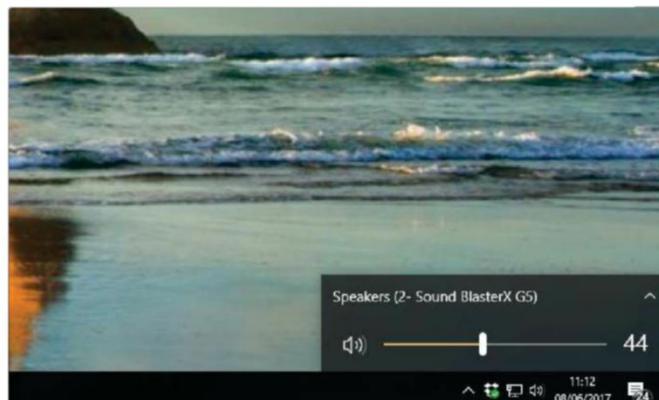
**M**ost of us use our Windows PCs to enjoy media on, which is why complete mastery of the volume controls in Windows is a must. This isn't just about turning the volume up and down – Windows features a number of in-depth tools that can enable you tweak your sound settings so you're getting the best possible sound quality – without deafening yourself or waking up your neighbours.

These tools let you change the devices that will play back your media (handy if you have speakers and headphones and want to switch between the two), as well as alter the volume for different programs – so no matter what you're doing on your computer, you'll get the best possible audio experience.

In this guide we'll take you through all the handy tools, features and shortcuts you can use to get pitch perfect playback in Windows.

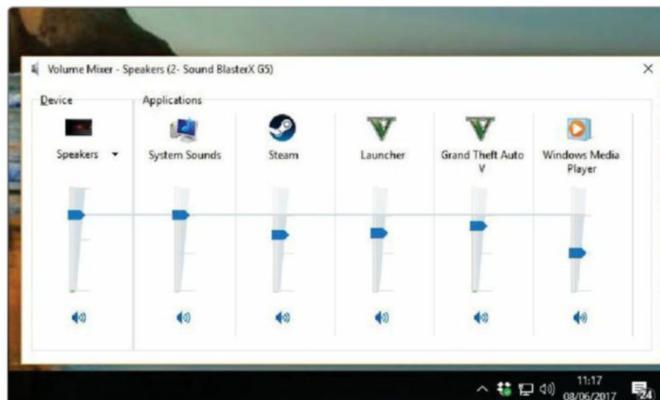


## Step-by-step | Master the volume controls in Windows



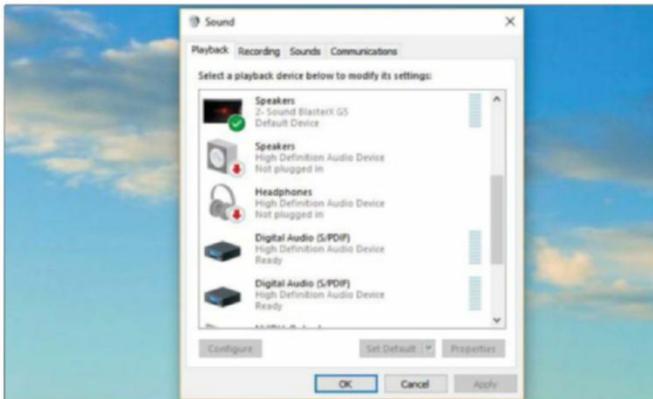
### 1 Quick volume control

The quickest way to change the sound level is to click the Volume icon in the Taskbar. You'll see a slider that lets you adjust the volume for your default sound device. Drag the slider left to turn down the volume, or right to increase it. Many laptops and keyboards also offer volume control shortcuts. This usually involves pressing the [Fn] key, plus another key, such as [F12].



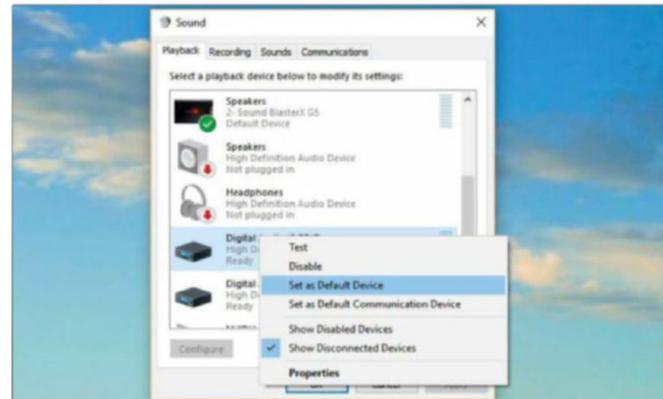
### 2 Use the Volume Mixer

Right-click the Volume icon in the Taskbar and select Open Volume Mixer. This tool allows you to change the volume for each open program, including Windows. Each app will have a vertical volume that you can slide up and down to control its sound level. On the far left of the window is the Device volume. This sets the maximum volume – no application will be able to exceed this.



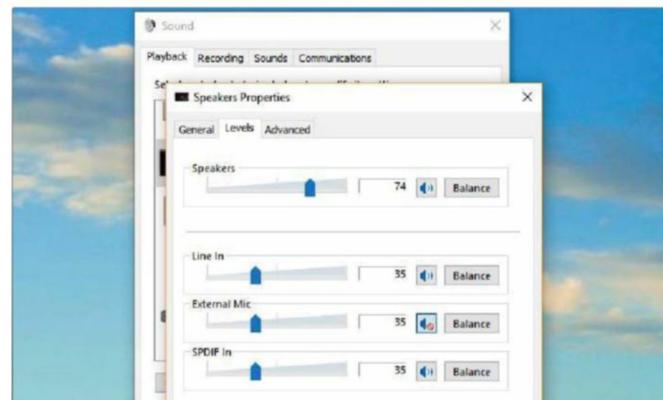
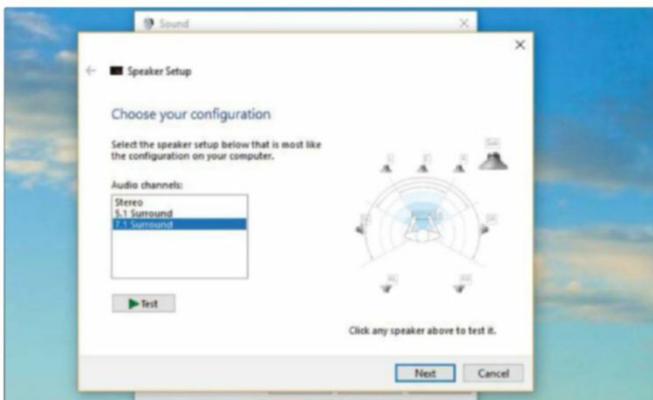
### 3 Set playback devices

Right-click the Taskbar's volume icon and select 'Playback devices', to see all the playback devices on your PC. For laptops and tablets you'll probably only see one – unless you have a headset installed – while desktops may show speakers in connected monitors too. You'll want to make sure that your PC uses the correct playback device for optimum sound quality.



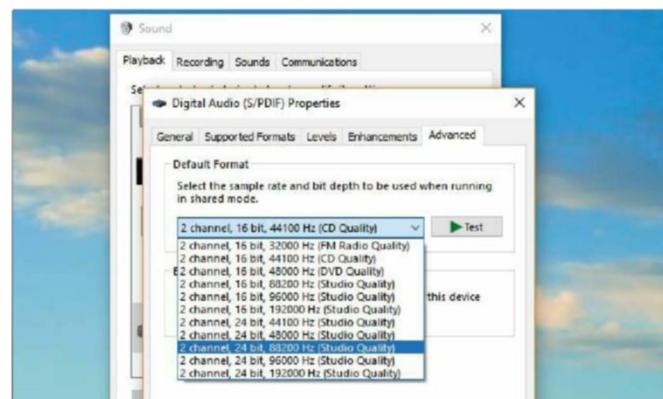
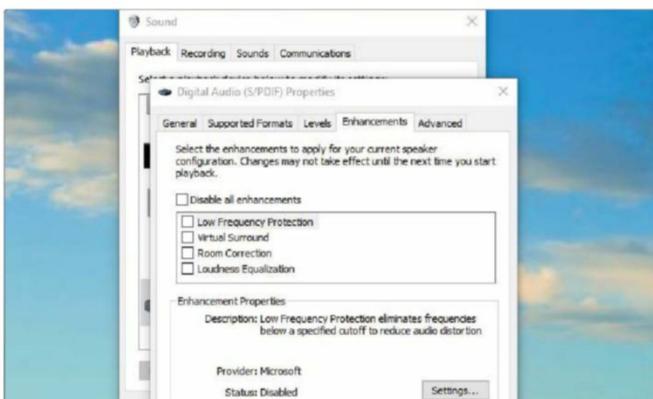
### 4 Change the default playback device

If the wrong playback device is selected as your default, you can use this window to change it. Make sure the device is working by right-clicking it, then select Test. You should hear a test sound. Each speaker will be tested, so this is a good chance to make sure they all work. Once you've tested the device, you can set it to be the default by right-clicking it and selecting 'Set default device'.



### 5 Configure speakers

If you have surround sound speakers, you can make sure your PC is using them correctly by right-clicking them in the Playback Devices window, and selecting Configure Speakers. In the window that appears, select how many speakers there are, and test each one by clicking its icon. Click 'Next', then select which speakers are 'full range' for the best possible sound quality.



### 7 Advanced sound settings

From this window you can tweak the advanced sound settings of your device. Click Enhancements to add sound effects. Some of these, such as Equaliser, allow you to tweak the audio quality depending on the type of music you're listening to. Meanwhile, the Voice Cancellation enhancement can help remove vocals from your music – perfect for karaoke sessions.

### 8 Boost sound quality and third party software

Finally, click on the Advanced tab and select the sound quality you want. The higher bit-rate you select, the better media on your PC will sound. However, you need to make sure your hardware can handle it, so make sure you press the Test button to make sure everything sounds fine. If you install a sound card, sound bar or headset, be sure to use its software too. ■

Learn how to...

# Get a lightning-fast PC with System Ninja



Your guide *Cat Ellis* says...

"Is your PC starting to feel a bit sluggish? Give it a thorough cleaning with System Ninja and it'll soon be running as good as new"

## At a glance

### Skill level...

- Anyone can do it
- Straightforward
- Tricky in parts

### Suitable for...

- Windows 10
- Windows 8.1
- Windows 7

**T**hrough normal use, your PC will accumulate junk files that will eventually start to affect its performance. Temporary files, web browser cookies, remnants left over from uninstalled programs, activity logs and incompatible files all take up system resources, and can cause compatibility issues later when you want to install new software.

You could clear up this clutter yourself using Windows' own built-in system utilities and rummaging through the relevant folders, but System Ninja saves time and hassle by identifying all the unnecessary files with a single click, then erasing them with another.

System Ninja also has other tools to improve your PC's performance, including one that prevents certain programs starting at the same time as Windows, so it loads more quickly, meanwhile another tool lets you to uninstall multiple programs at once.

## Step-by-step | Refresh your PC

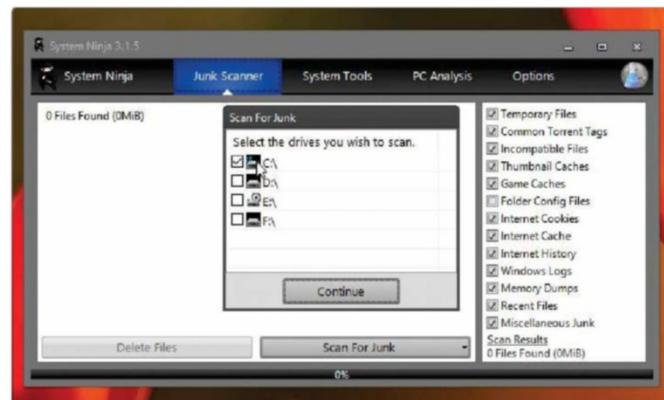


### 1 Get System Ninja

Search Windows for 'System Restore' and make a new restore point. It's best to take precautions and if anything does go wrong, you'll be able to revert to this point. Download and install System Ninja (<https://singularlabs.com>). Launch it and look at the checkboxes on the side. If you want to keep any of items (your browser history, for example), uncheck the relevant box.

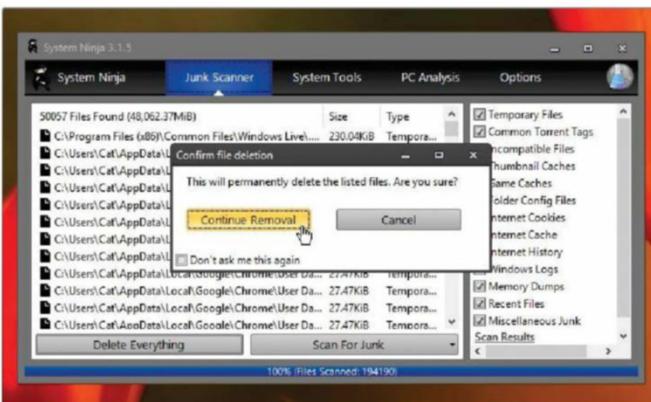


**CAT'S BEST TIP!**  
Some of System Ninja's functions require admin privileges, so you'll need to log into Windows using an Administrator account.



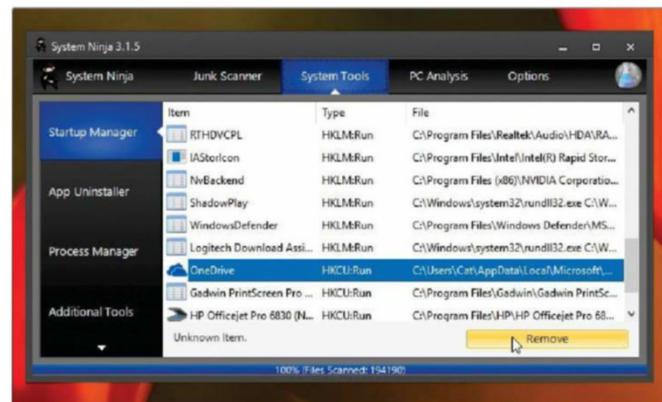
### 2 Perform your first scan

Click 'Scan for junk'. If you have any web browsers open, you'll be prompted to close them (note System Ninja can delete browser histories and cookies from Google Chrome, Internet Explorer and Firefox, but not Microsoft Edge). System Ninja will ask which drives to scan; select the one Windows is installed on, and any others that contain programs and other files. Click 'Scan'.



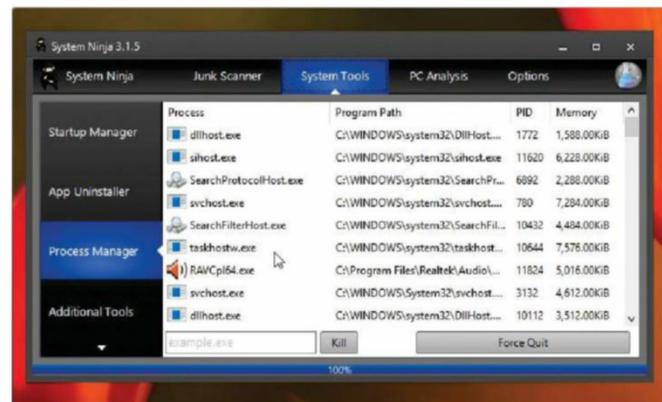
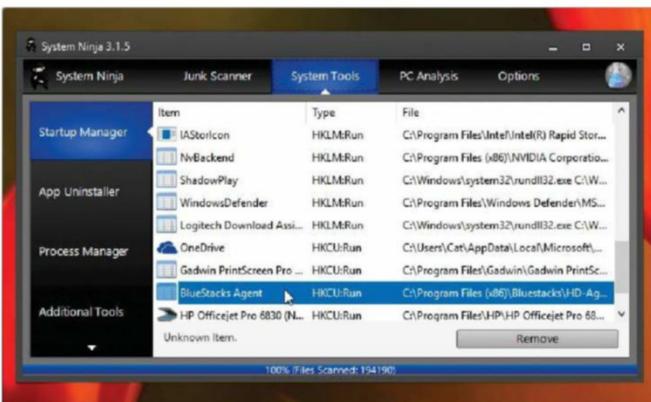
### 3 Take out the trash

The scan might take a few minutes, depending on the size of the drives you've selected. The scan could turn up hundreds, if not thousands, of results; you can see how many at the top of the window, and how much space they're all using. Everything in the list *should* be fine to delete, but take a glance through anyway. If you're happy, click 'Delete everything' then confirm your choice.



### 4 Cut startup times

Click the System Tools tab and select Startup Manager. This is a list of all the programs and processes that start at the same time as Windows, increasing the time between you powering up your PC and being able to start working. If you see one that you recognise as being unimportant, click it and then click Remove. If you're at all uncertain, leave it alone.



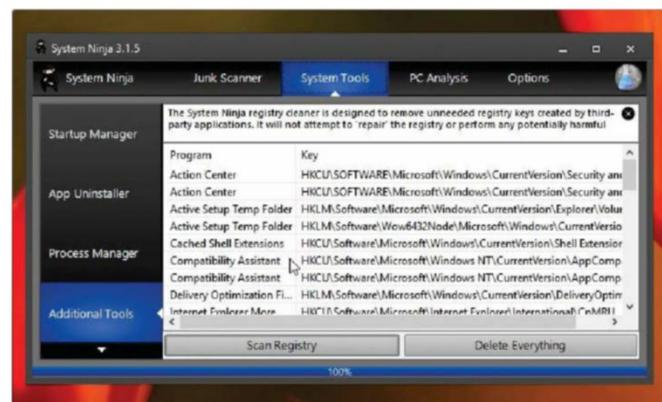
### 5 Check for programs to remove

Now click 'App uninstaller'. If you're anything like us, you might install new programs, stop using them and forget to remove them. Rather than doing it one at a time using Windows' 'Add or Remove Programs' option, System Ninja lets you get rid of several in one batch. Look through the list, check the box beside anything you want to remove, then click Uninstall Program(s).



### 6 Tidy up after yourself

If you've uninstalled some software it's worth going back to System Ninja's Junk Scanner and running another scan to clean up any clutter that might have been left behind. Then, select 'Additional tools'. We can ignore 'Process manager' for now – this is like Windows' built-in Task Manager and is useful if a program has become unresponsive or has become unstable.



### 7 Download extra features

Make System Ninja even better by removing old entries from the Windows registry. These entries can make Windows unstable and slow boot times, so it's good to remove them. Click Download Plugins, scroll down the web page that opens until you see Registry Cleaner and click 'Download this plugin'. Extract the downloaded file to a convenient place (such as your desktop).

### 8 Clean up the registry

Drag the two files from the Registry Cleaner folder to C:\Program Files (x86)\System Ninja\plugins. Right-click each file, select Properties and check the Unblock box at the bottom of the window. Restart System Ninja, click 'Extra tools' and you'll find the new Registry Cleaner ready to go. Click 'Scan Registry', then 'Delete everything'. ■

Learn how to...

# Record and share your Windows 10 desktop



Your guide **Alex Cox** says...

"If you need to show someone what you're doing on your computer, recording it is much quicker and easier than explaining it at length!"

## At a glance

### Skill level...

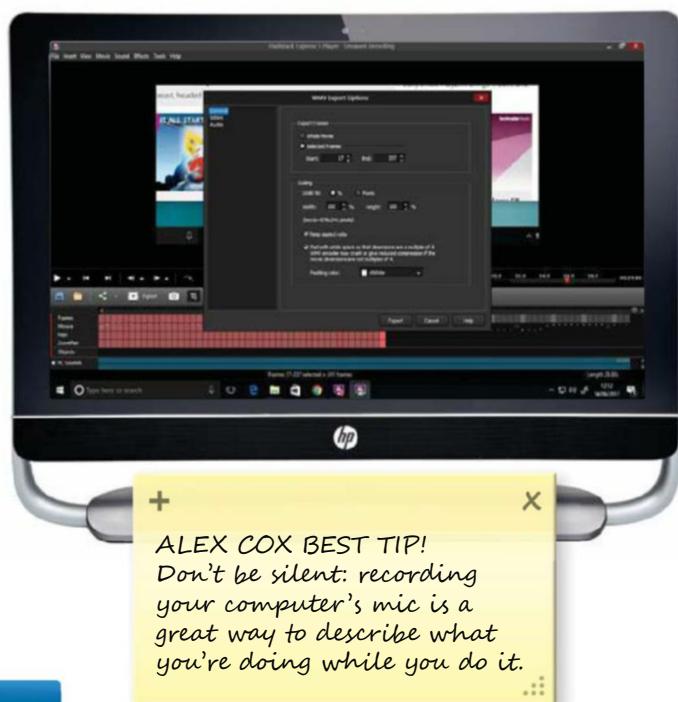
- ▶ Anyone can do it
- Straightforward
- Tricky in parts

### Suitable for...

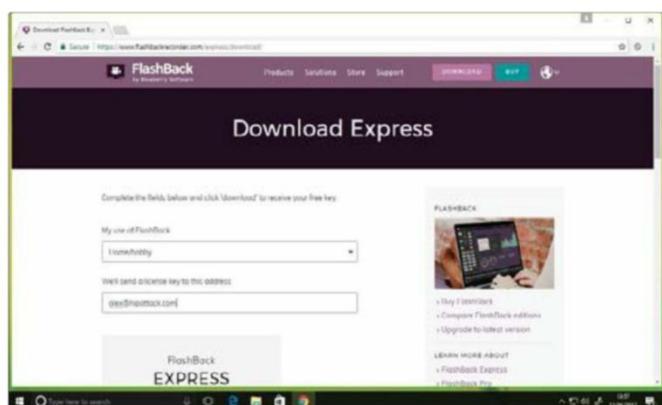
- Windows 10
- Windows 8.1
- Windows 7

We've probably all been on one side of the remote tech support coin. Something has gone wrong, and we're not entirely sure how to solve it; or someone is reaching out for some help, but it's impossible to describe a solution. The best thing to do in either of these circumstances would be to show your friend exactly what's happening (or supposed to happen) – and that's where screen recording comes in.

Making a movie of the goings-on of your Windows desktop is made surprisingly straightforward thanks to Flashback Express, a fully featured free recorder that can also capture individual windows, the input of your computer's webcam, and much more. All the while it'll help make things look a bit more professional, cleaning up your wallpaper, hiding your desktop icons, and making sure that only the things you absolutely need to record are committed to memory.



## Step-by-step | Record your Windows 10 desktop



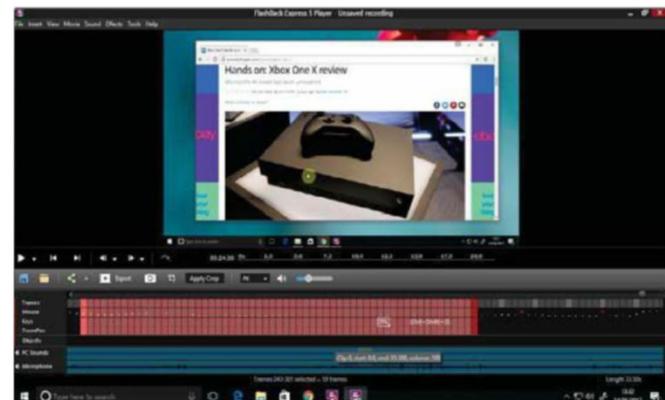
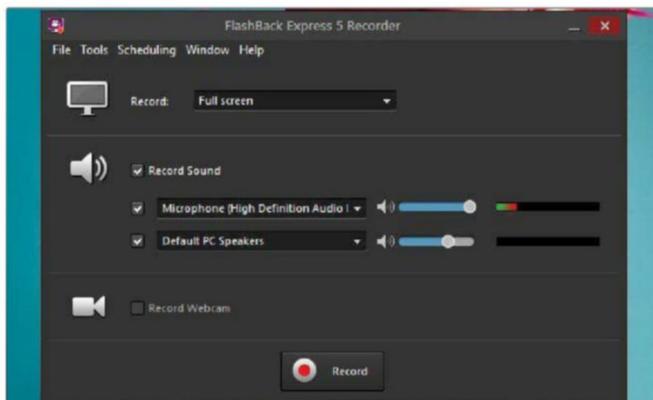
### 1 Download it

Point your web browser at [www.flashbackrecorder.com/express/download/](http://www.flashbackrecorder.com/express/download/) and enter the required information before hitting the download button to start the software on its way. A license key will be emailed to the address you entered, so keep an eye out for that since it may end up in your spam folder. Run the installer, and click Next to go through its options.



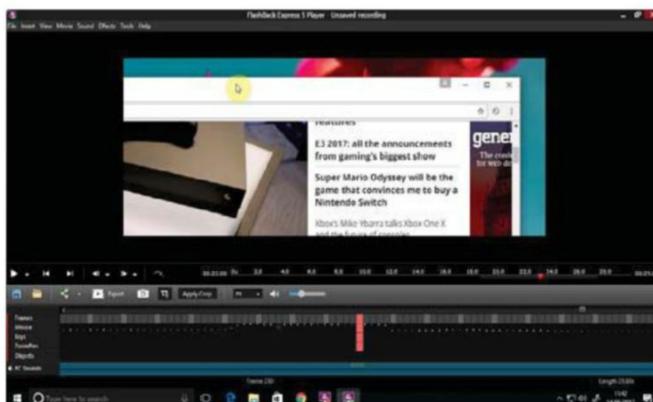
### 2 First run

The first time you run Flashback Express it'll ask for the license key, so head to your email inbox, copy it with [Ctrl] + [C] and paste it into the box with [Ctrl] + [V]. Click 'Continue' and Flashback Express will briefly test your PC's abilities, then show you its splash screen. While you could start recording straight from here, click 'Close' for now to head to its main interface.



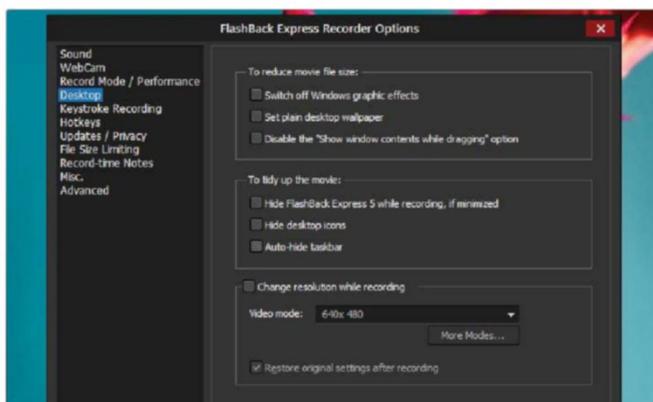
### 3 What to record?

The basic recording interface is simplicity itself. By default, it records your whole screen, brings in sound from your computer's microphone, and records any sound your apps make as well. Try a recording now by clicking the Record button – Flashback will take a couple of seconds to initialise, then begin recording. Click around a little, then click the big red Stop button to finish.



### 5 Maximise the mouse

It's likely that your recordings will focus on what you're doing with your mouse, so it can be beneficial to crop it down to focus on your pointer. Click the crop button, which looks like two set squares, then drag the blue box on top of the footage to set the specific distance you want to keep from your pointer. Click 'Apply crop' to get an idea of what the end result will look like.

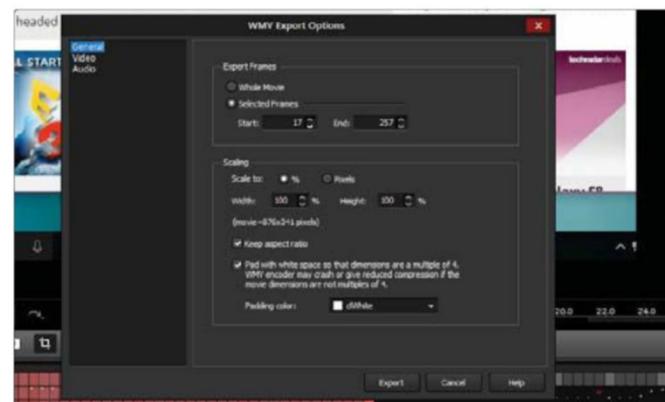


### 7 Advanced recording

Head to File > Record New Movie to get back to the initial recording screen. Click Tools > Options and go to the Desktop section. The options here will lower the file size of your videos, perfect if you're creating something lengthy or just want a cleaner look. It's also a great idea to hide Flashback itself – just remember Flashback's [Ctrl] + [Shift] + [S] shortcut to stop recording.

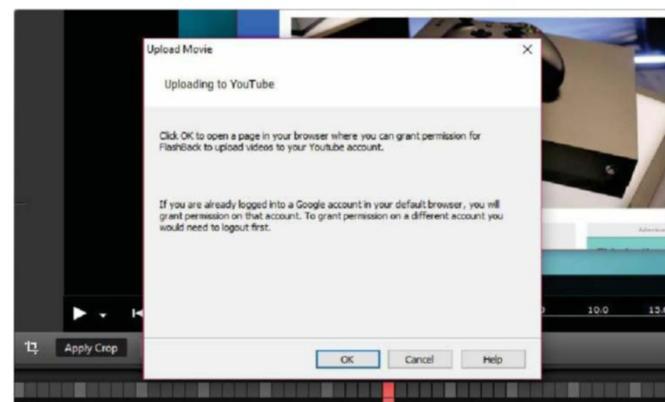
### 4 Check it out

When given the option, select the Review button. The next screen shows your footage, with a slider you can use to jump to a particular point, plus the usual play and pause controls. Below that is a timeline which shows the content of your recording, from mouse clicks (represented by small red circles) to keypresses to any system or microphone sounds that have been captured.



### 6 Save it

Flashback Express is restricted to saving in WMV format only, but that's not an issue: anyone with Windows will already have the software to be able to see it. Drag your mouse on the timeline to highlight the part of your video that you want to share, click Export, then the 'selected frames' button to make sure you're cutting it down. Click Export, then name and save your file.



### 8 Upload it

The key reason to create a desktop recording is to share it, and a large WMV file can be a bit unwieldy – but YouTube is the perfect place for others to view your videos. When you've finished a recording, click the green Share button, select YouTube, log in to your account, and you'll be able to upload your footage automatically, cutting out the hassle of converting it later on. ■

# WINDOWS 10 PARENTAL CONTROLS

Keep your loved ones safe from harmful content

**A**ccording to a survey by NetMums.com, the average age that children start using the internet is three. More worryingly, kids spend twice as long online as their parents believe they do.

In an ideal world, children would only use a computer with an adult sitting beside them. Working parents with more than one child will know, however, that this isn't very realistic. And as your children grow, they also deserve a certain measure of privacy.

Windows 10 enables you to create a virtual 'family' by adding children's accounts to your PC. This means you can restrict access to certain

websites, make sure that your child is only accessing age-appropriate games, films and apps and even set limits on the amount of screen time they have each day. You can use your Microsoft account to review their activity, as well as approve their requests to use certain websites or applications.

Over the next six pages, we will explain how you can set up and manage child accounts in Windows 10, with step-by-step instructions on how to configure each parental control feature.

We will also discuss some of the limitations of Windows 10's Family settings, as well as ways to stop your kids from trying to circumvent its parental controls.



# Managing your family

Add child accounts to your PC and configure what they can access

**A**ssuming your child has previously been using your PC, it's likely they already have their own user account. In order to become part of your family group, you will need to add them in your system settings.

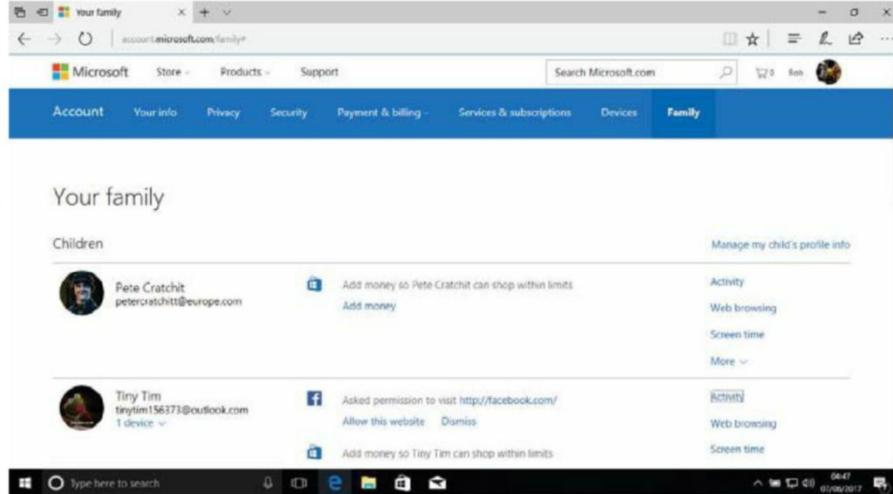
In Windows 10, children must have a Microsoft account to be added to a family. The advantage of this is that any settings you apply to limit web content, applications or screen time will apply no matter which of your Microsoft devices your child uses.

While the steps in this guide are unlikely to harm your PC in any way, you do need an up-to-date version of Windows 10 to use some of the parental control features, so make sure to back up your data and run an update before getting started.

Begin by following the steps in 'Adding a child account'. If your child already has a Microsoft account they will receive an e-mail invitation to become part of your family group. If not, visit <https://signup.live.com> to create a Microsoft account for them before proceeding.

## The Microsoft family

Once your family has been created, you can manage it at any time by visiting <https://account.microsoft.com/family>. You can use this website to control all of your family settings, so make sure



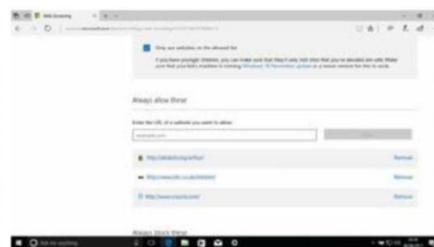
The Microsoft family page ([account.microsoft.com/family](https://account.microsoft.com/family)) enables you to configure parental controls for each one of your children, as well as check on the websites and applications they've used.

that you set a strong password, ideally using a password manager such as LastPass ([www.lastpass.com](http://www.lastpass.com)).

You can add other adults to the family to help you manage settings if you wish. Scroll to the bottom of the page and click the Add Adult option.

To get started with managing content, click 'Web browsing' next to your child's name. First make sure 'Block inappropriate websites' is switched on, to filter adult content such as explicit words. This filter also applies to search engines, such as Bing and Google, and removes unsuitable websites from search results.

You can control other web content using the Allow and Block lists. For younger children, it's probably best to tick the box marked 'Only see websites



Click 'Only see websites on the allowed list' to make sure your child can only visit certain websites.

## Screen time

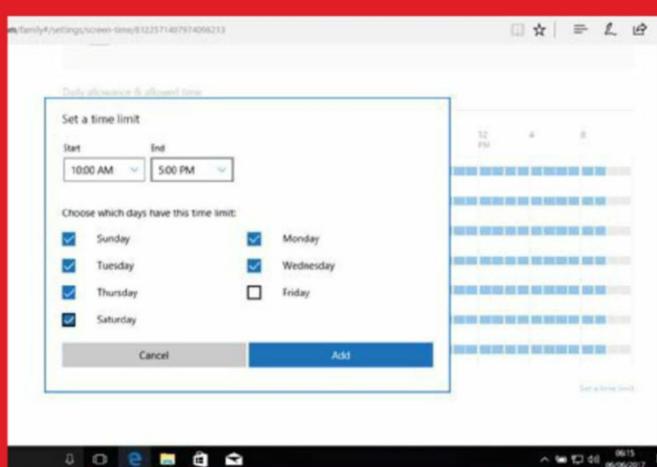
You can regulate the amount of time your child spends on screen each day when using either an Xbox or a PC by visiting Microsoft's family page at <https://account.microsoft.com/family>.

You could, for example, set either a maximum daily allowance – which enables them to use an Xbox or PC for up to three hours per day, say – or you can set it so it only allows them access during certain times, such as between 10am and 5pm.

To get started visit <https://account.microsoft.com/family> and click Screen Time next to your child's name. Click 'Set

limits for when my child can use devices' to switch on this feature – there are separate options for Xboxes and Windows PCs.

Click the drop-down menu next to Daily Allowance to set an overall limit on the time your child can spend logged in, or click the planner on the right to add a time limit each day. You can also click the link marked 'set a time limit'. This opens a pop up window, allowing you to set a single time limit for every day of the week. This is faster than changing the settings for each day individually.



Use the drop-down menu under Screen Time to set a daily time limit for your child, then tick to apply this to each day of the week.

on the allowed list'. This ensures that your child will only be able to visit certain websites that you have allowed. All others will be blocked.

To add a website to the Allow list simply click on the field underneath 'Enter the URL of a website you want to allow'. Enter the website address e.g. <http://crayola.com> and click Allow.

If your child tries to visit a website that is not on the list, Microsoft Edge will block it from loading, but your child can click a link on the page to ask your permission to add it to the Allow list. You'll see a notification the next time you log in to your family settings.

The Allow list is probably the safest way to filter adult content but it can be a nuisance for older children who may need access to websites for homework.

If this is the case, consider using the Block list instead. This means that your child will be able to visit any website provided it doesn't have adult content or is blocked. To add websites to the Blocked list, scroll down to 'Always block these', enter the name of the website and click the Block button.

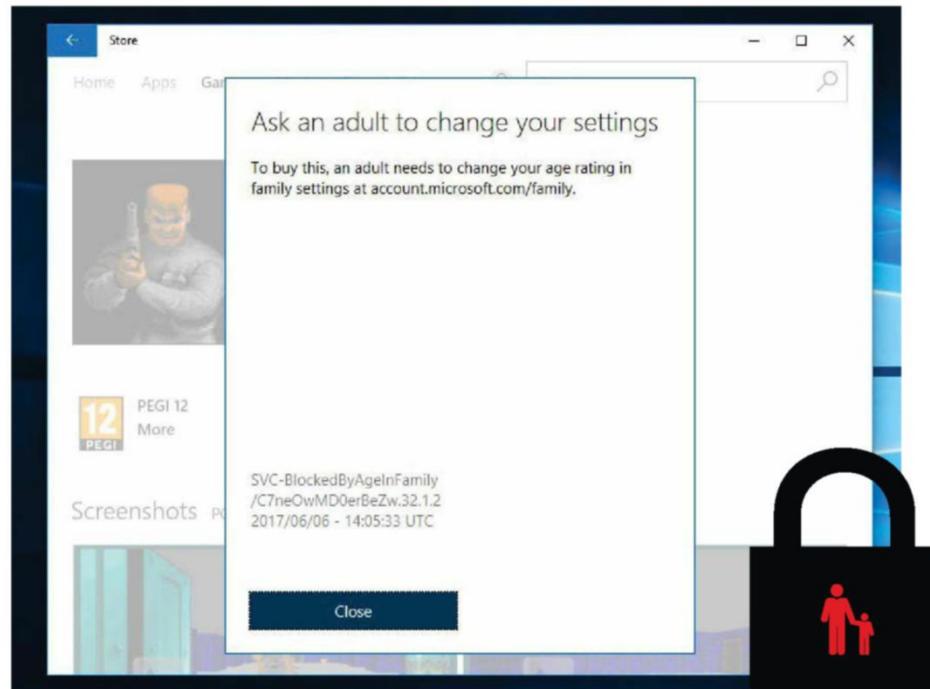
### Fun and games

When you visit <https://account.microsoft.com/family>, you will see a link named Add Money next to each of

**"If your child tries to install something that isn't suitable for their age, the Windows Store will automatically block the installation"**

your children's names. This enables you to add a certain amount of credit to their account for use in the Windows Store – an excellent way to make sure they can't overspend!

By default child accounts cannot be used to install any games or movies



If your child tries to install a game outside of their age range, they will see a message prompting them to ask an adult for permission. You can change these settings from Microsoft's Family page.

specifically marked for adults (18+). You can fine tune this further by clicking More > 'Apps, Games and Media', then scrolling down to the section marked

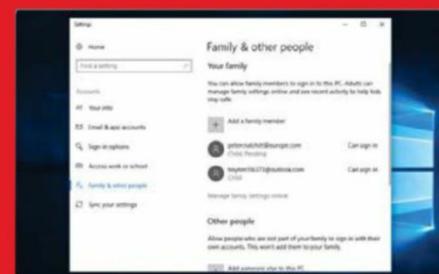
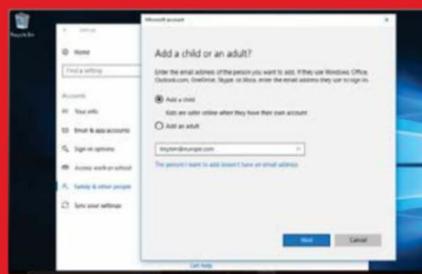
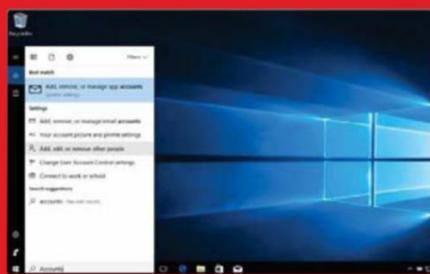
the installation and ask them to speak to you about changing these settings.

This section also contains a list of Blocked Apps & Games. You'll see that some common web browsers such as Firefox and Google Chrome are already listed here. This is because the web content filtering in

the 'Web browsing' section only applies to Edge and Internet Explorer.

Remember you can use the Activity section of the Microsoft family web page to see a record of which websites and applications that each of your children has been running.

## Adding a child account



### 1 Go to User settings

Click on the search bar at the bottom of your PC's screen and type 'Accounts'. Click 'Add, edit or remove other people' to open 'Family and other people' in Settings. Click 'Add a Family Member'. Then enter the e-mail address of your child in the new window.

### 2 Link child account

Once you have entered your child's e-mail address click Next. If they already have a Microsoft account, they'll receive an e-mail containing a link. Ask them to click this to be registered as part of your family. They will then be able to sign into your device.

### 3 Family settings

Repeat the steps for each child. Any members added will appear under 'Your family'. If your child doesn't have a Microsoft account, visit <https://signup.live.com> to register. Once that's done, click 'Manage Family Settings online' to fine tune parental controls for your kids.

# Hacking parental controls

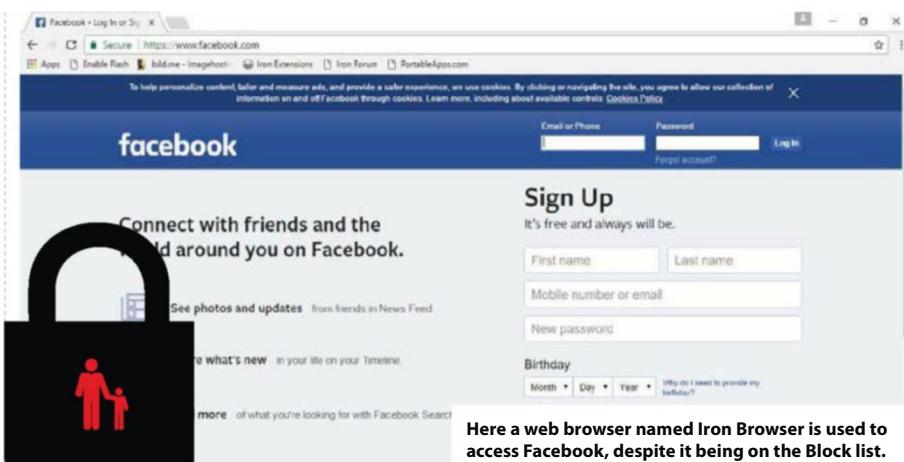
Make sure you stay in control of what your kids see and do

**W**hile using Microsoft's parental controls can give you some peace of mind, the tools aren't perfect. For instance, the Allow and Block lists, as well as the adult web content filter, only apply to Microsoft web browsers. This is mitigated a little by the fact that child accounts won't run popular web browsers such as Firefox or Chrome.

More tech-savvy readers may have already spotted the glaring loophole: if your child is able to install a browser which isn't listed under Blocked Apps then they'll have unrestricted access to the whole of the world wide web.

The easiest way to make sure this isn't happening is to look in the Activity section of the Microsoft family page. Ask your child about any applications you don't recognise. If this is happening frequently, you can filter web content using OpenDNS FamilyShield, which will prevent your router from connecting to inappropriate websites in the first place (see the boxout on the facing page).

If you're using Windows 10 Enterprise or Education editions, you can use AppLocker rules to make sure that only certain programs can be run on the machine – Microsoft Edge and Microsoft Word, for example. This is done by setting a Local Security Policy which, while effective, can go wrong if you're not sure what you're doing. Visit Microsoft's 'Lock down Windows 10 to



specific apps' help page at <http://bit.ly/2tE4QKo> for help. Make sure to run a backup before making any changes.

If you've not upgraded to Windows 10 yet, you can still take preventative measures using third-party software such as McAfee Application Control ([www.mcafee.com/us/products/application-control.aspx](http://www.mcafee.com/us/products/application-control.aspx)), which helps stop unauthorised apps from running.

## Hidden Users

If your child is particularly good with computers, they may try to circumvent any restrictions you've imposed on their child account by logging into a different one. This will mean that you won't be able to see what they've been up to in their Activity tab.

If you have more than one child, the simplest way they could do this is to log into another child's account, so make sure that everyone uses a secure password. Young children can use a picture password instead of text (you can find out more in the box below).

Older children may try to create a hidden administrator account. If your little scamp does this, they can use certain commands to disable it when they're not using it, so it won't appear on the login screen or in 'C:\Users'.

The good news is that they would need to know the password of an existing computer administrator to create and hide/unhide another. Make sure you and any other adults using your PC choose a strong password and

## Picture passwords

Very young children can struggle when entering passwords to access their Microsoft account, but you can make it easier for them by setting a picture password: instead of typing a password, your child simply clicks or taps on certain places on the image to log on instead.

To set up a picture password ask your child to sign in to your PC and then type 'Accounts' in the search box. Click on 'Your account picture and profile settings' and a new window will open. Choose 'Sign-in options'.

Scroll down to the Picture Password section and click

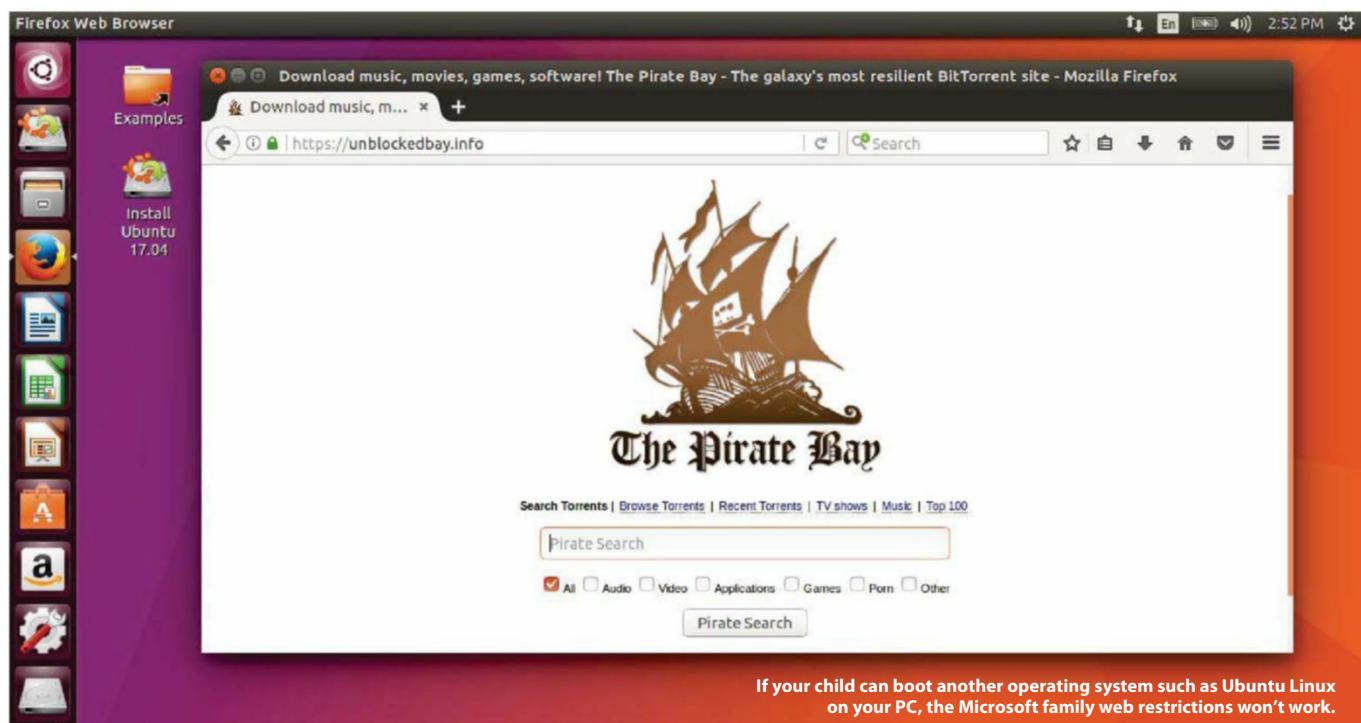
Add. Re-enter your child's Microsoft account password.

Next, click Choose Picture and navigate to the image your child has chosen to sign in. Click 'Open' then use your mouse to position the picture. Once this is done ask your child to click on three distinct places within the image. They will need to do this one more time for confirmation.

Click 'Finish' when you're done. From now on, the image will appear on the sign in page. Your child must click on the same places in the order they chose when setting up their picture password to log on.



Make sure that your child uses an image that they are familiar with so they know exactly where to tap or click.



## "Most modern Windows machines use Secure Boot to prevent loading of third-party operating systems"

make sure you change it regularly. You can also run the command 'net user' to list all user accounts on your machine.

### Boss of BIOS

If your offspring are particularly cunning, they may decide to use your Windows PC to boot an alternative operating system such as Ubuntu Linux. If this is done from a 'live' DVD or USB stick then they will have unrestricted access to the internet and apps, and there'll be no record of their activity left

either on your machine, or on the Microsoft family page.

Most modern Windows machines use Secure Boot to prevent loading of third-party operating systems, but this can easily be disabled by entering your UEFI firmware settings. The specific steps to do this will vary depending on your manufacturer, but by default anyone with physical access to the machine can disable Secure Boot.

Fortunately, most machines support setting a password to access your UEFI

or BIOS settings, so you can make sure your PC only loads Windows. This is also a handy way to enforce your child's screen time as someone with access to UEFI/BIOS can change the system time.

Overall, try to have a realistic attitude about what Windows' family settings can do for you. While it can limit some harmful content, it is not a substitute for 'present parenting' while your child is using the machine.

Where possible, try to have a single family PC and keep it in a communal area such as your living room. Make sure to remind your child that you can see their activity and if they have a legitimate need to access a blocked website or program you can always change your settings. ■

## OpenDNS FamilyShield

OpenDNS FamilyShield also blocks proxy websites, such as hideoxy.com, which can be used to by children to circumvent parental controls.

DNS Servers (sometimes known as 'nameservers' act as a type of virtual telephone directory for the internet, translating human readable web addresses such as www.microsoft.com into their corresponding IP address.

If you configure your router to use OpenDNS' FamilyShield nameservers, websites with unsuitable content will be blocked regardless of the type of web browser or device that is being used.

The specific steps needed to set up FamilyShield on your router vary depending on the manufacturer, but you can find instructions for many of the

most popular ones at <http://bit.ly/2tEtqKW>.

Anyone who can connect to your network and knows your router password can change the DNS settings, so be sure to change the default password.

This filter will apply to all devices and accounts on your network including those used by adults. If you feel this is too broad, you can apply these settings to individual PCs instead by following the instructions at <https://www.opendns.com/?p=29373>. Only administrator accounts can modify DNS settings in Windows 10, so your child won't be able to alter them.

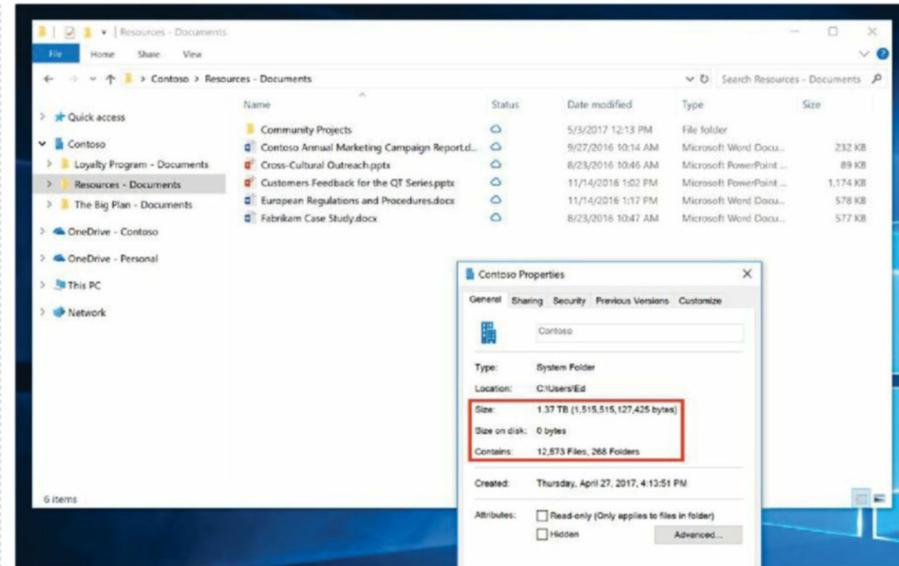
# Windows 10's next big step

The next major version of Windows 10 will be heading your way this autumn. Here's everything we know about the Fall Creators update so far...

**A**re you ready for another major Windows update to come your way? Microsoft has recently announced the Fall Creators Update, due in September. Regular Windows watchers will note that the Creators Update part of the name sounds familiar. That's because there has recently been a Creators Update released for Windows 10. You have probably got that on your PC now or, if not, you will very soon.

These kind of biannual-ish updates are now the norm for Windows it seems; Microsoft is showing no desire to jump to Windows 11, so instead it's updating Windows with new features all the time, including the new Paint 3D app, which you can find out how to use on page 38.

So why is the name so similar to the update just released? Our theory is that the original Creators Update wasn't as creative (or as well received by creators) as was hoped. And, in turn, part of this could be that hardware partners will



Files On-Demand enables you to treat files as if they existed locally, but they actually take up no space.

have mixed reality headsets available for the public to buy by the end of the year – when this update will be hitting PCs.

Then again, maybe there will be some juicy new creative hardware this autumn to follow up on the wonderful Surface Studio, which will reinforce the message that the update is for creators. Surface Studio is now fully available in the UK, as is the new Surface Pro and the Surface Laptop, unbelievably the first proper laptop that Microsoft has created.

Be warned: we don't have anything like complete details of what will be in

the update yet, what follows is just a taster of what's to come. We will, of course, keep you informed of any changes to the Fall Creators Update over the next few issues – and will take an in-depth look when it's finally released.

One change you're likely to notice straight away are design cues taken from Microsoft's Fluent Design System (<http://fluent.microsoft.com>). This will create a more fluid experience across multiple devices, while further taking Windows away from the Metro (Modern UI) design we first saw with Windows 8.



## Pick up where you left off

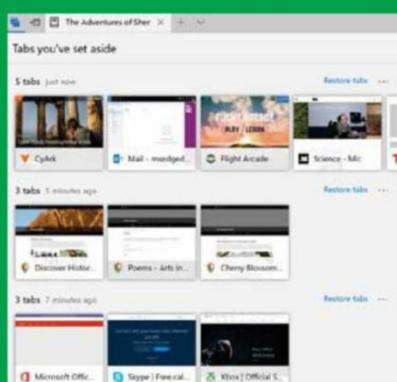
When the Windows 10 Fall Creators Update arrives in September, Microsoft's virtual assistant Cortana will help you pick up where you left off on any device, even as you switch from PC to phone.

Although most of us aren't talking to our PCs in the way Microsoft would like us to, Cortana's artificial intelligence is useful in a multitude of ways other than speech. So, for example, it will be able to predict which apps that you might tap or click on next, depending on what you've been doing on your phone.

Switching between apps in Windows 10 has always been

easy thanks to Task View, but in the new update there will be a timeline aspect to it as well – so you can effectively get back to where you were at a point in the recent past.

Which apps you use – and when – will be tracked within a new section of Task View called Timeline, so if you need to go back to the windows you had open during your 2pm meeting yesterday, for example, Timeline will find and open them for you. And because Cortana works on iOS and Android devices as well, it will also be able to suggest apps that you might want to use on your smartphone or



tablet as well as on your computer, and vice versa.

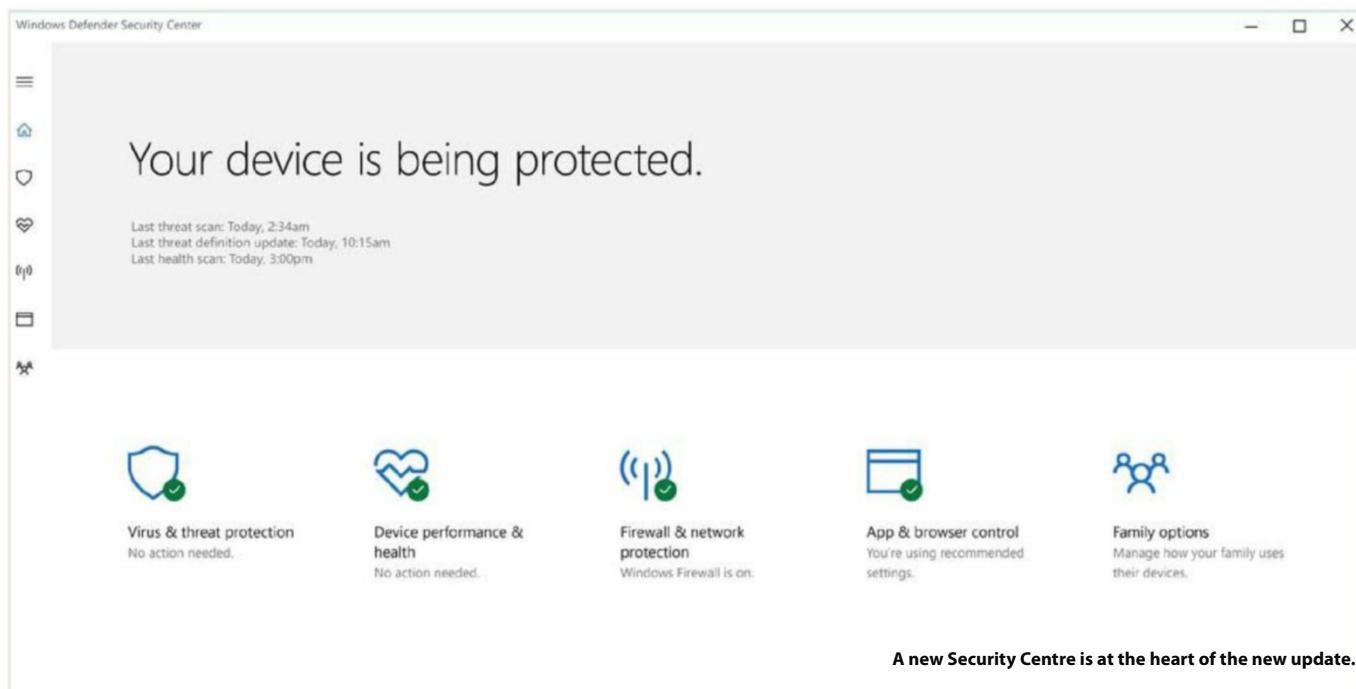
So if you just used Word on your iPad, your PC will give you the chance to open the same app and file when you switch over to your PC – a feature called, appropriately,

where we can get a cab to carry your Highness to the police-station?"

"That is better," said John Clay serenely. He made a sweeping bow to the three of us and walked quietly off in the custody of the detective.

"Really, Mr. Holmes," said Mr. Merryweather as we followed them from the cellar, "I do not know how the bank can thank you or repay you. There is no doubt that you have detected and defeated in the most complete manner one of the most determined attempts at bank robbery that have ever come within my experience."

**Pick Up Where You Left Off.** It's a similar idea to the 'set aside tabs' option introduced in the spring Creators Update, which enables you to return to the web pages you had open during a previous browsing session.



## "The Fall Creators Update will also let you to pick up where you left off in apps on iOS and Android devices"

The Fall Creators Update will also include accessibility improvements, not least to Narrator, Windows 10's screen reading utility. It will feature a device learning mode, which will enable you to send a command from a keyboard, a touch or Braille display and give you feedback on what the command does (as opposed to just carrying it out).

Other moves to improve Windows 10's accessibility will include tweaks to make things easier for users with low levels of vision, including a more useful Magnifier

which follows Narrator's focus and offers new options for smoother fonts and images – and the ability to zoom in or out using the mouse wheel.

### iOS/Android integration

The Windows 10 Fall Creators Update will also include some rather excellent new features for those of us who don't have Windows Phones, which – let's face it – is most of us. One of the big features of Windows 10 Mobile was that it could use Continuum. This is a technology

built into Windows 10 Mobile that essentially enables you to use a phone like a basic PC – you just connect up a keyboard and mouse using Bluetooth, as well as a monitor via your phone's USB connection and off you go.

When it's released in the autumn, the Fall Creators Update will also let you to pick up where you left off on apps on iOS and Android devices – like in a Word document using Office. It will also include a cloud clipboard that will enable you to move stuff between different devices, rather like Apple's Universal Clipboard for iOS and macOS.

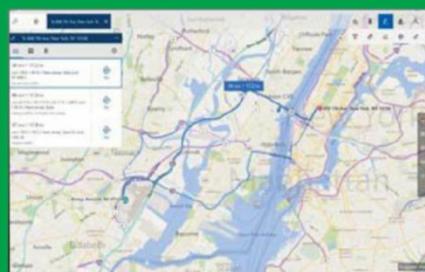
Microsoft bought awesome word prediction keyboard app, Swiftkey, (<https://swiftkey.com/en>) in 2016 and it sounds like cloud clipboard will be the first result of that acquisition.

## Windows Ink and Maps



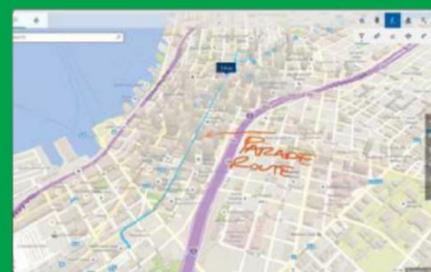
### 1 Get directions

Windows Ink is also getting an update. Using a stylus, you'll be able to draw a line between two points in Maps (probably your start and end points!) and then get instant directions between those two locations. You will also be able to use Windows Ink's ruler tool to draw straight lines across your map.



### 2 Get going

Here are the directions for our chosen route, which we can adjust if we wish. In the new update, Clipboard will enable you to copy and paste loads of stuff between connected devices across Android, iOS, and Windows; it could be a photo, map link, or text. You can then paste wherever you want.



### 3 Share it

You can also annotate the map however you like and share it with others at will. Here we've drawn a map of a parade route – although it could be absolutely anything – which we can then share it with our buddies. You can use Windows Ink to add details in different colours too, of course.



## "Also coming soon is a new OneDrive feature called Files On-Demand"

One smart feature will be called Timeline – see the 'Pick up where you left off' box on page 54 for details.

Another welcome change in the Fall Creators Update will be the addition of

pro-level apps, such as Autodesk Sketchbook ([www.sketchbook.com](http://www.sketchbook.com)) to the Windows Store. This is, in part, explained by Windows 10 S, the new, super-easy to use version of Windows

10, which is aimed at students. The new version of the operating system relies exclusively on the Windows Store for apps, so any sign that developers are getting on board is welcome.

But it's not all pro-level apps either. Microsoft is encouraging developers to produce universal apps for the Windows platform, even Apple. It's joining the Windows Store in the autumn with a new version of iTunes.

The existing version of iTunes has been derided as one of the most resource-hungry and crashy apps ever to hit the Windows platform. And while recent versions have been much better in terms of these issues, it's welcome news that Apple is working on a completely new version. Windows users will get the complete iTunes experience, including Apple Music and the iTunes Store, as well as support for iPhone and other Apple devices on any Windows 10 or Windows 10 S computer.

Story Remix is another new app that will combine music, photos, videos and stories, enabling you to create new ways of sharing your photos and videos rapidly. You can also combine similar footage shot from different angles.

### OneDrive enhanced

Also coming soon is a new OneDrive feature called Files On-Demand. This will enable you to access all your files in the cloud from any device, without you having to download them to your PC or mobile device first. The good thing is that this won't change how you use your PC, since the files appear in File Explorer just like any other file on your computer, and you can open them from within other apps using the Windows File Picker. Files On-Demand works on both business and personal OneDrives.



## Windows 10 S explained

Windows 10 S is a special new version of Windows 10 that made its debut on the new Surface Laptop. It's designed for those who value stability and security – particularly in education – over and above flexibility. That's because it only enables you to install apps from the Windows Store and so – according to Microsoft – will be more reliable over time. It's impossible to know whether that will be the case currently, of course, and it's also fair to say that Windows 10 Home and Windows 10 Pro are pretty stable as is, even after having a stack of apps installed on them. The main market for 10 S will be education, where it's desirable to lock down systems so that apps and programs can't be installed from random sources.

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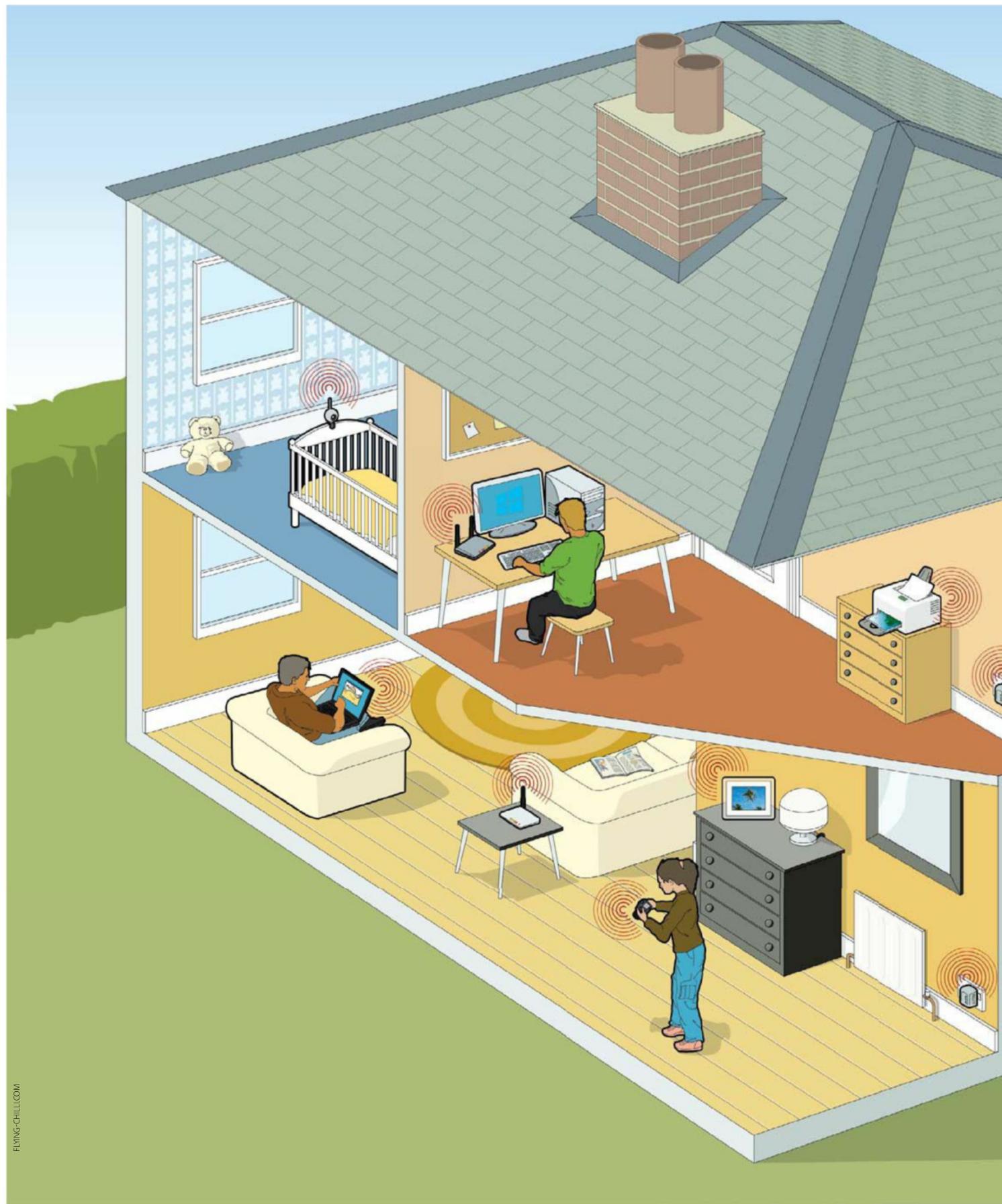
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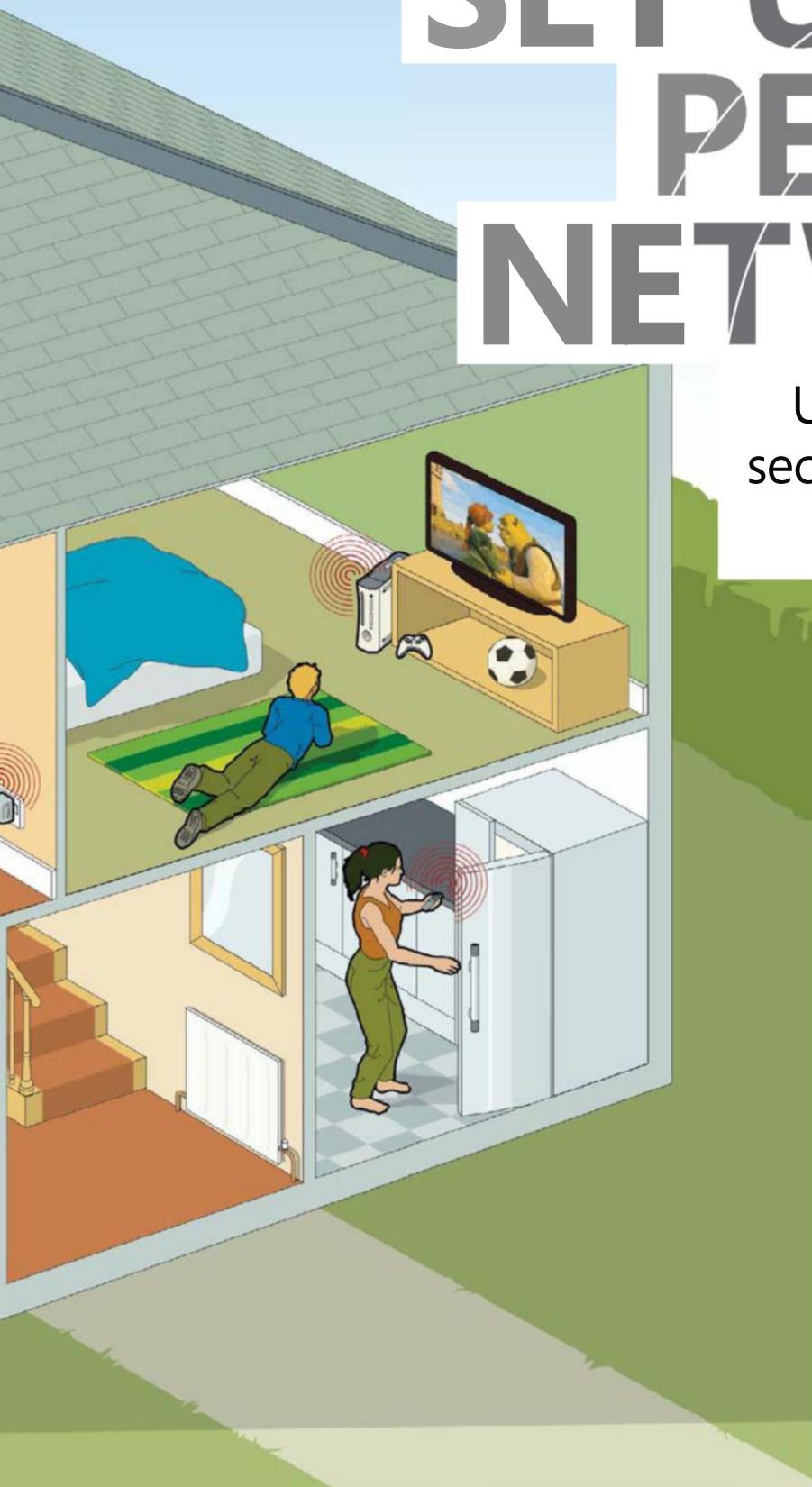






# SET UP THE PERFECT NETWORK

Upgrade, optimise, and secure your network with the help of *Nick Peers*



**UNLESS YOU'VE BEEN MISSING in action since the Y2K Bug failed to destroy civilisation, you already have some form of networking in your home.** A typical home network combines wired and wireless networking, with your main PC, possibly a printer, and perhaps a games console plugged into a router using an Ethernet cable, and other devices – those in other rooms as well as mobile devices – connecting wirelessly.

At the centre of your network lies your modem and router (or modem router if you have an all-in-one unit). This acts as a bridge between the network in your home – a Local Area Network, or LAN – and the world's best-known Wide Area Network (WAN), the Internet.

It's possible you only use your network for accessing the Internet, but if you're smart, you'll have found ways to use its sharing abilities to even greater effect: Why buy a printer for every computer in your home, for example, when one networked printer can be shared by all? But ask yourself this: Are you using your network to its maximum? Is it performing as fast and efficiently as it should? Could you expand your network to even greater benefit? Are there problems – Wi-Fi congestion and interference, for example – that need resolving?

In this feature, we answer these questions and more. We show you how to benchmark your network, plus reveal its topography. Then we help you determine if your router needs upgrading, and examine ways to expand your network to every corner of your home.

Once you've physically set things up, we look at how to optimise your network: improve security, boost range and performance, ease Wi-Fi congestion, and expand its capabilities by offloading services to a Network Attached Storage device. There's room for some file-sharing tips, before we show you how to access your network securely when away from home. It all adds up to one supercharged network, so light the fuse, and prepare for blast off...

**LET'S START BY TAKING STOCK.** Make a note of your existing router's make and model, then check out its specifications, which you'll need when determining whether an upgrade is worthwhile. Then take an inventory of all the devices that are currently connected to it. Don't forget any smart home tech you've added, such as a security camera or SmartThings hub.

Struggling to remember what's connected where? Use the free Fing app on your smartphone or tablet, or download Advanced IP Scanner ([www.advanced-ip-scanner.com](http://www.advanced-ip-scanner.com)) on your PC to scan your network for connected devices. Both tools provide you with as much information as possible to help you identify the devices in question. In the case of Advanced IP Scanner, you're given the device name, IP, manufacturer, and MAC address – click the '>' next to an entry to reveal the resources it shares.

The inventory could reveal unwanted devices on your network – in which case, our tips on securing your network (page 64) will help you lock these out – but for most, it merely reminds you what's connected.

One last thing before we begin: Consult the box on benchmarking (opposite) to see how to perform some quick tests on your network as it currently stands. You can then rerun these as you make upgrades and optimisations to your network, to see whether they have an effect.

## PICK A NEW ROUTER

Given the router's critical role in your network, this should form the starting point for your network tweaking. First question to answer: Is it up to the task? If you don't want your network to be hobbled by slow transfer speeds, make sure it supports the latest wired (Gigabit Ethernet) and wireless (802.11ac) technologies.

You're not limited to the modem router supplied to you by your Internet provider – and if you're currently paying a monthly rental fee for it, it's likely you'll get better long-term value by purchasing your own model. If the modem and router are separate, you might even want to consider buying an integrated modem router to save on space and free up a socket, but make sure the model you pick works with your current Internet connection – it's usually a choice between cable, ADSL (regular broadband), and VDSL or ADSL2+ (super-fast or fiber-optic broadband). If you're not sure about the acronyms, check

Use a Wi-Fi expander to extend the reach.



Advanced IP Scanner			
File Actions Settings View Help			
192.168.35.1 - 192.168.35.254, 192.168.56.1 - 192.168.56.254 Example: 192.168.0.1-100; 192.168.0.200			
Results	Favorites	IP	Manufacturer
Status	Name	IP	MAC address
>	TS-251PLUS	192.168.35.2	QNAP Systems, Inc.
>	NICK-PC	192.168.35.3	ASRock Incorporation
>	192.168.35.6	192.168.35.6	TP-LINK TECHNOLOGIES CO.,LTD.
>	192.168.35.7	192.168.35.7	TP-LINK TECHNOLOGIES CO.,LTD.
>	HTTP, Web Switch		
>	Smappes1003002492	192.168.35.52	Shenzhen Ogemray Technology Co., Ltd.
>	HTTP, Jetty		
	192.168.35.53	192.168.35.53	ASUSTek COMPUTER INC.
	Nichollas-iPhone-2	192.168.35.56	Apple, Inc.
	TimeCapsule	192.168.35.61	Apple, Inc.
>	DELL0015990C8612	192.168.35.202	Samsung Electronics Co.,Ltd
>	ARCHER_VR900	192.168.35.254	TP-LINK TECHNOLOGIES CO.,LTD.
>	HTTP, TP-LINK TD-W8968 http admin		
>	FTP (Http)		

Advanced IP Scanner takes an inventory of all the devices connected to your network.

with your Internet provider (or ask on its support forums) for confirmation.

## ESSENTIAL FEATURES

So, what should you look for in your new model? Start with the wired ports – make sure your new model offers Gigabit Ethernet to maximise transfer speeds. Most routers should offer four Ethernet ports – if you have more than four wired devices to connect, or your devices are in a different room to your router, this may not be a deal-breaker. See the 'Expand your network' section later for more help in this area.

Next, choose a model that supports 802.11ac (AC) wireless networking. These days, most routers create two separate wireless networks on different channels: 2.4GHz and 5GHz. The 2.4GHz band is supported by all devices, but is where congestion and interference from neighbouring networks can sap its performance (more on mitigating this later). The 5GHz band is traditionally less congested, subject to less interference, and much quicker over shorter ranges.

The 5GHz channel's major drawback is its limited range particularly on older Wireless N routers that supported both channels. Wireless AC routers improve the 5GHz range, thanks to detachable antennae, which can identify where connected devices are, and aim the signal directly at them, using a process called beamforming.

You'll also see AC routers are rated using different numbers, from AC1600 up to AC2800. The latter number indicates the maximum combined Wi-Fi speed for the router's two channels – typically 300-600Mb/s for the 2.4GHz range, and then 1Gb/s up for the 5GHz range.

If you do a lot of streaming, you might also be tempted by a model offering Multi-User MIMO (MU-MIMO). MU-MIMO improves the efficiency of multi-device streaming by streaming multiple

packets simultaneously, but beware: Behind the hefty premium is the fact that your wireless devices must explicitly support MU-MIMO, and right now, not many do.

## HANDY EXTRAS

Routers are becoming increasingly smart, so look out for these features: Universal Plug and Play (UPnP), which automatically opens the ports required to stream to and from the Internet (albeit at a cost to security). Then there's QoS, or Quality of Service, which enables you to apply bandwidth limits to specific devices.

Some routers even offer VPN services, enabling you to set up encrypted network connections to a work network – if you're looking to set up your own VPN server, try Netgear's Nighthawk range, or see the 'Offload network services' section later. Bonus points go to routers that offer USB ports for printers or external hard drives, transforming them into network devices.

All these features come with additional costs attached, so set yourself a budget and decide what, if any, additional features you need. Which router should you buy? We're fans of TP-Link's Archer AC range ([www.tp-link.com](http://www.tp-link.com)), which works with an existing modem, but if the idea of a modem router appeals, visit [www.techradar.com/reviews/pc-mac/networking-and-wi-fi/modem-routers](http://www.techradar.com/reviews/pc-mac/networking-and-wi-fi/modem-routers) to find inspiration.

Netgear's Nighthawk routers offer advanced features.





Make sure your router offers enough Gigabit Ethernet ports.

## EXPAND YOUR NETWORK

Your central hub is now sorted, what next? First, if you're connecting any of your devices directly to the router's Gigabit Ethernet ports, you should check that they're using CAT5e cable. Inexplicably slow connections may be fixed by simply swapping out the cable – if your router (or switch) provides LEDs for each connected port, verify they're green (for Gigabit), as opposed to amber (for 10/100Mb/s connections).

It's likely your devices aren't all conveniently clustered around your router. Of course, you could look to run CAT5e cabling through your walls to each room using a structured home wiring setup (see [www.structuredhomewiring.com](http://www.structuredhomewiring.com)), but that may not be practical.

If you're happy to go wireless, you might find the upgrade to a wireless AC router is sufficient to extend its range to your entire home, but if there are still 'dead' zones, where the signal is weak or non-existent, you have one of two options. The first, cheaper option is to try moving your router to a more central location, but if that isn't possible, invest in a Wi-Fi repeater, which acts as a relay. Place it in a halfway location between your router and the dead zone, and it should be able to boost the signal into that zone, although you shouldn't expect stellar performance.



TP-Link's Archer range is fast and affordable

You also need to create separate SSIDs for this new Wi-Fi network – how about appending something on to the end of your existing network's SSID, such as "TP-LINK\_5GHz-office"? – and then pair your devices to the new network, as well as the old one. They then automatically switch between the two as required, and because they're all linked to your router, your network access remains consistent across all these Wi-Fi hotspots. Prices start from as little as £15 (\$20) for Wireless N models that only extend the range of 2.4GHz networks. Wireless AC models start from around £30 (\$35) for an AC750 model.

A new trend is the emergence of wireless mesh (or Wi-Fi Mesh) systems, which combine router, modem, and Wi-Fi extenders in one piece of kit. These are then sold in multi-packs to dot around your home, but come with a hefty price tag: a

twin-pack Orbi system from Netgear, for example, costs £399.99 (\$399.99), while a triple-pack Google WiFi System will set you back £300 (\$300).

## EXTEND VIA YOUR CIRCUITS

Wireless isn't always a practical solution for extending your network throughout your home. Perhaps your router isn't in your office, where most of your equipment is kept, and you'd like to keep those on a wired network. If structured home wiring doesn't float your boat, consider extending your network through your electrical circuits using HomePlug equipment instead.

You need a minimum of two HomePlug (also known as powerline) adapters: one to place next to your router, and the other to put in the room to which you want to extend your wired network. Each adapter plugs into a spare power socket,

## Benchmark your network



There are several tools and techniques you can employ to benchmark your network performance and range.

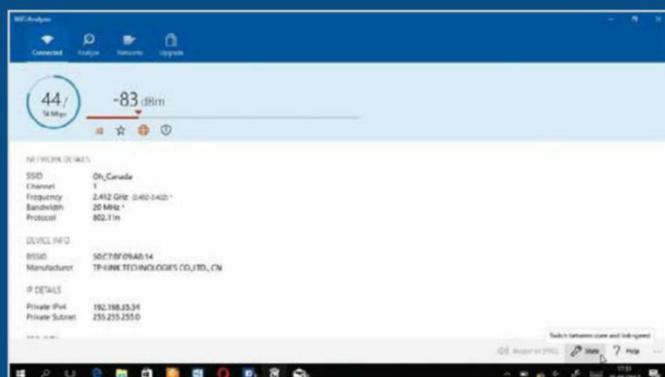
Find out how fast your Internet connection is compared to what your Internet provider claims by visiting [www.lifewire.com/benchmark-2626177](http://www.lifewire.com/benchmark-2626177).

If you're benchmarking with a view to streaming video, consider 5Mb/s a reasonable requirement for a single HD stream from the likes of Netflix. The demands scale up for 4K Ultra HD – 25Mb/s – but for most people, you don't need a superfast connection for one or two streams. One figure worth noting is the upload speed – this is always much lower than the download speed, but could be critical if you plan to stream

video over the Internet from your home network.

How can you test the strength of your Wi-Fi signal in different parts of your home? Install the free WiFi Analyzer app from the Windows Store (<http://bit.ly/2tnNIZ4>) on your tablet or laptop, then move around your home and record the signal strength (in dBm) and equivalent speed (Mb/s). See how far the range goes before it disappears, and try to test the 5GHz channel as well as the 2.4GHz channel.

If you would like to test your network's file transfer capabilities, download and run LAN Speed Test Lite from [www.totusoft.com/lanspeed1](http://www.totusoft.com/lanspeed1) on your main PC, and use it to connect to a shared folder on another device on your network. Test different file sizes (say from 2MB up to



WiFi Analyzer gives you an overview of your network's performance.

2GB), and perform at least three tests with each, before recording the average score.

Compare the results of all your tests against the type of connection you're transferring files over – 1,000Mb/s for Gigabit Ethernet, 300Mb/s-plus for

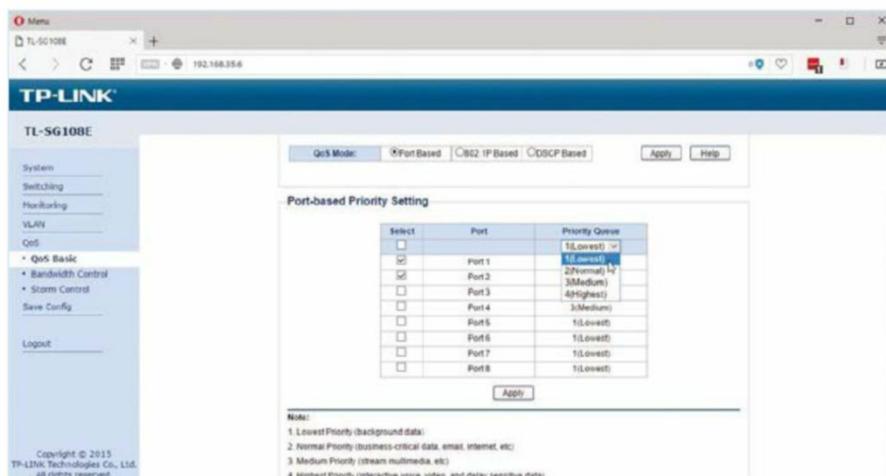
wireless. These are theoretical maximums – don't worry if you're getting half these figures, but pay attention to specific results, where it seems one device or connection is struggling in comparison to other locations on your network.

so if you're short on sockets, make sure that you choose one with a pass-through option. Connect the first adapter to your router using the supplied Cat5e cable, then connect the Cat5e cable in your office to your wired device or – if you plan to connect multiple devices – a network switch (see 'Add a switch' below). Add more adapters for each room that needs them.

When all of the powerline adapters are plugged in and switched on, press a button on the main adapter, and it will automatically detect the others, extending your wired network from your router into every room in your house. Adapters of varying speeds are available but, before you begin, remember that the overall speed of your powerline network is determined by the slowest powerline adapter on it, so if you have older equipment, it might be time for you to upgrade.

Look for HomePlug AV2 models that promise a minimum 1Gb/s (1,000Mb/s) or faster, remembering that – as with all networking (and particularly the wireless sort) – the advertised speeds are theoretical maximums. Powerline equipment is notorious for being affected by 'noise' on the electrical circuit, so expect to achieve no more than half the advertised figure, and possibly less. That said, if you're transferring data between two devices on the same switch, the data doesn't need to go through the HomePlug adapter, so should transfer much quicker.

Some HomePlug models offer two or more Ethernet ports to avoid adding a switch. Expect to pay around £100 (\$100) for a decent starter kit, such as TP-Link's TL-PA9020P KIT, which comprises a pair of two-port Powerline adapters, offering up to 2Gb/s transfer speeds, and pass-through



You can administer managed switches through your browser.

sockets. For more information on powerline networks, visit [www.homeplug.org](http://www.homeplug.org).

## ADD A SWITCH

A network switch helps manage the transmission of data between wired devices on your network. If you run out of Ethernet ports, or you've extended your network to another room in your home, you need an additional switch to connect multiple devices to your router.

There are two types of switch: unmanaged and managed. Unmanaged switches are shipped in a fixed configuration and perform a similar role to older (now deprecated) network hubs, in that they simply relay the connection from your router's switch to any connected devices.

If you want more control over a specific part of your network, a managed switch will appeal. Managed switches enable you to control the network at a local level by providing certain features that give you greater control over how devices connected to the switch behave. You can, for example, apply QoS settings to manage bandwidth demands, or create Virtual LANs (VLANs) that enable you to isolate certain devices from the rest of the network, without having to physically disconnect them.

Of more practical interest is a feature called jumbo frames (also known as Maximum Transmission Units, or MTUs to their friends). Data is transferred across networks in packets known as frames, and the 802.3 standard originally defined

# The topography of networking



How do computers talk to each other over networks and the Internet?

The answer is through the TCP/IP model. TCP

(Transmission Control Protocol) is the method used by computers to connect over networks, while IP (Internet Protocol) is the way in which data is transferred using 'packets' of information. This model can be broken down into four component layers: Application, Transport, Internet, and Network Access.

At the top is the Application layer, which splits into three basic elements. At the very top sit the programs you use to access the Internet, such as your email client. Beneath this is the 'presentation' element, where

data is translated into a suitable format for sending over the network – if it needs compressing or encrypting, that happens here. Then there's the 'session' element, which determines the type of connection – or session – that's established between you and the remote computer. Examples include HTTP/HTTPS for connecting to websites and servers, FTP for basic file transfers, and SMTP for email.

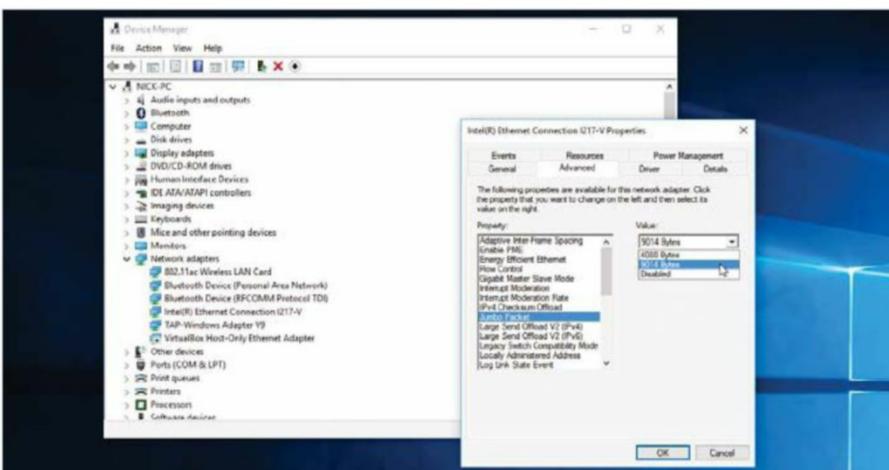
Beneath this is the Transport (TCP) layer. This manages how the data is delivered, by converting it into 'packets' for sending, then making sure they're safely delivered, and reassembled at the other end in the correct order. It also works in reverse for packets received by your computer. The third layer is the Internet (or Network)



Networking works across several different layers.

layer. This is the layer that covers how the data is addressed and then routed between different devices. It's also where the actual delivery of data occurs, using IP packet-switching. The final, bottom layer is the Network Access (or Network Interface)

layer. This is where error detection and correction take place as the data is packaged and transported, plus it's where you'll find the physical hardware – typically Ethernet or Wi-Fi – that connects you to your network and the Internet.



Experimenting with jumbo frames can potentially increase throughput.

the maximum frame size as a meager 1,518 bytes. If the devices on your network can handle it – and that includes the router and any switches – you can increase this figure to increase the size of your frames, and improve your network's performance through more efficient transfer of data: having fewer frames offers reduced resource usage and faster performance.

Entry-level managed switches cost as little as £35 (\$25) for TP-Link's TL-SG108. It comes pre-configured to work as a dumb switch, but you can tweak its settings through its Easy Smart Configuration Utility tool. Visit <http://uk.tp-link.com/faq-697.html> for a handy guide to configuring and testing jumbo frame settings. If you want more features – such as Link Aggregation

support for potentially boosting your NAS drive's performance – check out TP-Link's TL-SG2008 (£55/\$70, [www.tp-link.com/](http://www.tp-link.com/)) instead.

## OPTIMISE YOUR NETWORKS

Now is a good time to benchmark your network again, following the advice in the 'Benchmark your network' box on page 61 – you should immediately see improvements in Wi-Fi speed if you've made the jump from Wireless N to Wireless AC, and hopefully better range, too, particularly on the 5GHz channel.

The next phase of optimisation involves first moving any devices that can detect the 5GHz Wi-Fi network over to it – not only is this channel quicker, but it will reduce congestion and help

balance your wireless devices' demands better. If you're having issues with the range of the 5GHz network, move your wireless device closer to your router to make the initial connection – once it's paired, your router's beamforming technology should help extend its range to your device. If there are still issues in certain areas, consider buying a Wi-Fi repeater.

Next, let's look at your 2.4GHz network. Using WiFi Analyzer (again, see the benchmarking box on page 61), switch to the Analyse tab, where you'll see a series of overlapping circles on a graph, indicating what channels are being used by your – and neighbouring – networks. A recommended channel is listed – access your router's configuration settings through your browser, and look in the 2.4GHz Wi-Fi section for a channel setting. Change this from automatic to the recommended channel. Click 'Save'. After a pause, return to WiFi Analyzer to see what effect it's had. Be prepared to experiment with different channels, and test in different parts of your home, particularly weak signal areas, to improve performance in areas that are critical to you.



## Advanced file-sharing tips



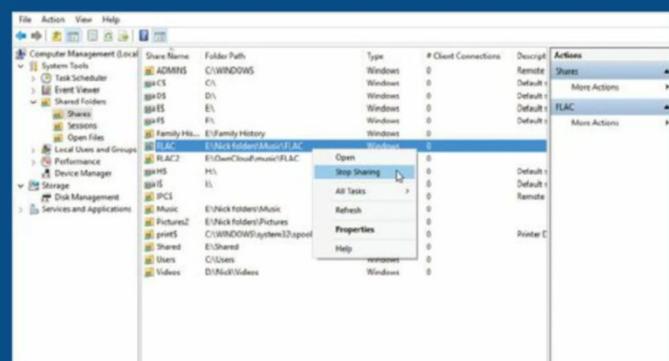
If you've not yet done so, set up file sharing by clicking the network icon in the Taskbar notification area and choosing 'Network & Internet settings', then clicking 'Sharing options'. Expand 'Private' to verify that file and printer sharing is switched on, along with network discovery. Ignore Homegroup connections, then expand All Networks to disable public folder sharing, ensure 128-bit encryption is enabled, and switch on password-protected sharing for security reasons.

It's no longer compulsory, but a good idea to verify all your computers are on the same workgroup – WORKGROUP by default, but if you change it to

something else, repeat for all the PCs in your network. Type 'workgroup' into the Search box and click 'Change workgroup name' to do so.

Forgotten which folders you've shared? Windows no longer displays a folder icon to indicate shared folders, but you can get a comprehensive look (including the paths to the folders themselves) by right-clicking the Start button and then choosing Computer Management > Shares. Double-click Shared Folders for a list – right-click a share to stop sharing, or choose Properties to limit the number of users that can access the share at any time.

Want to create a secret share that's not visible? Simply add a dollar symbol ('\$') to the end of its name, and it won't show up



Manage all your shares from one window.

anywhere in people's network browsers – the only way to access the share is to type its path exactly into the address bar of File Explorer. For example: \\COMPNAME\\SecretShare\$.

Finally, if you're signed into Windows using a Microsoft

account, when you come to access a share on that PC from an Apple Mac or Linux computer, don't type your full email address into the username field; instead, type the name before the @, and it should connect to the share on your PC with no problems.

## MORE CONFIGURATION TIPS

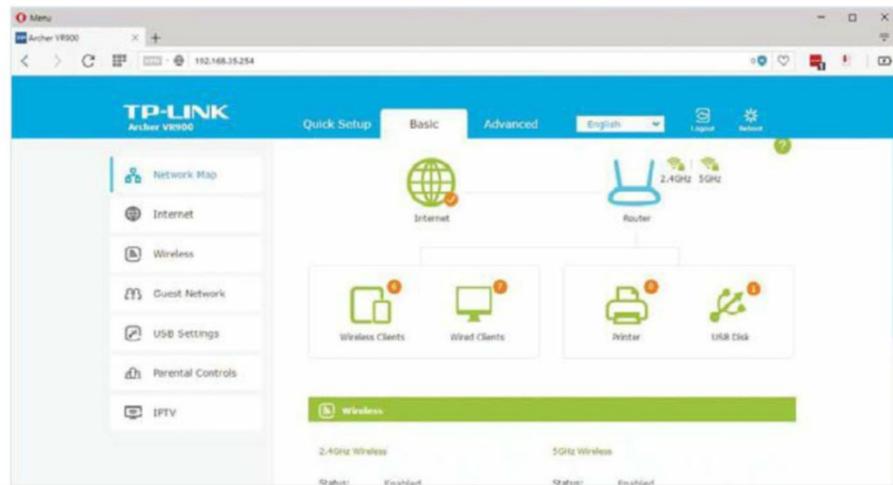
Let's return to the router configuration utility and trawl through its settings, looking for more tweaks to perform. Start by tightening up security – if you've never done so, change the default password required to access your router. You should also change the Wi-Fi network passwords from those supplied with the router, and ensure WPA-PSK2 with AES encryption is selected.

Protect yourself against drive-by hackings by disabling SSID broadcast, enabling MAC filtering, and switching off the DHCP server, then check the firewall, and switch off UPnP port forwarding. Finally, look for a remote access option to administer your router from outside your home network – switch it off. See the 'Lock down your PC' feature in the Spring 2017 issue for more details on how to apply these changes.

Away from security, try looking for an Address Reservation option within your router configuration's LAN settings – this enables you to apply static IP addresses to specific devices, without having to configure the device itself. One reason to do this would be if you have a device that moves from network to network – now you can reserve it a specific address on your own network, without having to change network settings when you move to another.

## LOCK DOWN PROBLEM USERS

Want to manage your kids' online access? Frustrated by your housemate's hogging of your bandwidth when you want to stream video to your room? To rein in your kids, hunt down the parental control settings in your router configuration



Transfer as many devices to the 5GHz channel as you can.

utility. You should be able to select devices by IP or MAC address, then apply restrictions, such as when they have Internet access, and block sites according to rating, keyword, or other criteria. To ensure nobody monopolises the bandwidth, look for a QoS or Bandwidth Control section. You can set restrictions by IP address or range, or specific ports, which enables you to apply limits to specific applications. You can set a priority level, which only applies restrictions when other connections are in play, or set upstream and downstream limits that ensure plenty of bandwidth is left over.

## OFFLOAD NETWORK SERVICES

If you're relying on your PC to provide network

services, such as a media server or backup drive, now is a good time to look at transferring those to a suitable device, freeing up resources on your PC (plus enabling you to power off your PC without worrying about losing access). You could press an older PC into service, or you could invest in a mid-range Network Attached Storage (NAS) device. For maximum flexibility, choose between Synology and QNAP models – the QNAP TS-231 ([www.qnap.com](http://www.qnap.com)) is a good entry-level choice, or if you're looking for something that can handle multiple HD media streams, splash out on a QNAP TS-251+ (around £300/\$300 without disks). The TS-251+ has a quad-core 64-bit Intel Celeron processor, and comes with 2GB RAM onboard (you

# Tighten remote access security



**Applications and services such as Plex are simple and relatively safe to set up for remote access, although it pays to keep an eye on any reported vulnerabilities, then disable the service until they have been patched.**

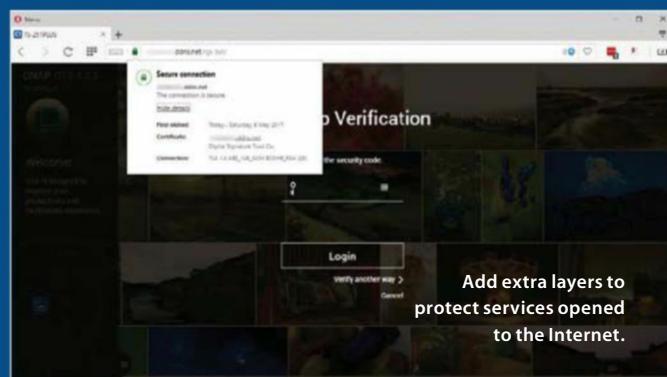
One of the reasons they're safer is that you can only access them with your user credentials using an app or specific web address (such as Plex Media Player and <https://plex.tv/web>). They can't then leverage that connection to do anything else.

Other services, such as logging on to your NAS or even your router, are trickier, because anyone with a web browser and knowledge of your IP address or DNS address can attempt to log

on – or brute-force their way – to your device.

If you are opening up a device for outside access, you'll almost certainly want to use a dynamic DNS (or DDNS) address – effectively a user-friendly web address that points to your computer's public IP address – to make logging on easier. Start by signing up for an address using a provider such as No-IP.com ([www.no-ip.com](http://www.no-ip.com)) or similar. Link this to your device via its configuration utility, but then take additional steps to add multiple layers of security to the connection.

First, look to force an encrypted (HTTPS) connection to the device in your device settings, then aim to back this up with an SSL certificate for your DDNS address – for example, QNAP enables you to purchase its own

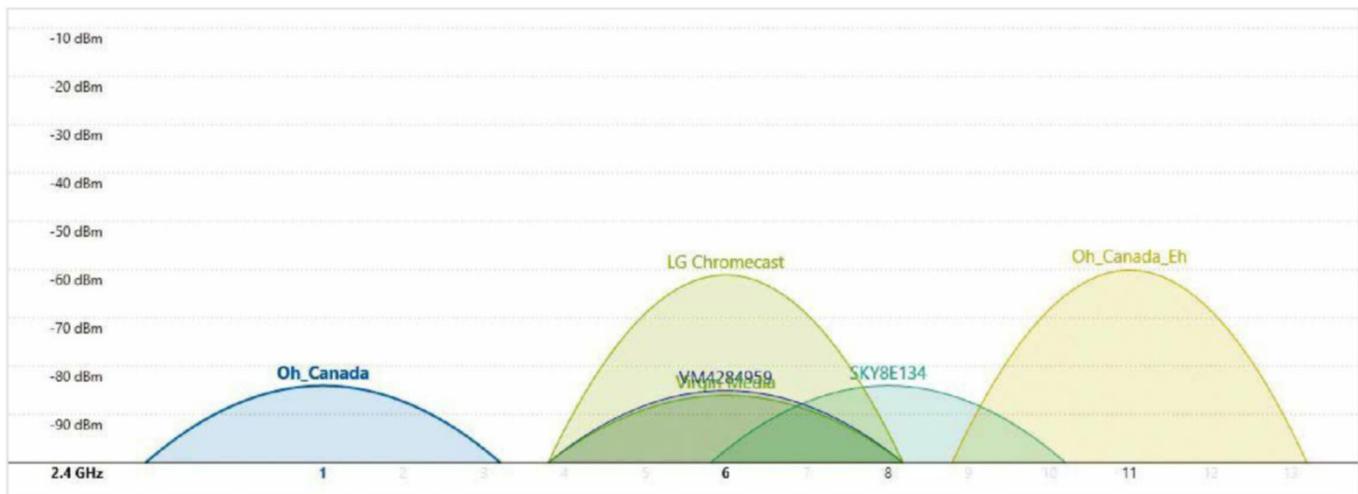


Add extra layers to protect services opened to the Internet.

low-cost SSL certificate, or quickly add a free certificate from Let's Encrypt (<https://letsencrypt.org>). Be sure to switch on two-step verification if it's offered, and enable Network Access Protection to block IP addresses for set periods of time (or permanently)

after a set number of unsuccessful login attempts.

One last thing: ask yourself if you really need to access this device outside of your network – if you don't need to log on when you're away from home, disable all remote access.



We recommend moving your 2.4GHz network to a less congested channel.

can upgrade this to 8GB) – more than enough to run multiple servers side by side.

A powerful NAS lets you set up everything from a secure – and private – cloud backup to a full-blown media server. We have Plex Media Server ([www.plex.tv](http://www.plex.tv)) handling our media needs, coupled with OwnCloud (<https://owncloud.org>) for backup and sync (configured for network access only), as well as Syncthing (<https://syncthing.net>) for syncing media to and from the device. A USB hard drive plugged in the back expands the onboard storage, and is available for all our network devices.

Critically, what the NAS has done is allow us to reclaim much-needed system resources from

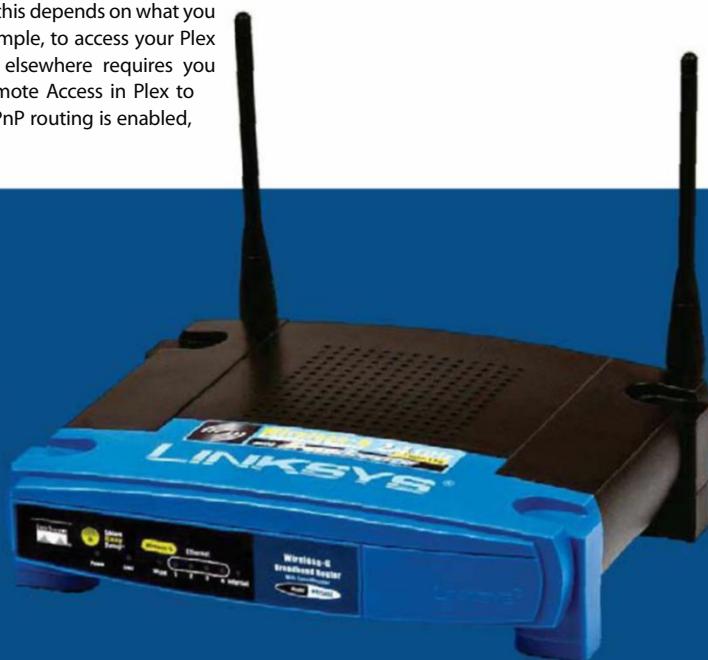
other computers – it also means we no longer have to leave them switched on 24 hours a day, seven days week for network services to be available around the clock.

## OUTSIDE ACCESS

Why limit your shared resources to just your home? It's possible to open parts of your network to the wider Internet, either for personal use or to enable others to access your content from anywhere. How you do this depends on what you want to share – for example, to access your Plex media collection from elsewhere requires you to go to Settings > Remote Access in Plex to enable the feature. If UPnP routing is enabled,

your router should do the rest; otherwise, you need to manually forward the port listed in Plex (32400 by default) to your server's IP address, using your router's configuration utility.

Making other network services accessible over the Internet is more dangerous, but there are some steps you can take to mitigate at least some of the risks involved – see the 'Tighten remote access security' box on the facing page. ■



Why not turn an old router into a repeater or VPN server?

it will be rendered unusable. The installation section of the wiki goes into this in great detail, and if you're put off by the process, that's not necessarily a bad thing – this is something that requires a great level of technical skill, and we're not in a position

to offer any support should you decide to go down this route, unfortunately. With this in mind, we suggest trying this with an older router that you're not worried about 'losing' – perhaps even one that you've picked up cheap on eBay.

## Power up your router



If you're happy with your wireless router's hardware specification, but disappointed with its configuration utility or the tools

it offers, you may be able to get a free 'upgrade' without having to shell out for a whole new router. Alternatively, you could breathe life into an old router by converting it into a wireless repeater or VPN server, thanks to the broad range of additional features provided by community-built open-source firmware called dd-wrt.

Start by visiting [www.dd-wrt.com](http://www.dd-wrt.com) and clicking the Router Database link. Type the first few letters of your manufacturer or model to see if it's in the database and whether or not

it's supported (make a note of any revision numbers, and verify your router is the same revision, usually by checking the label underneath it). While most router manufacturers are represented on the site, not all of their models are supported.

If your router model is supported, head to [www.dd-wrt.com/wiki](http://www.dd-wrt.com/wiki) to obtain its firmware, then follow the instructions to download and install it – these vary from model to model, so make sure you're following the correct advice. Typically, you're using your existing firmware's upgrade page to 'upgrade' to the dd-wrt firmware, but sometimes you may need to log on to your router via the command line.

Please note that there is a very real possibility that you'll 'brick' your router, which means

# Advanced Kodi TIPS AND TRICKS

## YOU'LL NEED THIS

### KODI

Download from [www.kodi.tv](http://www.kodi.tv) or install it through the Windows Store (choosing the latter option ensures that it updates automatically).

**WHEN IT COMES TO CONSUMING MEDIA** – movies, photos, home video, and music – on your PC, there's no substitute for Kodi. It's equally at home providing you with a big-screen friendly interface for locally stored content as streaming media over the Internet. You can – with the right help (as in this feature) – even use it as a front end for playing classic games from yesteryear.

The basics of Kodi are reasonably straightforward: Point it to your local music, movie, and picture folders, and you're good to go. That said, the user interface does come with a bit of a learning curve attached, and some of its best features are buried away behind seemingly impenetrable dialogs and settings. This, however, is where we come in.

We're going to skip the basics – adding a media folder to your library isn't rocket science, thankfully – and dig deep beneath Kodi's surface to reveal some of its best kept secrets. Everything from changing library view to auto-starting add-ons, and using Kodi as an AirPlay audio receiver is covered here. Oh, and we'll show you how to name and organise your media library so Kodi's scrapers can download all that gorgeous artwork and extra info, too.



## 1 EXPAND YOUR LIBRARIES

The quickest way to manage your library – and add new content (including music) – is to open Settings, and browse to Media Settings. From the Library section, click your chosen library – Videos, Music, or Pictures – under Sources, and click the Add option to add another folder to your library. Remember to name your media correctly – head to <http://www.filebot.net> using your web browser to grab FileBot, a handy free tool to help you with this.

While you're in the Library section, you can periodically clean your video or music libraries to remove files that have been renamed, deleted, or stored on a drive no longer connected to your PC, but to do this, you must first click the Standard setting at the bottom of the screen in order to switch to Advanced, and reveal the cleaning options.

If you'd like to streamline your movie library, navigate to the Videos section, and flick the 'Show movie sets' button to on. Now all the movies in a specific series (such as *Star Trek*, *Star Trek II*, and so on) are grouped together [Image A] – click the main entry to drill down to browse and play each individual movie within the series.

## 2 TWEAK MUSIC INFO

Got an obscure album that the default music scraper can't identify? Go to Media Settings > Music, and click the 'Default provider' option for album or artist information, then click 'Get more...' to pick from a range of alternatives. And if your music has been tagged, but you'd prefer to use the information provided by your music scraper, make sure you switch to Advanced view, and flick the 'Prefer online information' switch to on.

## 3 CONFIGURE LIVE TV

If you've set up live TV on your PC (or indeed any PC on your network) using TVheadend or a similar service, select TV from the main Kodi menu, and choose 'Enter add-on browser'. Locate and select your chosen PVR server, then click Configure to set up access (for example, to connect to a remote PVR server, enter its IP address and PIN access code). Click 'Enable', and then press [Esc] to go back to the main screen.

Once enabled, you'll see several widgets appear under TV, making it easy for you to access the TV guide and previous recordings, as well as browse live TV (and radio) by clicking the remote, and choosing which channel to watch. If you've previously found Kodi unwieldy with live TV, now's a great time to try it again – you'll find the latest update has made it easier and more responsive, even when streaming over your network.

## 4 CONFIGURE GAMEPAD

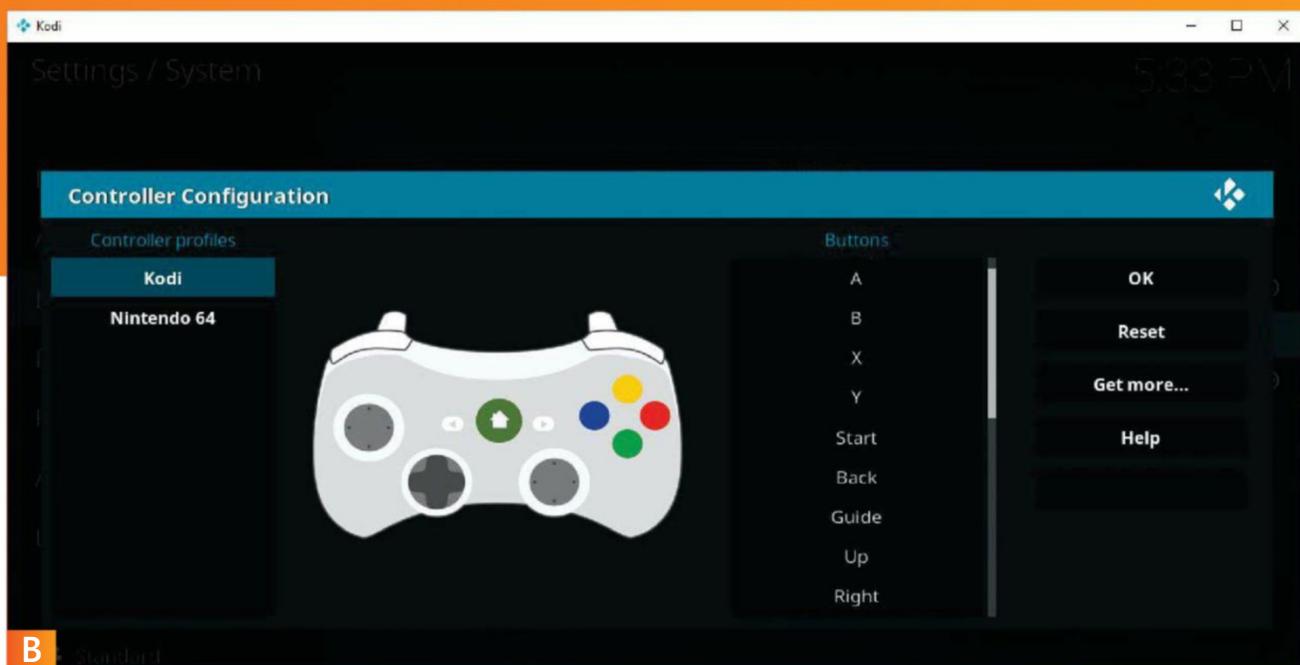
If you're using Kodi on your gaming rig, why not use your gamepad to navigate? To set things up, simply press a button on your gamepad while Kodi is running, and it should ask if you want to configure it [Image B] (or you can go to Settings > System Settings > Input > 'Configure attached controllers', if you prefer).

You'll see a default configuration – Kodi – is present. You can manually link the controls on your gamepad by clicking the buttons on the right, and following the instructions, at which point your controller should work. While you're here, why not flick the 'Enable rumble for notifications' switch to on?

## 5 CONFIGURE KEYBOARD SHORTCUTS

It's worth familiarising yourself with Kodi's keyboard shortcuts. There are the playback controls, for example: [P] to play, [X] to stop, [left arrow key]/[right arrow key] to skip back or forward 30 seconds, or [R]/[F] to rewind and fast forward – press once for 2x, then keep pressing to speed up. Or press the backslash [\] key to move between windowed and full-screen mode.

All well and good, but what if you don't like the keyboard shortcuts Kodi's picked, or you'd like to configure some more of your own? From the home screen, select 'Add-ons', and click 'Enter add-on browser'. Click the ellipsis (...) if necessary to return to the



main screen, then choose 'Program add-ons', and scroll down to locate and install the Keymap Editor. Once done, click Run, and choose Edit to review current shortcuts and define your own, using both your keyboard and your game controller buttons.

## 6 ADD A REMOTE

If you've set up Kodi in your living room, you don't want to have to use a keyboard or mouse to control it. If the game controller option doesn't appeal, simply turn your smartphone or tablet (Android or iOS) into a fully functional remote. First, you need to configure Kodi: Navigate to Settings > Service settings > Control, and enable 'Allow remote control via HTTP'. Enter a username and password for security reasons – you'll need this later to set up the connection with your smartphone or tablet. Also, flick the 'Allow remote control from applications on other systems' switch to on, and – if you've not already done so – switch on 'Announce services to other systems' under General.

Next, install either Kore (Android) or Official Kodi Remote (iOS) from the appropriate app store. iOS users can open it, tap Add Host, followed by Find Kodi. Enter your username and password, then tap Save to hopefully make contact and take control.

## 7 A CHANGE OF SKIN

Kodi 17 defaults to the Estuary skin, a big-screen friendly skin that still lacks a little oomph. If you're running Kodi on a touchscreen device, we recommend going to Settings > Interface Settings, and clicking Skin [Image C] to switch to Estouchy instead – it's a similar skin to Estuary, but is optimised for touchscreen devices (short tap to select, long tap to bring up the context menu for an item).

Alternatively, click 'Get more...' to choose from over 20 more. Pining for the look of previous versions, for example? Confluence is still an option (or try Aeon Flux for a more updated approach). Visit <https://kodi.tv/addons/look-and-feel/skins> for a better view of how each skin looks without having to install it.

## 8 FURTHER CUSTOMISATIONS

Once you've installed your new skin, you can tweak it further from the same Skin menu – change its theme to try a different colour scheme, for example, or tweak the fonts to your personal choice. Select Configure Skin, and you skip to the Settings > Skin menu, where more

## MAKE YOUR OWN

Videos: Adventure  
11 Items



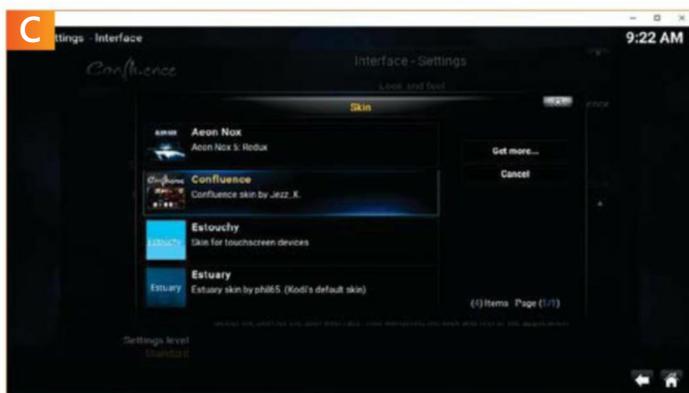
Kodi runs on Windows, Mac and Linux, but you can also install it on your Android tablet (or jailbroken iPhone or iPad), plus downloaded dedicated distros for turning a low-powered computer, such as a net-top PC or Raspberry Pi, into a dedicated Kodi set-top box.

Kodi recently dropped all support for its dedicated Kodibuntu distro, which paired Kodi with Ubuntu 14.04. Existing Kodibuntu/XBMCbuntu users should be able to update to Kodi 17.1 through the Terminal, though:

```
$ sudo apt-get update && sudo apt-get dist-upgrade
```

If you're new to running a dedicated Kodi machine, then you're left with two choices. Raspberry Pi users are best served by OSMC (<https://osmc.tv>), which can also be installed on a jailbroken first-generation Apple TV. You can find links for downloading a tool to create the required microSD card on Windows, macOS, and Linux, or you can download disk images directly.

OpenElec (<http://openelec.tv>) provides dedicated builds for AMD/Intel-powered PCs (including lower-powered Atom and Fusion CPUs), plus the Raspberry Pi, and a selection of WeTek third-party devices, as well as Freescale iMX6 devices from the likes of Cubox.



granular changes can be made, such as picking a different background image or pattern, selecting which libraries and other items (such as live TV) to show on the main screen, or choosing how much detail about each media item is displayed. Options vary from skin to skin – and don't always appear in the same place, so be prepared to dig deep to find them.

## 9 POWER-SAVING SETTINGS

If you've hooked up Kodi to your living room TV – perhaps through a dedicated computer (see box on previous page) – you should take measures to configure power-saving to both protect your TV and reduce energy consumption. To do this, go to Settings > 'Power saving', and click the up arrow next to 'Put display to sleep when idle', to set a delay of five minutes – you can increase this all the way up to 120 minutes, but a five or 10-minute delay is usually best.

If you'd like to power off Kodi after a set period, switch to Advanced or Expert view, then set 'Shutdown function' to one of Shutdown, Hibernate, or Suspend, before setting the 'Shutdown function timer' to a delay – again between five and 120 minutes – based on inactivity.

## 10 MAKE KODI AN AIRPLAY RECEIVER

The following feature can be troublesome to set up – and frequently breaks between updates – but if you would like to stream audio from your iPhone or iPad to your PC or TV's speakers, give it a go. First, if you don't have iTunes installed on your PC, install Apple Bonjour from <https://support.apple.com/kb/dj999>, then go into Kodi, and navigate to Settings > Service Settings > General to enable Zeroconf, and review your 'Device name', which is how Kodi will advertise itself on your iOS device when detected.

Now select AirPlay, and flick the 'Enable AirPlay support' switch to On. Switch to Expert, and you'll see a new option appear: 'Enable AirPlay Videos and Pictures support' [Image D]. This needs to be switched off for AirPlay to work with devices running iOS 9.0 or later. Once done, you should find Kodi appear in the list of AirPlay devices on your iOS devices.

## 11 ADD ADD-ON REPOSITORIES

Some of the best Kodi add-ons aren't bundled with the official repositories (repos) – to get those, you need to install additional repos. This is slightly fiddly, but once you know how, it's reasonably straightforward. For the following example, we're going to add the Fusion repo.

First, go to Settings > System > Add-ons. Flick the 'Unknown sources' switch to On, and make a note of the warning. Next, go to Settings > File Manager. Double-click Add Source on the left, then click None to bring up the virtual keyboard (which you can ignore). Type the following web address, and click OK: <http://fusion.tvaddons.ag>

Name the source 'Fusion' and click OK. Next, return to the home screen, and click Add-ons. Click the box icon in the top-left, and choose 'Install from zip file'. Scroll down, and select Fusion from the list, then browse to 'kodi repos\english', where you'll see a host of available repos to choose from. Select a zip file, and click OK to

D

### Settings / Services

- General
- Control
- UPnP / DLNA
- AirPlay**
- Weather

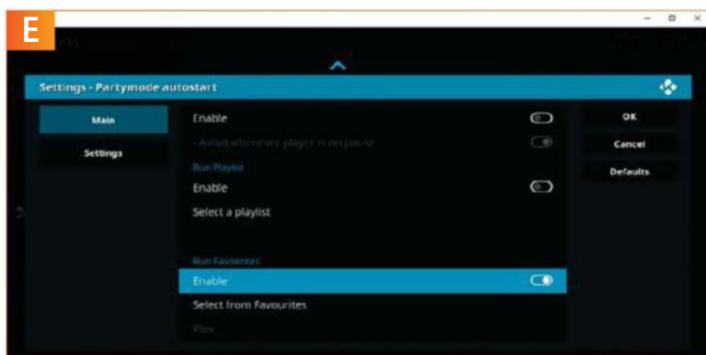
Expert

**General**

- Enable AirPlay support
- Allow volume control
- Use password protection
  - Password
- Enable AirPlay "Videos" and "Pictures" support

[Reset above settings to default](#)

Enables support for receiving "Videos" and "Pictures" via AirPlay. This needs to be disabled when using iOS 9 or later clients to restore music streaming via AirPlay. "Videos" and "Pictures" are only supported for iOS clients using iOS 8.x and older.



add that repo to your list. Now, when you open Add-ons > Download, you'll find additional add-on choices in each category.

## 12 REMOVE REPOS

Third-party repos are by their nature risky, and can contain either dangerous material or may link to content that uses pirated feeds (see [http://kodi.wiki/view/Banned\\_add-on](http://kodi.wiki/view/Banned_add-on) for a list of so-called 'banned' repos – Fusion is one of these). If you decide a particular repo isn't for you, remove it. Go to Add-ons > 'My add-ons' > 'Add-on repository'. Click the unwanted repo to bring up its window (you can configure its update settings from here, too – for example, to switch between auto and manual updates). To remove it completely, click Uninstall. Close and restart Kodi.

## 13 AUTOSTART ADD-ONS

Here's the scenario: we have a Raspberry Pi that's been set up to exclusively run the Plex ([www.plex.tv](http://www.plex.tv)) add-on in Kodi. We want to autostart Plex with Kodi to save the hassle of manually accessing it from the main menu. You can autostart add-ons using a script, but a simpler way is to use the Partymode Autostart add-on [Image E].

Add your add-on to the Favourites menu: Browse to 'Add-ons', then locate your add-on (Plex in our example). Right-click it and choose 'Add to Favourites'. Go back to the main 'Add-ons' screen, and choose Downloads > Services, where you'll find Partymode Autostart. Once installed, right-click it, and choose Settings.

Under Main, enable Partymode Autostart to 'Run on Startup', and reduce the delay to 0 seconds. Make sure that the 'Run on Screensaver' and 'Run on Playlist' options are disabled, then scroll down, and enable 'Run on Favourites', before clicking 'Select from Favourites' to choose your add-on. Click OK, then quit and restart the Kodi app. The normal Kodi menu should briefly appear, but then your add-on should kick in. Job done!



F

## PLAY GAMES THROUGH KODI



The Rom Collector Browser add-on enables you to transform Kodi into a hub for playing games as well as accessing your media. It supports standalone games as well as emulator ROMs – these need to have been configured already (for example, through a GUI-friendly MAME variant, such as MAMEUI: [www.mameui.info](http://www.mameui.info)).

Assuming these are all in place, go to Settings > File Manager, and choose Add Source to create a source pointing toward your game emulator folder (or parent folder, if multiple emulators are installed). Now install the Rom Collector Browser add-on via Add-ons > Download > 'Program add-ons'. Once installed, launch it, and choose Yes to create a configuration (config) file. Choose the online option, followed by your platform, before pointing the add-on to the emulator program folder containing your ROMs and artwork folder in turn. Once done, you can include additional ROM emulators if required, before reviewing the import settings, and clicking Import Games.

The scrapers aren't always accurate, so you may want to reconfigure Rom Collector Browser: Press the [C] key to bring up a menu, then select Edit Rom Collection to make changes.

## 14 MULTIPLE PROFILES

This tip will appeal more to those who use Kodi on a shared device, such as a Raspberry Pi connected to your TV. Go to Settings > Profile Settings > Profiles [Image F]. Click 'Add profile'. Type a name, and click OK. Leave the profile directory as it is (click OK again), then choose whether this profile shares the same media library as the default user (choose the read-only option to stop people from modifying the library), as well as its media sources, then click OK. You can then opt to copy settings across from the default user or let them start from scratch.

## 15 LOCK DOWN PROFILES

You may not want your users to be able to tweak settings, in which case, select the profile lock option, and – if necessary – set a profile lock password when prompted: either a numeric PIN, a full-text password, or even a gamepad button combo. Make your choice, then choose what parts of Kodi to lock (effectively disabling them), from libraries (music, videos, pictures, programs & scripts) to the file manager, settings, and add-on manager. When locking settings, you can allow users to access some settings by choosing a level (standard, advanced, or expert).

# Meet the... Support Squad



# Support!

►WINDOWS HELP ►HARDWARE FIXES ►SOFTWARE SOLUTIONS ►INTERNET TIPS



Do you have a  
PC problem?  
Get in touch...  
Email full details of  
your problem to the  
support team and we'll  
do our best to help  
[windows.helpline@futurenet.com](mailto:windows.helpline@futurenet.com)

## Windows STOP WINDOWS FROM LOSING FOCUS

**Q** It's an annoying glitch, but sometimes – for no apparent reason – the active window I'm working in loses focus – nothing replaces it, just outlines of all open windows. I have to click on the window to bring it back again. What's causing this problem? And how can I resolve it?

**Nick Eastmann**

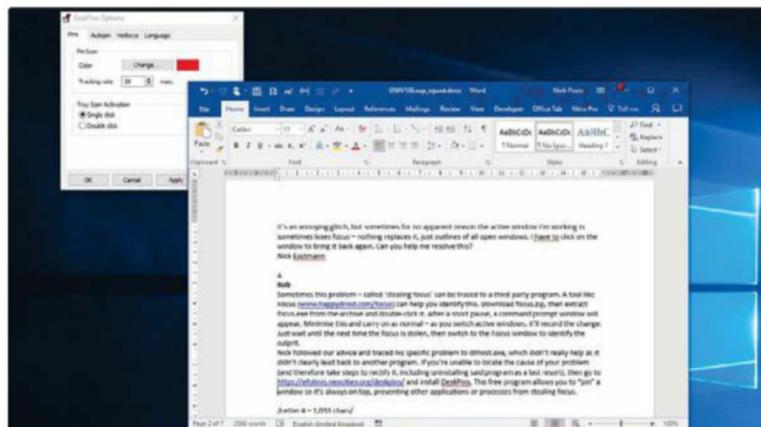


### Rob's solution

Sometimes this problem – called 'stealing focus' can be traced to a third-party program. A tool like Focus ([www.happydroid.com/focus](http://www.happydroid.com/focus)) can help you identify this. Download focus.zip, then extract focus.exe from the archive and double-click it. After a short pause, a command prompt window will appear. Minimise this and carry on

as normal – as you switch active windows, it'll record the change. Just wait until the next time the focus is stolen, then switch to the Focus window to find the culprit.

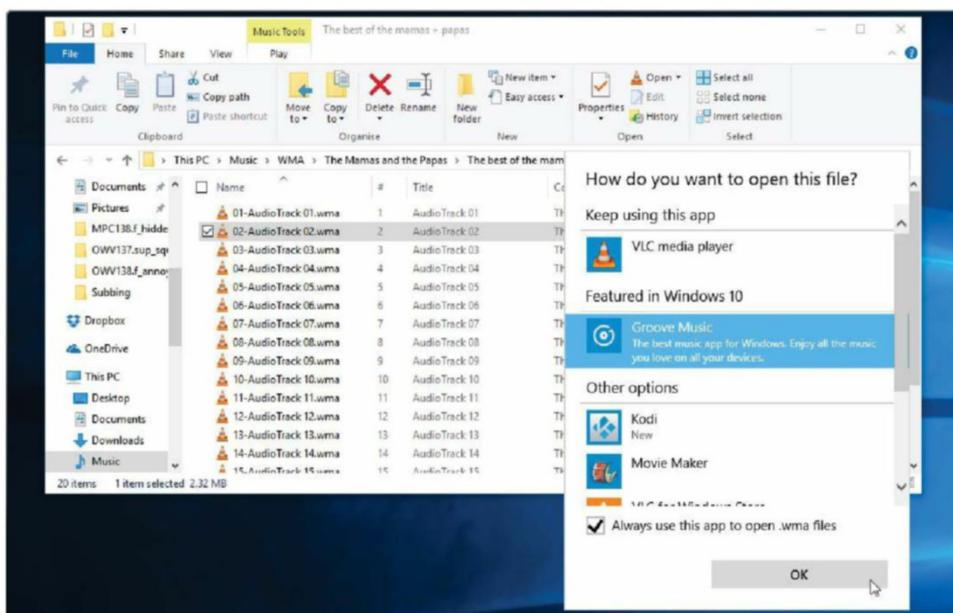
Nick followed our advice and traced his specific problem to dllhost.exe, which didn't really help as it didn't clearly lead back to another program. If you're unable to locate the cause of your problem (and therefore take steps to rectify it, including uninstalling said programs as a last resort), then go to <https://efotinis.neocities.org/deskpins/> and install DeskPins. This free program allows you to 'pin' a window so it's always on top, preventing other applications or processes from stealing focus.



**PIN WINDOWS**  
Stop rogue apps  
from stealing  
focus from other  
PC programs.

## Windows HAS VLC HIJACKED MY MUSIC FILES?

**Q** I'm a little concerned, because I've just checked my collection of MP3 files and they've been changed to a VLC format, and I'm not sure why.  
**Dan Evans**



**SWITCH DEFAULT** Changing the default app for a file type is easy.



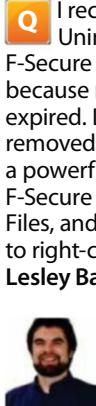
#### Cat's solution

Don't worry, Dan – what this suggests is that the VLC Media Player app has become the default player for your MP3 files. If you go to Start > Settings > Apps > 'Default apps' you may see it listed as the default music player. Click the icon and choose a different player from those installed – such as Groove Music – if you wish.

If you simply wanted to change the default app for MP3 files, open File Explorer, locate a file and choose 'Open with > Choose another app'. Tick 'Always use this app to open .mp3 files' then select your desired app and click OK.

#### Security

### ARE THESE FILES SAFE TO FOR ME TO DELETE?



I recently used IObit Uninstaller to uninstall the F-Secure security programs because my free subscription expired. Despite it claiming to have removed everything after running a powerful scan, I've discovered a F-Secure folder remains in Program Files, and it's 489MB in size. Is it safe to right-click and delete this folder?

Lesley Bate

#### Nick P's solution

Our instinct is to say yes, but we erred on the side of caution and directed Lesley to the official F-Secure uninstall tool, which you can download from <http://bit.ly/2tc0sIA>. Sure enough, on running this tool, the folder was removed.

Nick P also had a follow-up question about whether it was safe to remove seemingly redundant

versions of Microsoft Visual C++. This time, however, the recommended advice is to leave well alone – different programs rely on different versions of Visual C++, so removing one may prevent another from working, forcing you to run a repair install to replace the missing version of Visual C++.

#### Hardware

### SCANNER STOPS WORKING AFTER CREATOR'S UPDATE

I've just installed the latest update to Windows 10 and the scanning part of my Canon i-SENSYS MF8030CN all-in-one printer has stopped working – again. This happens every time I update – do you have a quick fix?

Marsha Thalin

**KEEP PATCHING**  
Your Canon scanner may need patching after the Windows 10 Creators Update.



### Quickfire questions

I've stumbled upon a reference to DDME on the TechRadar website. Can you direct me to a tutorial on using it to recover data from my crashed USB drive please?

William Brown

Point your web browser at [www.techradar.com/1307921](http://www.techradar.com/1307921) and jump to page 2 for a step-by-step guide.

Can you recommend a decent, and free, file-shredding utility?

Steve Cox

Although it's a bit long in the tooth, File Shredder ([www.files shredder.org](http://www.files shredder.org)) does a good job of wiping files and cleaning free space, while ensuring files are shredded too.

**"This time, however, the recommended advice is to leave well alone"**

### Jargon buster!

#### ► **dllhost.exe**

This file is part of the COM+ (Component Object Model) service, which allows programs to share various resources, including DLL files.

#### ► **File shredder**

A privacy tool that wipes data more thoroughly by erasing all traces of the file from the drive.

## Quickfire questions

Is there a handy shortcut in Gmail for highlighting a passage in bold when composing an email?  
**Jim Duncan**

If you've set email to plain text, then no – but if not you should see formatting controls at the bottom of the email. You can make text bold by selecting it, and then pressing [Ctrl] + [B].

Is it possible to create shortcuts to special characters like é or ç in Microsoft Office?  
**Felicity Young**

Yes, click Symbols on the Insert tab of the ribbon and choose Symbol > More Symbols. Select your target symbol from the list and see what key shortcut has been assigned to it – click 'Shortcut Key...' to assign your own.

I've got photos on an unfinalised CD that I can no longer access. Please help!  
**Robert Shield**

ISOBuster ([www.isobuster.com](http://www.isobuster.com)) is a general-purpose recovery tool for external disks including CDs and DVDs. If the CD has been formatted in the UDF format you may need to pay \$39.95 (£31.37) for this functionality – download the program and it'll tell you if you need to pay for data recovery.



### Mayank's solution

Canon released a patch specifically addressing problems with network and USB scans after upgrading Windows to a new version. If you go to [www.canon.co.uk/support](http://www.canon.co.uk/support) then search for 'MF8030CN' you'll be shown three available drivers, the first of which is the patch. Downloading and installing this should quickly resolve the problem, but keep hold of the patch – Canon suggests you'll need to run it every time that Windows performs a major update in future.

### Software

## NORMALISE MY AUDIO TRACKS

**Q** I'm in the process of transferring old analogue music recordings to my PCs using Audacity to capture the audio before burning my own music CDs, which is permitted where I live (Canada). The problem is, when I make up the CD, the volume varies between songs. Is there a free (and not ad-infested) program out there that can adjust the volume so they're all at the same level?  
**Kev Parker**



### Matt's solution

The tools you need can be found in Audacity ([www.audacityteam.org](http://www.audacityteam.org)), Kev. Load up one of your music files and choose Filter > Normalize. From here you can set a uniform level for that track, then repeat for the other tracks you want to mix together on CD.

If this is too cumbersome, then a free program called MP3Gain (<http://mp3gain.sourceforge.net/>) can perform batch conversions on a group of MP3 tracks to ensure they're a consistent volume. Even though the program hasn't been

Path\file	Volume	clipping	Track.Gain	clip(track)	Album Volume	Album Gain	clip(album)
E:\Shared\MP3 Music\oh...	98.5	Y	-9.0				
E:\Shared\MP3 Music\oh...	96.5	Y	-7.5				
E:\Shared\MP3 Music\oh...	98.2	Y	-9.0				
E:\Shared\MP3 Music\oh...	93.8		-4.5				
E:\Shared\MP3 Music\oh...	94.6	Y	-6.0				
E:\Shared\MP3 Music\oh...	94.6		-6.0				
E:\Shared\MP3 Music\oh...	97.4	Y	-9.0				
E:\Shared\MP3 Music\oh...	94.3		-6.0				
E:\Shared\MP3 Music\oh...	93.9		-4.5				
E:\Shared\MP3 Music\oh...	95.1	Y	-6.0				
E:\Shared\MP3 Music\oh...	92.6		-3.0				

### NORMALISE AUDIO VOLUME

**Stop having to reach for the volume control with MP3s.**

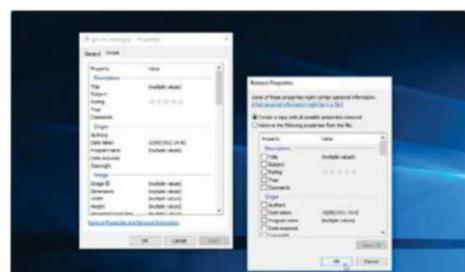
updated since 2009, it still works fine in Windows 10.

First, copy your target MP3 files to the same folder (so the originals are left untouched), then open MP3Gain and choose Add Folder. Once done, click the Track Analysis button and you'll see the program scan each one of your MP3 files and reveal what – if any – changes will be made. Finally, click the Track Gain button and the files will be altered and changes recorded to the copied folders. You can then listen to the files and – if necessary – return to MP3Gain once more to make further tweaks.

### APPLICATIONS

## CALENDAR DOESN'T PRINT MY WAY

**Q** I am using the latest version of Windows 10, but I am having a problem with the Calendar app. On my desktop screen, I see lovely solid colours (as selected) for each event, but when I try to print out a copy of my calendar all I get is a box and no solid colour. Can you please help?  
**Tony Lawrence**



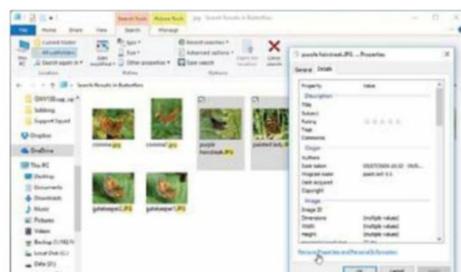
## REMOVE UNWANTED PHOTO METADATA

**Q** What's the quickest way to remove all the metadata from a large collection of photos so I can burn a DVD slideshow?  
**Trevor Hawker**



### Nick P's solution

Metadata (or data that gives information about other data) can be found in a number of different file types including photos. You might want to remove such data for privacy reasons (it may contain personal information, for example). Windows includes a metadata removal tool...



### Access removal tool

**1** Browse to a folder using File Explorer, then select all of the files that share the same file type (such as JPG). Right-click them and then choose Properties. Now switch to the Details tab and click 'Remove Properties and Personal Information'.

### Remove all metadata

**2** You can also create separate copies of the files with all the metadata removed from them – useful if you're sharing with others or uploading to social media, for example. Simply leave 'Create a copy with all possible properties removed' and click OK.



### Nick O's solution

This sounds like you're referring to the built-in Calendar app, Tony.

Sadly, it's very much deliberate behaviour on the part of the app – presumably to save toner and ink and provide clarity. There's no setting to switch this off, so you'll need to hunt for an alternative Calendar app that gives you control over the printout.

Unfortunately, we couldn't find a freebie that offered this level of customisation. eM Client ([www.emclient.com](http://www.emclient.com)) pulls the same trick as Calendar, while Thunderbird (<https://mzl.la/2tbUH7j>) prints in a different way. Instead search the Windows Store for 'One Calendar', which recently added printing support, and which prints using solid colours as you require. You can try it for free, but printing requires upgrading to the Pro version for £3.89.

### Hardware

### LAPTOP-WIPPING WORRY

**Q** I'm about to remove my laptop hard drive, connect it to my desktop and wipe the drive before returning it to the laptop for a brand-new Windows install. But I've realised that when I put back the drive, there will be no OEM partition on the drive containing laptop drivers to recognise the optical drive or USB ports, and there's no laptop drivers disc. How would I install these drivers to ensure they would recognise the Windows install disc when I boot?

Gerald Gibson



### Nick P's solution

Your laptop's ability to boot from a DVD or USB drive is not linked to the currently installed OS system. It's handled by your PC's BIOS or UEFI.

You can test this now with your Windows bootable USB flash drive. Restart your laptop with the drive plugged in and it will do one of three things: automatically boot to the recovery media; offer you the option of pressing any key to boot from the recovery media; or boot back into Windows as normal.

If it goes straight to Windows, restart your laptop again, but look for a message that flashes up on first boot inviting you to press a key to access a boot menu – such as [F11] – or enter the BIOS/UEFI

configuration tool – typically [Del] or [F2]. If the boot menu option is presented to you, press the key and a boot menu will appear – check to see whether your USB drive is listed; if it is, select it and then press [Enter] to boot from it. If it isn't, check that the configuration tool you're using supports USB booting – if it does, make sure that the USB drive is listed.

If it doesn't, you'll need to burn a Windows 10 install DVD using the Media Creation Tool, and then boot from that. ■

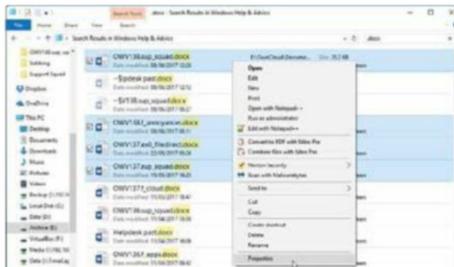
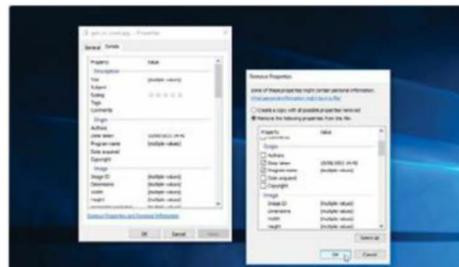
**"Your laptop's ability to boot from a DVD or USB drive is not linked to the currently installed operating system. It's handled by your PC's BIOS or UEFI"**



**Do you have a PC problem? Get in touch...**

Email full details of your problem to the support team and we'll do our best to help: [windows.helpline@futurenet.com](mailto:windows.helpline@futurenet.com) Or write to the support team at: Support Squad, Windows Help & Advice magazine, Future Publishing Ltd, Quay House, The Ambury, Bath BA1 1UA

**PRINT CALENDAR**  
You'll have to pay if you want to print solid colours.



### 3 Selectively remove

Alternatively, you can choose 'Remove the following properties from this file' if you want to wipe the data from the original files. Click Select All to remove all metadata, or selectively tick the fields that you wish to remove. Click OK to wipe them.

### 4 Select from multiple folders

Want to select multiple files of the same type from different folders? Browse to the top-most folder in File Explorer, then type the name of the file type (such as .doc) into the Search box. Hit [Enter] to quickly generate a list of relevant files.

### Jargon buster!

#### ► Microsoft Visual C++

A popular programming language for applications. Different apps require different versions of Visual C++ are installed before they can run.

#### ► Unfinalised CD

A CD that records data in stages using multiple 'sessions'. The disc cannot be used in other computers until it has been 'closed' or finalised, preventing further data being written to it.

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# Welcome to... Windows 10

► WINDOWS 10 TIPS ► FEATURES EXPLAINED ► NEW TIPS AND TRICKS

## Welcome



Just starting your Windows journey? Confused by the changes Microsoft has made to the

Creators Update? Maybe you just want to learn something new about Windows 10. Well, this is the section for you!

There's not enough space to tell you absolutely everything you need to know here, but *Windows Help & Advice* always has your back. In our essential Basics section, we'll show you how to: master the desktop and make it work for you; customise the Start menu and quickly access favourite items using tiles; and how to get the best from Windows 10's virtual personal assistant, Cortana.

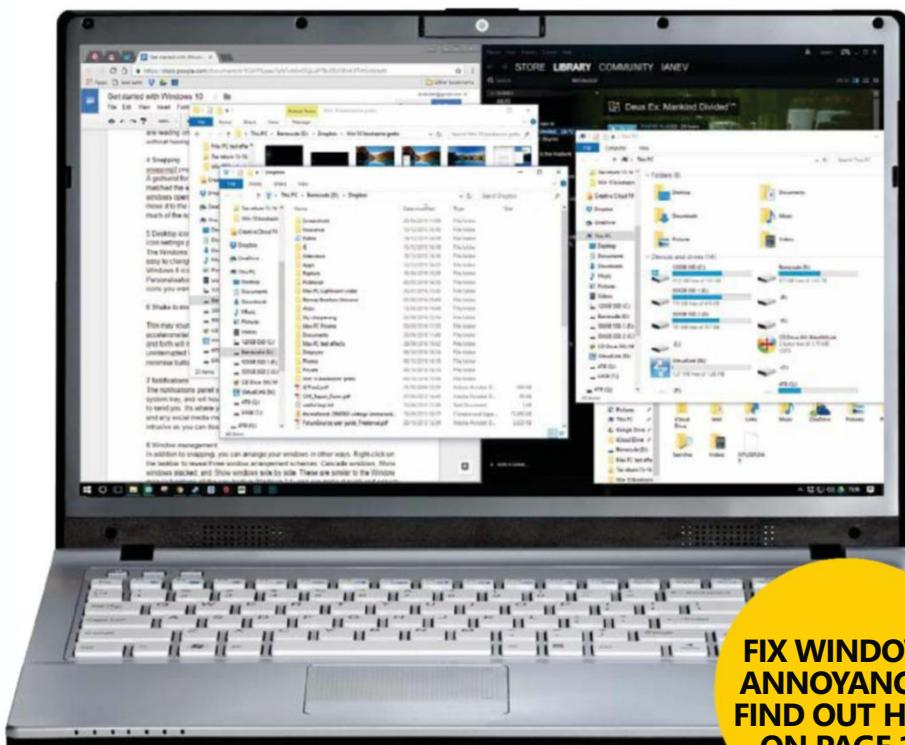
**Matt Hanson**  
Associate Editor  
[www.facebook.com/windowsmag](http://www.facebook.com/windowsmag)

## Featuring...

**76** How to master the Windows 10 desktop

**78** Change the way the Start menu works

**80** Discover the ways Cortana can help you



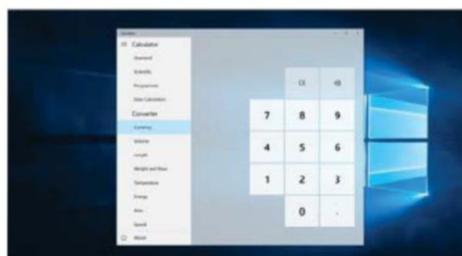
**FIX WINDOWS ANNOYANCES!  
FIND OUT HOW ON PAGE 14**

### Windows 10 tip of the month

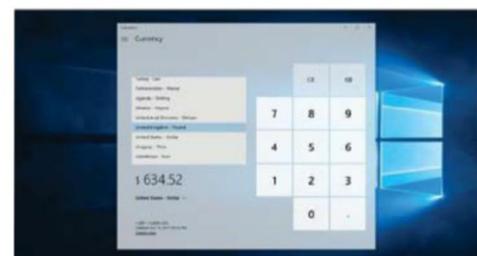
### Master Windows 10's Calculator

## Convert anything with the Calculator app

The Calculator app in Windows 10 is a surprisingly powerful tool. As well as enabling you to carry out simple sums, it also includes a Scientific Calculator, a Programmer Calculator and a Converter. And it's the last option we're looking at here. If you've ever needed to convert weights, measures, temperatures... or almost anything else, this is your go-to app. Select 'Calculator' from the Start menu and then follow these steps...



**OPTIONS** Click the three-line options icon on the top left. Scroll down to reveal your Converter options.



**RESULTS** Choose an option, then the settings you need using the 'v' menus. Type in a number. Press [Return].

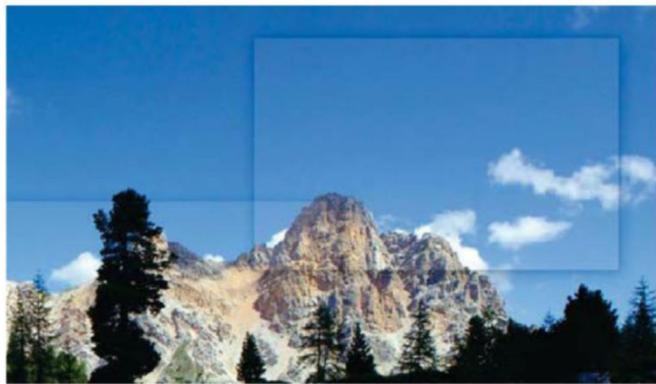
# Master the desktop

You'll spend a lot of time there, so here are some great ways to make it work for you...

**W**hen not actually using applications, the Windows desktop is where you'll spend much of your time, moving files about, hunting for that obscure application you installed six months ago and suddenly need, or lining up your windows so that they fill the space perfectly (a time-wasting

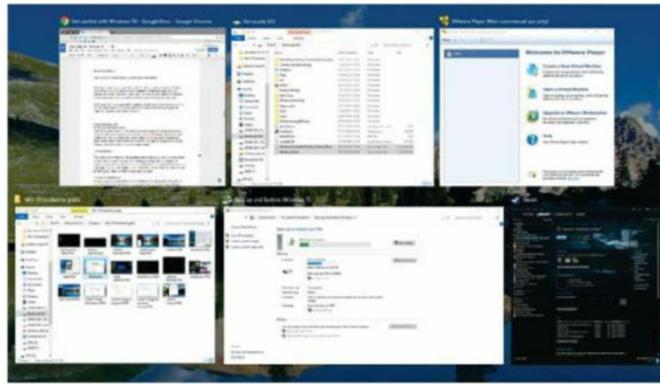
pastime that's all but dead now thanks to window snapping).

In Windows 10, the desktop and the taskbar get a few new tricks that make working with files and folders even easier, and the new search bar means pulling up an application you don't use often is a breeze. Follow these tips to a happy start...



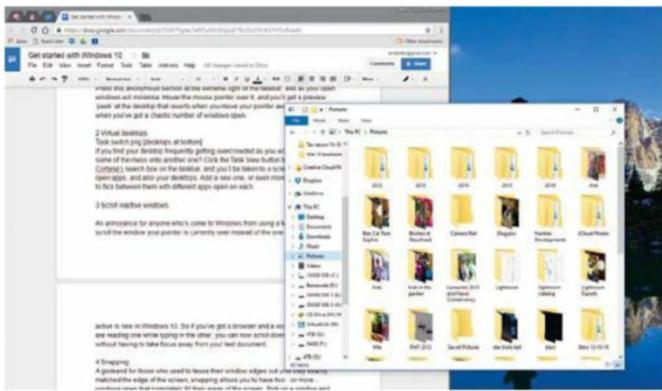
## 1 Show desktop/peek

The Show Desktop button isn't marked, and some people don't even know it exists. Press this anonymous section at the extreme right of the taskbar, and all your open windows will minimise. Hover the mouse pointer over it, and you'll get a preview 'peek' at the desktop that reverts when you move your mouse pointer away. It's very useful when you've got a chaotic number of windows open on your desktop.



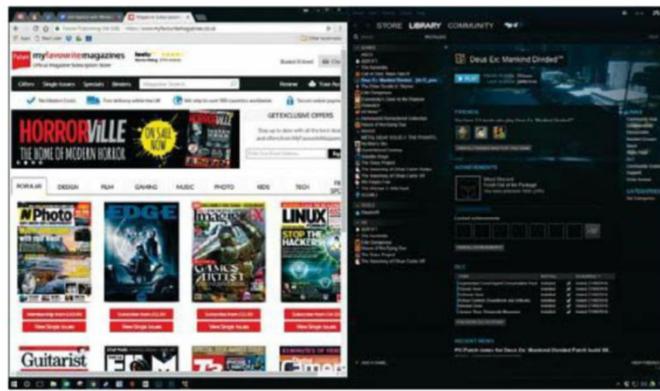
## 2 Virtual desktops

If you find your desktop frequently getting overcrowded as you work, why not offload some of the mess onto another one? Click the Task View button to the right of Cortana's search box on the taskbar, and you'll be taken to a screen that shows your open apps, and also your desktops. Add a new one, or even more, and you'll be able to flick between them with different apps open on each. It's a great way to stay organised on your PC.



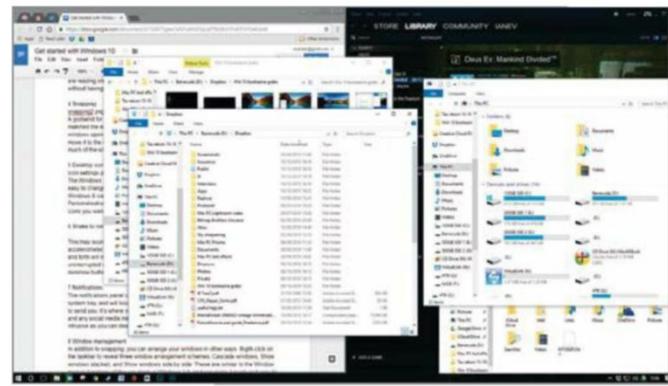
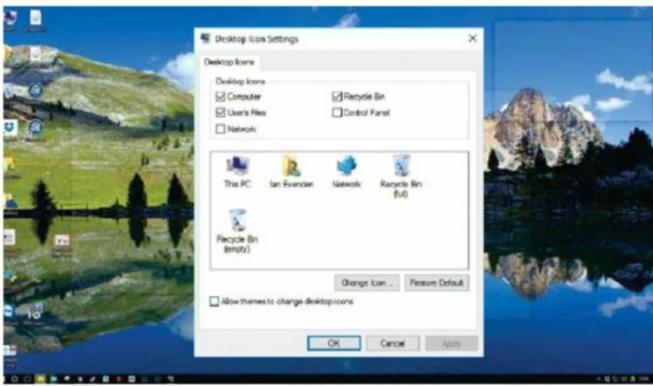
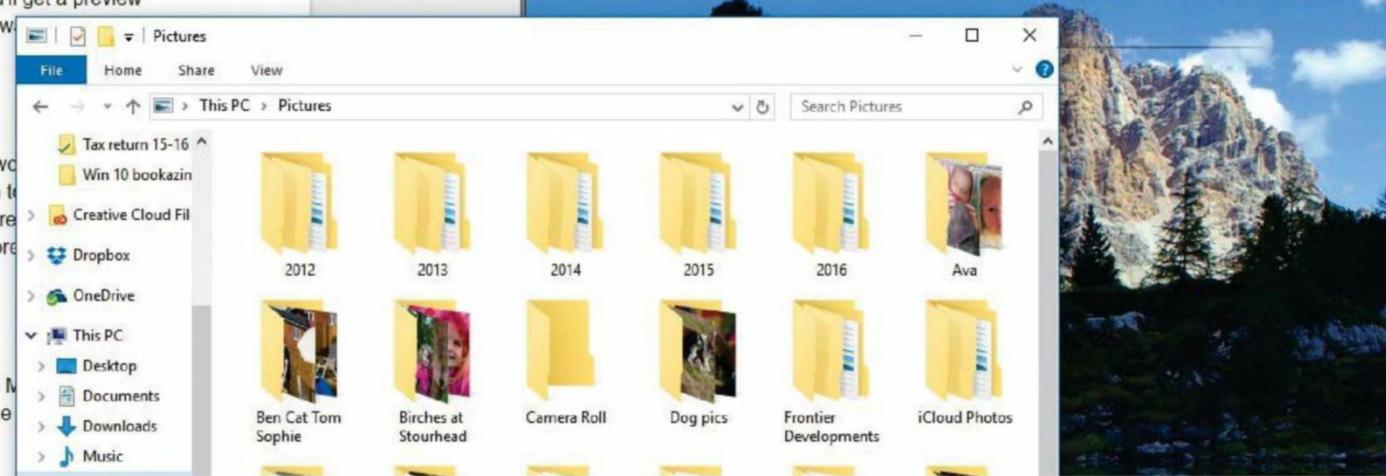
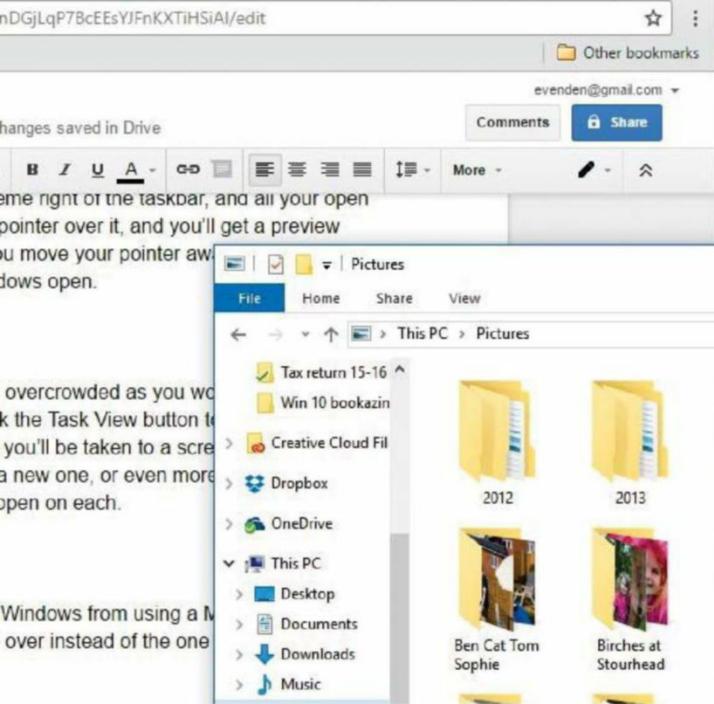
## 3 Scroll inactive windows

An annoyance for anyone who's come to Windows from using the Mac, the ability to scroll the window your pointer is currently over – instead of the one that's currently active – is new in Windows 10. So, if you have a browser and a word processor open, and are reading one while typing in the other, you can now scroll down in the browser without having to take your focus away from your text document.



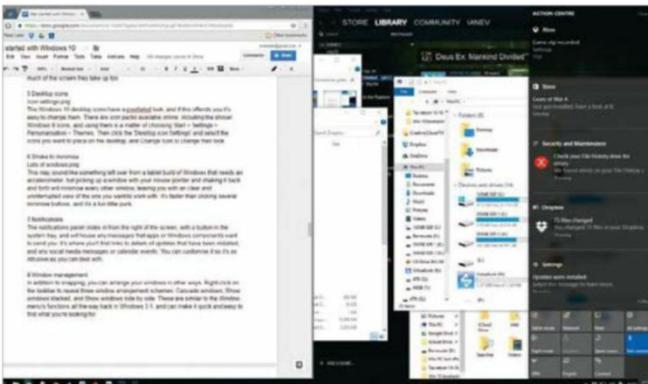
## 4 Window snapping

A real godsend for those who used to tease their window edges out until they exactly matched the edge of the screen, snapping in Windows 10 enables you to have two or more windows open that completely fill their areas of the screen. Pick up a window and move it to the extreme left or right edge of the desktop to try it (you'll see it 'snap' to the new half screen format). You can adjust how much of the screen they take up too.



## 5 Desktop icons

The Windows 10 desktop icons have a pixelated look, and if this offends you it's easy to change them. Luckily, there are icon packs available online – including the shinier Windows 8 icons. Download the icon pack you want to use, then go to Start > Settings > Personalisation > Themes. Click the 'Desktop icon Settings' and select the icons you want to place on the desktop, then use the Change Icon option to change their look.

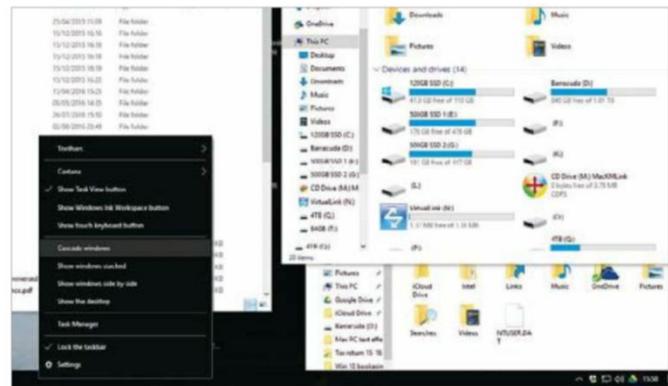


## 7 Notifications

The notifications panel – or Action Centre – slides in from the right of the screen, with a button in the system tray, and will house any messages that apps or Windows components want to send you. It's where you'll find links to details of Windows updates that have been installed on your machine, and any social media messages or upcoming calendar events. You can customise it so it's as intrusive as you can deal with.

## 6 Shake to minimise

This may sound like something left over from a tablet build of Windows that needs a built-in accelerometer, but picking up a window with your mouse pointer and shaking it back and forth will minimise every other window, leaving you with a clear and uninterrupted view of the one you want to work with. It's much faster than clicking several minimise buttons, and it's a fun little quirk that's a good one to remember.



## 8 Window management

In addition to window snapping, you can arrange your windows in some other ways too. Right-click on the taskbar to reveal three window arrangement schemes: 'Cascade windows'; 'Show windows stacked'; and 'Show windows side by side'. These are similar to the Window menu's functions that have been available all the way back to Windows 3.1, and can make it quick and easy to find what you're looking for.

# Customise the Start menu

The Start menu in Windows 10 is more powerful than ever – here are some easy tips to make it work for you

**T**he Start menu's return was big news when Windows 10 launched, and it has evolved as the operating system has been updated. It's become a fast, and efficient way to access apps and settings – Windows 8's full-screen monstrosity is now a distant memory, thankfully!

However, if you don't like how the Start menu looks when you first pop it up on your fresh

install of Windows 10, it doesn't have to stay that way. It's fully customisable in ways that were never possible in earlier versions of the operating system, and can be made to work in just about any way you want, standing out from its background for ease of reading, or automatically blending in with the colour scheme of whatever theme you have currently set on your desktop.



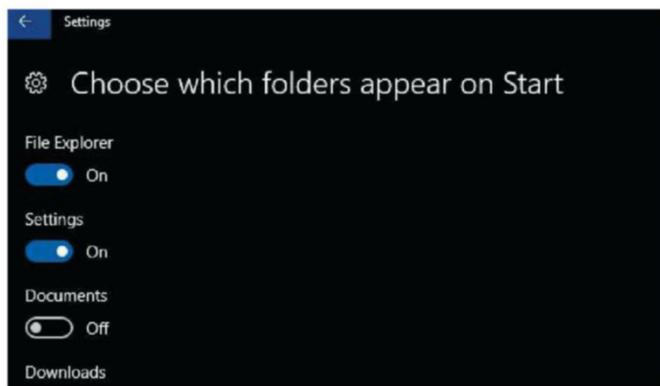
## 1 Colour

Your Start menu's background can be any colour you like – all you have to do is untick a box. Open up Settings, then Personalisation and finally Colours. Untick the 'Automatically pick an accent colour from my background' option and you'll be able to pick a colour from the palette. So your Start menu can be a contrasting red or yellow rather than a dull blue or grey. Play around to find a combination that works for you.



## 2 Size

To make space for all the customising you can do to the Start menu, you can easily resize it to your liking. Just move your mouse pointer to the top-border or right-border of the Start Menu, the pointer will change into arrows, and you'll be able to increase or decrease height and width, dragging it out to completely fill the screen if you want to. This is particularly useful if you have a PC filled with programs that you access regularly.



## 3 Folders and tiles

Your Start menu is made up of lists and tiles, and some of these can be shortcuts to folders such as Documents. Settings > Personalisation > Start enables you to tinker with this, so if you never shoot videos you can stop the empty Videos folder from taking up space on the menu. You can turn the links to the Settings window, and the one that opens an empty File Explorer window, on and off too.

## 4 Hide program lists

By default, the Start menu will show you lists of both your most used programs and the most recently opened ones. This can end up repeating itself, so if you want to get rid of one or the other of the lists, or both, open up Settings > Personalisation > Start, from where you'll be able to toggle the lists on or off. You can also prevent apps from appearing on the lists so you only get a view of the things you really need from day to day.



## 5 Use it to search with

Hitting the [Win] key on your keyboard to pop up the Start menu's Search box is one of the fastest ways to look for anything in Windows 10. Just type a few characters and you will get suggestions for applications and documents stored on your computer that match your initial query. You can also use the arrow keys on your keyboard to navigate the Start menu, if you'd rather not use the mouse.



## 6 Live tiles

Live tiles are tiles that are constantly updated with data, usually gleaned over the internet to make them up-to-date. There's one for the Mail app that shows your most recent messages, one for the Weather app that uses your PC's location to tell you what's going on outside the window, and so on. If you find them distracting, you can turn them off by right-clicking them and choosing the appropriate option.



## 7 Pin tiles and shortcuts

If there's something you need to be able to find quickly, but which gets lost in the lists of the Start menu, you can pin and reposition it so it's always prominently placed. To do that right-click an item and choose 'Pin to Start'. It will now appear in tiles. Now click and drag the tile to where you want to move it to. To resize the tile, right-click, choose Resize then the tile size you want. You can pin shortcuts to the Taskbar for easy access too.

## 8 Bring back the Start screen!

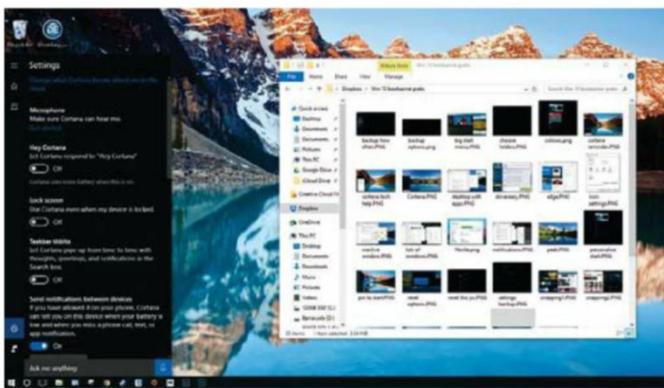
It may have been almost universally mocked and reviled in Windows 8, but the fullscreen Start menu is still there in Windows 10, ready to block out all your work at a single press of the Windows key! But, if you liked it, go to Settings > Personalisation > Start and tick the box marked 'Use full-screen Start when in the desktop'. Note that wording: it now won't actually cover up your apps like it did in Windows 8.

# Get to know Cortana

Meet the digital assistant that's here to help you – she can even recognise the sound of your voice

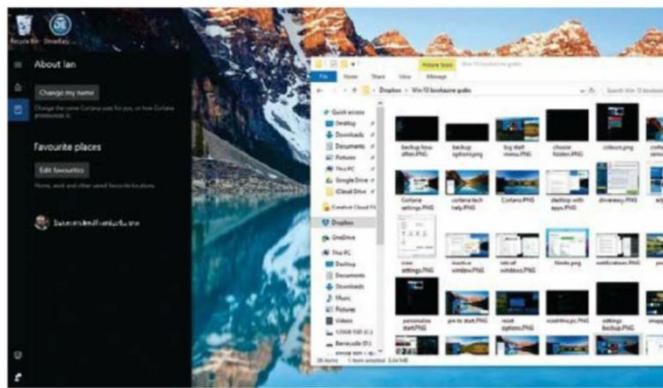
**M**icrosoft's virtual personal assistant takes its name from a character in the *Halo* series of videogames. That incarnation of Cortana – an AI who is outwardly female (having been created from the brain patterns of a female scientist) and never seems to have been provided with quite enough clothes – can hack alien computer encryption and fly captured spaceships.

The Windows 10 version is perhaps a little less powerful, but comes in useful all the same. She can search using natural language terms, and by using voice activation just like Siri does on your iPhone. And if the idea of voice controlling your PC alarms you, or perhaps your computer isn't equipped with a mic, then you can still interact with Cortana through the keyboard, typing your queries for Cortana to answer.



## 1 Set up

Depending on how your PC has been configured, you may need to switch Cortana on in order to work with her. The first time you try to search your PC, she'll ask if you want to use her. Say no, and the search box remains functional, but without the extra features that Cortana brings. You'll need to be connected to the internet to use Cortana of course, because that's how results are queried and returned to you, just like Apple's Siri.



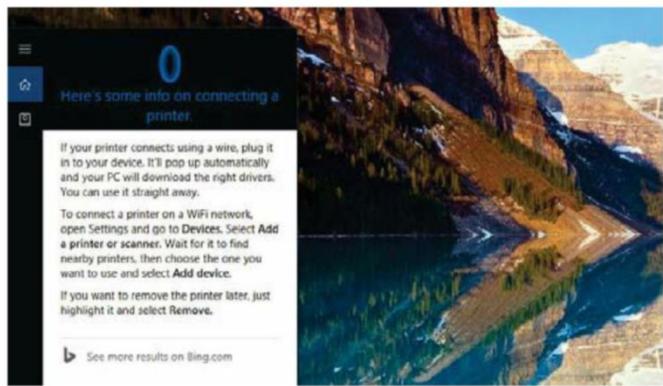
## 2 Personalise Cortana

To make Cortana as useful as possible she needs to address you personally. Tell Cortana your name and where you live and she can adapt herself to you. If you've opted for her to speak results back to you, she'll call you by name and allow you to correct her pronunciation if she gets it wrong. Tell her your interests, and appropriate news snippets will appear when you open Cortana's panel. You can do all this from the settings.



## 3 Narrow down your search

To stop Cortana searching things she doesn't need to, and speed up the return of those internet results, you can tell her exactly what you're looking for, which is great when it comes to finding apps and files in particular. So if it's definitely an app you need, rather than a picture or video, start your search query with 'app:'. If it's a setting, type 'setting:'. For a document... you get the idea. You can force a web search with 'web:' too.



## 4 Use Cortana for tech support

If there's something you want to know how to do in Windows 10, a publication like this one can help of course. If you need to know really quickly, try asking Cortana instead. Type your query in, and it will appear in the list of results under 'Can I help?'. Clicking this gets you the Microsoft help files, and in the case of many common tasks a walkthrough will show you how it's done. Don't forget the tips on these pages though!

= **Settings**

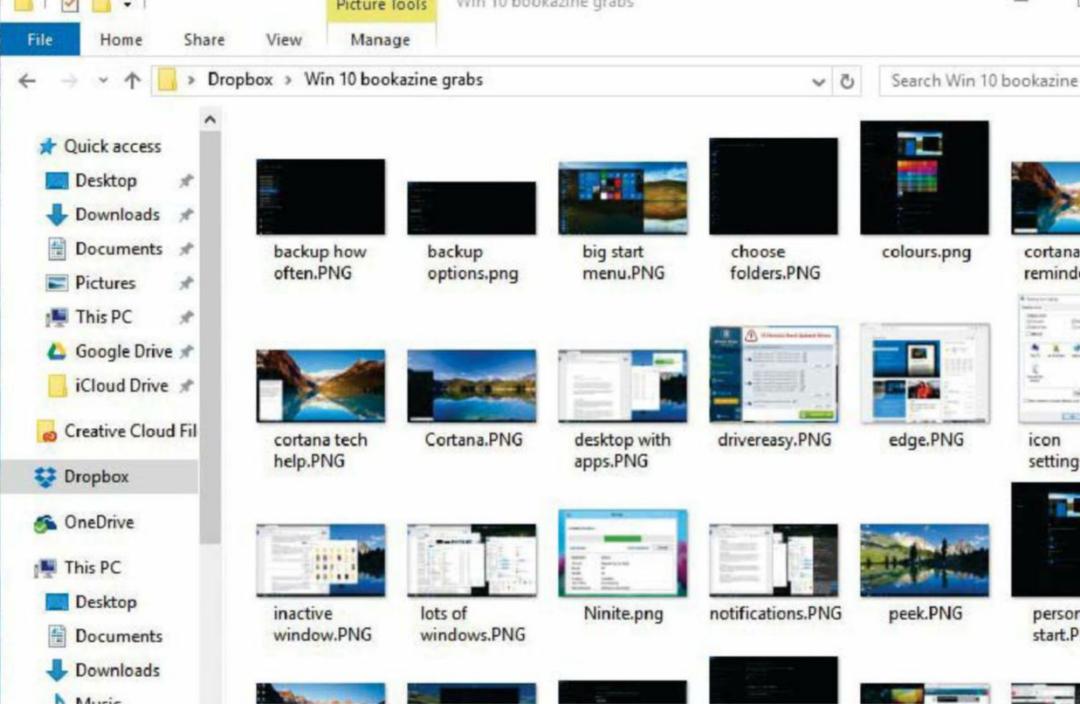
Change what Cortana knows about the cloud

**Microphone**  
Make sure Cortana can hear me.  
[Get started](#)

**Hey Cortana**  
Let Cortana respond to "Hey Cortana".  
 Off  
Cortana uses more battery when this is turned on.

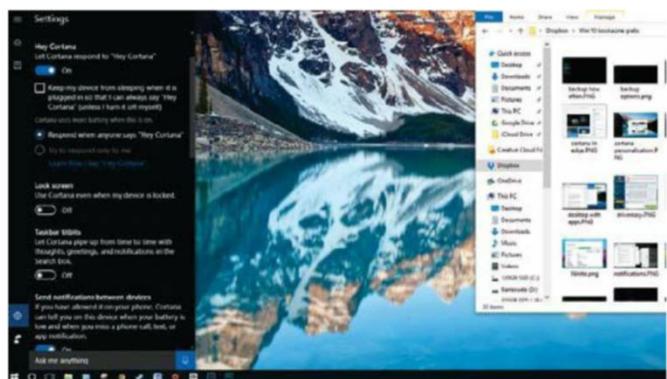
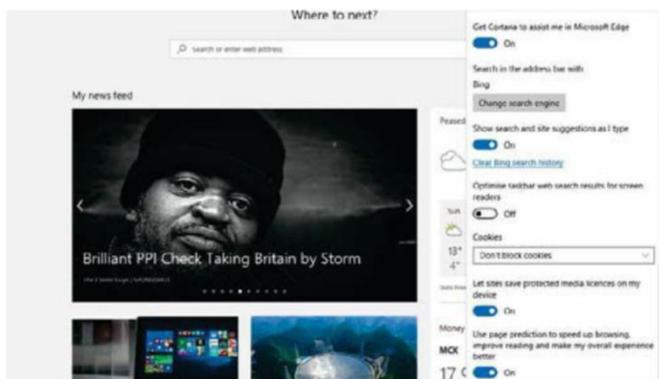
**Lock screen**  
Use Cortana even when my device is locked.  
 Off

**Taskbar titbits**  
Let Cortana pipe up from time to time with thoughts, greetings, and notifications in the Search box.



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## 5 Use Cortana in Edge

Cortana can also help you as you browse the internet. To enable it in Microsoft Edge, go to Settings > Advanced Settings > View Advanced Settings and under 'Privacy and Services' enable 'Have Cortana Assist Me in Microsoft Edge'. Now, as you explore the web, you'll get helpful additions such as song lyrics if you're listening to music, or links to apps if the site you're using has one.



## 6 Use voice commands

Click the microphone icon next to the search box, and you can speak your questions and instructions to Cortana. You must have 'Search online' enabled in Cortana settings to use voice search, otherwise the mic icon disappears. If you select the option, she will respond to a cheery 'Hey Cortana' – but this will increase battery usage on portable devices, so is only worth turning on if you're sure you'll use it.



## 7 Train Cortana to only reply to you

It's hilarious to shout 'Xbox off!' at someone else's Xbox with Kinect voice control switched on, shutting the box down in the middle of what its poor user was doing, so train Cortana to respond only to your voice by selecting the 'Learn my voice' option in Settings and speak the test phrases. You'll find that Cortana keeps learning anyway, so over time the more you use Cortana the better she will be at just about any task!

## 8 Use natural language to search

If you want to set yourself a reminder, you don't need to find a calendar app and input what you want to do, and when, just type or speak it into Cortana as you would when talking to someone. Saying 'Remind me to take a screen break in an hour' or 'Remind me to buy flowers on the way home', for example, will trigger a notification at the appropriate time. Now there's no excuse to forget that meeting or important date again!

# FOR THE GNU GENERATION



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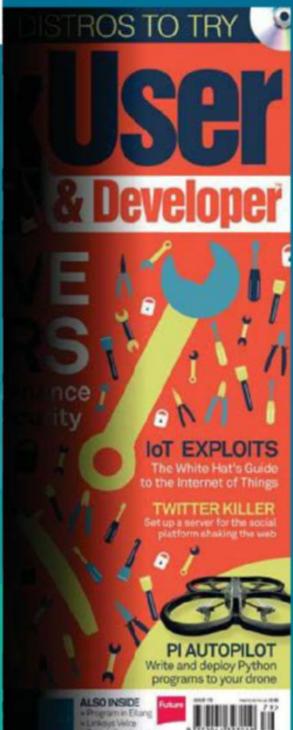
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# Upgrade

► NEW HARDWARE ► ESSENTIAL ACCESSORIES ► LATEST GADGETS

## Welcome

If you're looking for a smarter and easier way to organise your PC audio collection, then the four free apps we've assembled for this month's group test will be music to your ears.

All of them are better than alternatives such as iTunes and will soon have you falling in love with your favourite tunes all over again! See page 95 for more. We also take a look at Microsoft's latest Surface Pro (page 84); a surprisingly good ultrabook entry from smartphone maker Huawei (page 86), and revel in the beauty of the BenQ Eye-Care display (page 88).

**Nick Odantzis** Deputy Editor  
windowsmagazine@futurenet.com

## Our promise to you...

The Upgrade section is your key to finding out about the latest products, all designed to help you get more from your PC

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Our reviewers are 100 per cent independent, with years of experience in the world of computing. Our rigorous testing procedures mean that only genuine, high-quality products are awarded high star ratings. If you see an item of hardware bearing a high score, you can be confident that it is an excellent product.

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RATING EXPLAINED ★★★★☆ Superb ★★★★☆ Very good ★★★☆☆ Good ★★★☆☆ Disappointing ★★★☆☆ Poor

## This issue's highlights



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It's smarter, faster and with a longer-lasting battery. What's not to love?



### 86 Huawei MateBook X

Smartphone maker offers up its first ultrabook, but is it as good as it looks?



### 88 BenQ EW3270ZL Eye-Care

This 32-inch display promises to be easy on the eyes and on the wallet. Let's see...



### 95 Best free music players 2017

Looking for a free alternative to iTunes and Groove Music? Here are our picks



## Microsoft Surface Pro

£2,149 | \$2,199 [www.microsoft.com](http://www.microsoft.com)

The most massively improved Surface yet

There's no doubt that 2015's Surface Pro 4 had its share of issues, many of which took too long to rectify or at least patch. With the new, numberless, Surface Pro, it's obvious that Microsoft has taken that feedback to heart.

First, the battery life has been improved by as much as 32%, based on our testing, in a design that refines the existing template without tangibly adding any weight or thickness. Second, Microsoft has vastly improved the Surface Pen, Type Cover and even the Surface Pro hinge to make it a stronger laptop-and-tablet replacement.

### Design

At first glance, the new Surface Pro looks just like the Surface Pro 4. It even has the same gorgeous, 12.3-inch PixelSense touchscreen.

But a keen eye will notice key differences. For one thing, the frame is rounded at the edges more dramatically than before –

if you'd been using a Surface Pro 4 prior to picking this one up, your fingers would have noticed the difference before your eyes did.

Another key change comes in the hinge, which has drawn inspiration from the Surface Studio. The hinge now bends back even further than before to a new 'Studio mode' that makes for a narrower, 165-degree angle at which to draw.

To that end, the hinge looks markedly different, incorporating new parts to make this more dramatic angle possible, but it operates in exactly the same way.

The new Surface Pro measures 8.4mm thick and weighs 786g, the same as the Surface Pro 4. That's quite a feat given that the new model packs in a battery that's 20% bigger. It also offers an improved thermal design, enabling Microsoft to offer Intel Core class devices without noisy fans.

The new Alcantara Type Cover is a marked improvement in comfort

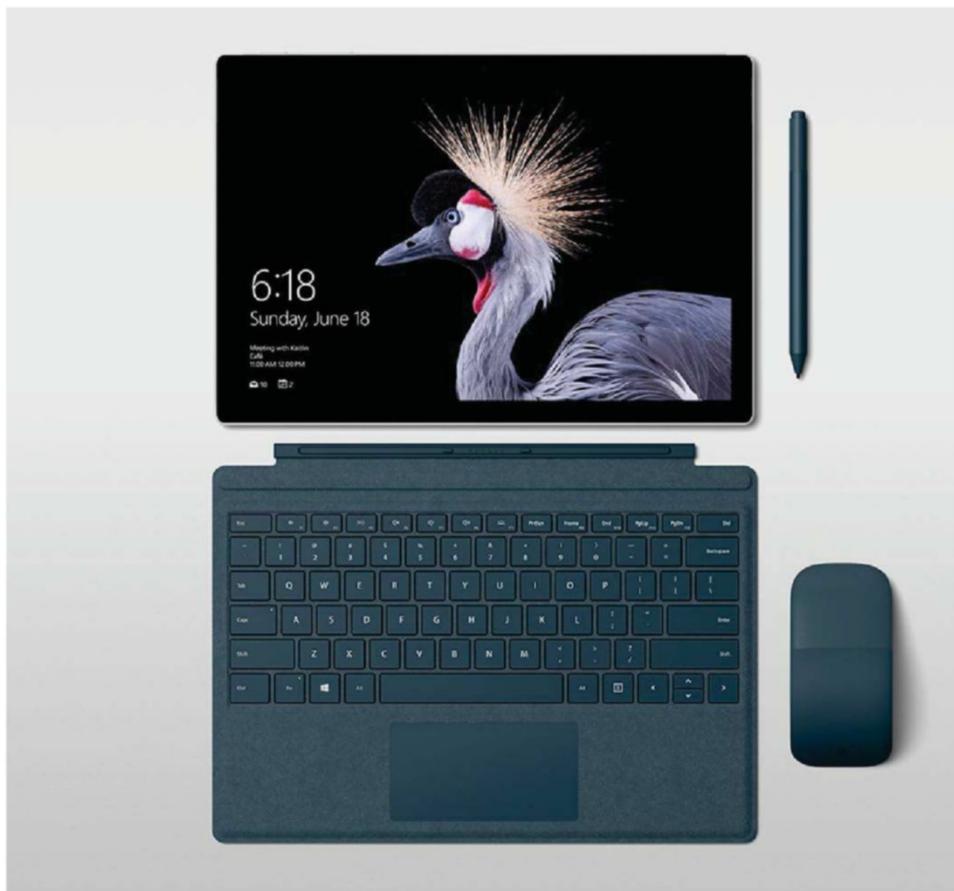
over the previous generation too, and largely worth the slight uptick in asking price over the microfibre cloth version. The keys feel like they're deeper set and come back from a press with more force than ever, and the material looks like it will stand the test of time.

### Surface Pen boost

Why Microsoft opted not to call this the Surface Pro 5 is beyond us, as you can see the firm has changed practically every facet of it. Even the Surface Pen has been improved.

Microsoft has increased the pressure sensitivity of its pen to 4,096 levels of detectable pressure, giving creators more control over the width and intensity of lines in illustrations or designs than before. The Surface Pen also has a much lower latency, giving the tip of your Pen a far lower chance of 'leading' the ink on the PixelSense display.

The Surface Pen also supports tilt detection now, though only



through the new Surface Pro – the other current Surface devices will get the support for this feature through a firmware update.

This feature, again, will matter most to creatives, who're keen to represent the tilt and direction of strokes in their work.

The Surface Pen also comes in four slick new colours – platinum, black, cobalt blue and burgundy

As for gaming, anything beyond *Hearthstone* is going to result in a poor experience. Luckily, touch-friendly games, like *Hearthstone*, are delightful to play on the sharp and colourful, 12.3-inch display.

Of course, with media creation being the primary purpose of this device, the 3:2 screen will make for larger black boxes than either you're used to or are far too familiar

## "There's no question that the new Surface Pan and Type Cover have earned their slight price hikes"

– that match the shades available in the new Type Covers.

There's no question that the new Surface Pen and Type Cover have earned their slight price hikes. But we think it's a shame Microsoft still doesn't offer these as a reduced price bundle with the Surface Pro, enabling customers to buy into the whole ecosystem from day one.

### Performance

Unsurprisingly, the new Surface Pro performs admirably with every task in our workload, including web browsing with several tabs at a time while word processing, as well as downloading and uploading lots of media files. Not to mention that it works just fine for basic photo editing using Adobe Lightroom.

with when viewing 16:9 and 21:9 widescreen videos and films.

When it comes to benchmarks, the Surface Pro can go toe-to-toe with Apple's 12.9-inch iPad Pro, chalking up a multi-core processor score of 9,296 compared to the iPad Pro's 9,290. Mind you, to achieve that score you'll need to spend at least £1,549 (\$1,599) on a Surface Pro containing a 2.4GHz Intel Core i7, while the iPad Pro remains as powerful whichever model you choose. That said, the processor inside the Surface Pro powers a more deliberately open PC experience with an operating system that allows users to install apps from multiple sources and dig into system files deeper than even Apple's iOS 11 will.

### KEY FEATURES

#### Microsoft Surface Pro

**Supplier** [www.microsoft.com](http://www.microsoft.com)  
**Processor** 2.5GHz Intel Core i7-7660U  
**Storage** 512GB SSD (PCIe 3.0)  
**RAM** 16GB LPDDR3  
**Graphics** Intel Iris Plus Graphics 640  
**Connectivity** 802.11ac Wi-Fi; Bluetooth 4.1; 1x USB 3.0; 1x mini DisplayPort; microSD card slot; headphone/mic jack  
**Screen** 12.3-inch, 2,736 x 1,824 pixels  
**Weight** 784g  
**Size**: 292x201x8.38mm

### Battery life

Another area where the Surface Pro aims to beat the iPad Pro is in battery life, with Microsoft claiming up to 13 hours and 30 minutes of local video playback, compared to the iPad Pro's 10 hours. During our testing, however, it became clear that the Surface Pro couldn't match up to such a lofty claim, chalking up four hours and three minutes on the PCMark 8 Battery Life test. That's still a marked improvement over previous generation Surface Pro models. The new iPad Pro, by contrast, totted up 6-7 hours using the same testing criteria.

### Summary

It should come as no surprise to learn that the new Surface Pro is head-and-shoulders ahead of its predecessors, while maintaining its lead over competing 2-in-1 laptops or tablets. From the accessories designed to make Surface Pro feel like an even more worthy laptop-and-tablet replacement to its improved battery life, every one of our concerns have been addressed.

Sadly, Microsoft has stumbled once again when it comes to value for money. By removing the Surface Pen from the box, and failing to offer any money-saving bundles, its potentially alienating would-be Surface Pro buyers.

That said, if you're willing to pay a bit more for the latest accessories than before, the new Surface Pro remains the ultimate 2-in-1 laptop and productivity tablet. So much so that it remains worthy of an almost perfect score. ■

The Surface Pro is better than ever – and retains its place at the head of the 2-in-1 laptop/tablet pack.

  
**Windows Help & Advice**  
**Verdict**





## Huawei MateBook X

£1,210 | \$1,570 <http://consumer.huawei.com>

A better MacBook Pro for Windows ultrabook fans

**H**uawei is a Chinese technology manufacturer best known for its selection of high-end phones, such as the Huawei P10 or Mate 9, but now the company is expanding into laptops too.

The MateBook X is the company's first attempt at making a laptop and it's positioned as a direct competitor to Apple's MacBook.

It features a high-quality and slimline design, top-of-the-range internal specs and Huawei wants this to be competition for some of the best ultrabooks on the market.

As the MateBook X is the Huawei's first attempt, you may be nervous about buying a laptop from the company, but there are a lot of impressive features here for the money, and there's a good chance you may choose this as your next Windows machine.

### Price and availability

Huawei launched the MateBook X in Berlin towards the end of May

2017, but official news on pricing and launch date were still limited as we went to press. Having said that, it's estimated that MateBook X prices will start at €1,399 (around £1,210/\$1,570) for a 13-inch laptop with an Intel Core i5 CPU, 8GB of RAM and 256GB of solid-state storage on board, making it notably more affordable than its chief rival, Apple's €1,699 (£1,449/\$1,499) MacBook Pro.

However you'll need to spend quite a lot more to get your hands on a model equipped with an Intel Core i7 processor, which means you may up spending more than you expect to get a model you truly want. We expect to see official pricing and release date very soon.

### Design

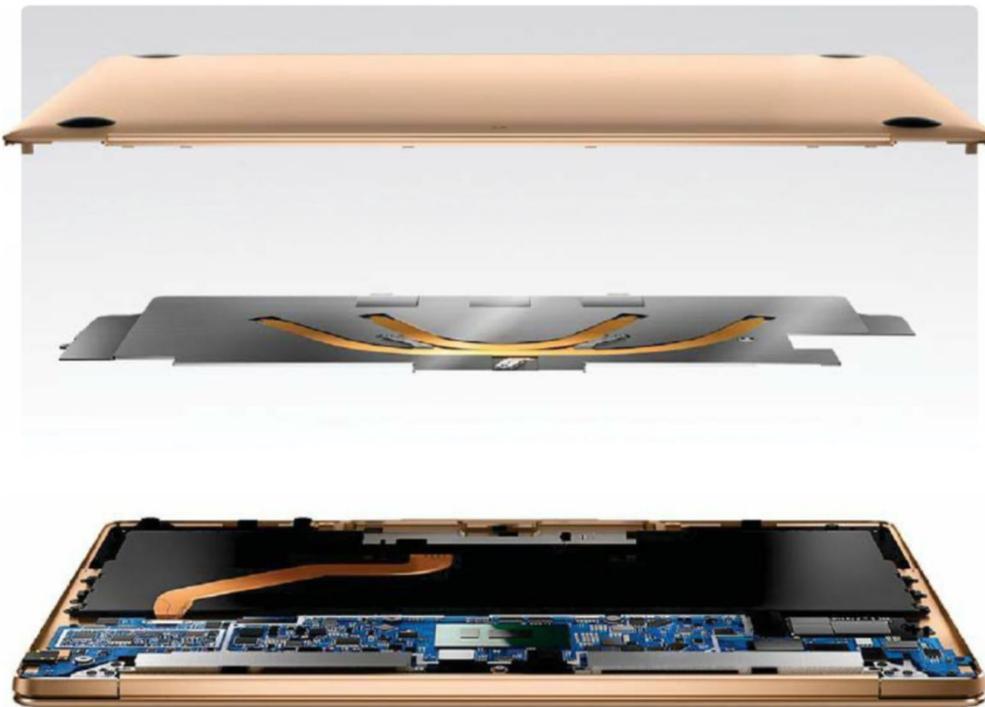
As soon as you pick up the Huawei MateBook X, you'll realize this is a high-end piece of kit. It's slim, sports an attractive design and is, most importantly, light.

One of the best elements we found from the MateBook X is its portability. You'll need to buy a case to haul this laptop around as it does sometimes feel fragile, but it only weighs 1.05kg.

The keyboard is backlit and has tactile keys, making the MateBook X not only comfortable, but actually a joy to use. There's an easy-to-use trackpad just below the keyboard too, but apart from that physical features are limited and it makes for an attractive design.

To keep the MateBook X slim, Huawei has opted to include just two ports here and that feels a little limited. You'll find a USB-C port on the left-hand edge for charging while the one on the right is intended for optical input.

The adapter that comes in the box will be able to do the rest for you, but that is also limited as there's no Ethernet option on the MateBook X. If you're planning to only connect to Wi-Fi, you won't



## KEY FEATURES

### Huawei MateBook X

**Supplier** <http://consumer.huawei.com>  
**Operating System** Windows 10 Home  
**Processor** Intel Core i5-7200U  
**Graphics** Intel HD Graphics 620  
**RAM** 8GB LPDDR3  
**Storage** 256GB SSD  
**Connectivity** 802.11ac Wi-Fi; Bluetooth 4.1; 2x USB-C; 3.5mm headphone jack  
**Weight** 1.05kg  
**Size** 286x12.5x211mm  
**Display** 13-inches, 2,160x1,440 @ 200ppi

model we tried was more than up to the challenge. We found that programs loaded quickly without any further input and the MateBook X performs just as well as most other ultrabooks that are on the market right now.

In our benchmarking tests for the MateBook X, it achieved a single-core score of 3,741 in GeekBench 4. In our battery test, the MateBook X lasts for up to 10.5 hours between recharges with the display set to 50% brightness while playing video. That's pretty impressive.

## Summary

You have every right to be nervous about buying a laptop from a manufacturer who has never dabbled in the computing space before, but in the case of the Huawei MateBook X, such doubts are completely unfounded.

For one thing, Huawei knows how to build light, compact and powerful devices – just look at the quality of its smartphones. And for another, it set out to build a brilliant, bold, premium-quality ultrabook and has succeeded not only on its own terms, but against more established and well-known rivals as well. In many respects the Huawei MateBook X is simply one of the best ultrabook-style laptops that you can buy today.

Whether it will completely meet your needs depends on Huawei's forthcoming announcements on specs, pricing and availability for the device, but whatever happens, Huawei and its laptops have a very bright future indeed. ■

The MateBook X is Huawei's first attempt at making a laptop – and it's been a complete success.

 **Windows Help & Advice Verdict**



see that as a problem, but it may be a big issue for some.

One annoying quirk we did find was the way you open up the MateBook X: we regularly found ourselves trying to open it the wrong way as there's no clear distinction between the front and the back of the device. Colour options for the Huawei MateBook X are black, gold and rose gold but it seems the former option won't be available in the US or UK.

## Display

The screen on the MateBook X is a revelation though. It's a 13-inch display in a 12-inch body, and

Dolby Atmos Sound System, which delivers truly stunning results. This is because Dolby has been allowed to fiddle with the placement of the speaker drive units inside the laptop, and has also bundled its own custom software to draw out every ounce of sound quality. The result is a go-to laptop for listening to music and movies on, although if you regularly use headphones instead of speakers, their appeal may be of limited use..

There's also a fingerprint scanner built-in to the MateBook X. It's part of the power button at the top right of the keyboard and is simple to setup and easy to log-in with. It

## "Huawei has teamed up with Dolby to deliver the best possible audio experience on the MateBook X"

Huawei has managed to achieve this by including a 3:2 aspect ratio. Compared to most other laptops this makes the screen feel unique, but it isn't so strange that it's uncomfortable to use.

The bezels are slim and it feels like no space is wasted, while the 2,160x1,440 pixel QHD screen is bright with fantastic picture quality – if you're looking for a comfortable experience for watching video, the display on the MateBook X will be perfect for you.

## Features

Huawei has teamed up with sound experts, Dolby, to deliver the best possible audio experience in the MateBook X – and its efforts have resulted in something called the

should mean your personal details and data are more secure than using a regular laptop password. The fingerprint scanner also works at a light touch, so you won't find yourself accidentally turning off the laptop when using it either.

## Performance

The MateBook X's specs are on a par with rival flagship ultrabooks, although we weren't sent the top-of-the-range model for our testing. That model, equipped with an Intel Core i7 CPU is just what you need for processor-intensive tasks such as gaming. However for the kind of everyday tasks that we performed during testing – word processing, web browsing and watching video – the Intel Core i5



## BenQ EW3270ZL Eye-Care Monitor

£440 | \$570 [www.benq.com/](http://www.benq.com/)

Big, bright 32-inch display that's easy on the eyes

With its screen size of 32-inches, the BenQ EW3270ZL Eye-Care Monitor is one of the largest monitor you could plonk on your desk, but for an asking price of £440 (around \$570) it's far from being the most expensive.

BenQ has an excellent pedigree when it comes to monitors, so to get one this size at that price from such a trusted name is tempting.

With the majority of monitors on desks these days measuring around 24-inches you'd think you need a heck of a lot of space on your desk to accommodate a 32-inch model.

However, the BenQ EW3270ZL's simple design ensures it doesn't take up as much space as you fear, while its large screen size and high resolution give you plenty of screen real estate. And although it's not a gaming monitor its sheer size ensures that games look fantastic.

The extra size does come with a higher price tag though, making it

more expensive than the 27-inch Philips Brilliance 272P (£295/\$462) and the 28-inch Dell P2815Q (£191/\$299). However, it's quite a bit less expensive than the ultrawide 21:9 aspect ratio monitors that are becoming popular, such as the Philips Brilliance BDM3490UC, which costs £670 (around \$960).

### Design

There's nothing flashy about the BenQ EW3270ZL, instead it does things with a quiet competency. It's not as fancy as the gold-clad BenQ EW2440, but that doesn't mean it's dull or boring either. The bezels along the left, right and top sides are impressively thin, and even with the thicker bottom bezel, most of the size of the monitor is dedicated to the impressively large screen – which is what we really want.

The wider bottom bezel houses the control buttons for operating the onscreen display, as well as the power button, a light sensor and

the Bright Intelligence button. The light sensor is used to detect the brightness of your surroundings and then adjusts the monitor's own brightness and contrast, making it both easier on your eyes, and more energy efficient as well. This can be switched on and off via the Bright Intelligence button, but with it switched on, we didn't notice any jarring changes when the lighting environment changed.

Underneath the bezel you'll find buttons for navigating the BenQ EW3270ZL's on-screen menu, which lets you tweak the display options and other features. This can often be a frustrating experience on monitors that hide those buttons on the underside of their bezels. However, the BenQ EW3270ZL helpfully displays the functions of the buttons on-screen when you press them, making them much easier to use.

The stand is sturdy, but it doesn't allow you to rotate or change the



## KEY FEATURES

### BenQ EW3270ZL

**Supplier** www.benq.com  
**Display type** LCD (AMVA+ [SNB])  
**Size** 32-inches  
**Aspect Ratio** 16:9  
**Resolution** 2,560x1,440 pixels  
**Pixel Pitch** 0.276mm  
**Brightness** 300 nits (typical)  
**Native contrast** 3,000:1 (typical)  
**Viewing angle** 178/178-degrees  
**Response time** 12ms, 4ms (GtG)  
**Display colours** 1.07 billion  
**Colour gamut** 100% sRGB  
**Colour bit depth** 10-bits  
**Backlight LED**  
**Connectivity** 1x HDMI; 1x DisplayPort; 1x mini DisplayPort; 1x headphone jack; 1x audio line in/out  
**Speakers** 2x 3W  
**Dimensions** 526.82x739.58x218.24mm  
**Weight** 8.5kg

height of the monitor (although you can change the angle), which is a shame. The sheer size of the screen, along with its impressive viewing angles, means you shouldn't feel the need to adjust the monitor – we didn't – but it would be nice to have the option.

To the rear of the monitor are built-in stereo speakers. The fact they are rear-facing means there's a chance sound becomes muffled if the BenQ EW3270ZL is placed too close to a wall. Still, it's a fool's errand to use a monitor's built-in speakers and expect decent sound.

Also on the back are two HDMI ports, a Mini DisplayPort, a full size

During our time with the BenQ EW3270ZL, that definitely appears to be the case, with dark scenes being particularly impressive, without any lightbleed that can sometimes make pitch black objects look cloudy, especially around the edges of a screen. It's also pleasing to see that black remains black when displayed on the BenQ EW3270ZL, not grey.

The 3,000:1 static contrast does a great job of displaying light and dark colours, and overall we were very impressed with the image quality of the BenQ EW3270ZL when it comes to colour accuracy – with 10-bit colour supported. The

### "All these things help make the BenQ EW3270ZL a very comfortable monitor to use for long periods"

DisplayPort, a D-Sub port, an audio line input, a headphone jack, a DC power input and a Kensington lock slot for securing the monitor. We'd have liked to have seen a DVI port included, alongside (or instead of) the D-Sub connection.

Over all, this is a nicely designed monitor that doesn't do anything too fancy – instead it lets the huge screen do the talking.

### Performance

When it comes to monitors, display quality is paramount, so how does the BenQ EW3270ZL Eye-Care Monitor fare? It uses a VA (vertical alignment) panel, and monitors that use this (as opposed to IPS or TN panels) usually benefit from excellent contrast and black levels.

178-degree viewing also means you won't have any trouble viewing content from a number of angles.

The 60Hz refresh rate is pretty standard, but is likely to disappoint gamers. So too will the lack of G-Sync or Free-sync technologies for smoother gameplay – although if you're not a gamer at least you won't be paying for technology that you don't really need.

Having said that, we played a number of games using the BenQ EW3270ZL, including the frantic *Battlefield 1*, and found they still played brilliantly – with the sheer size of the monitor adding to the feeling of immersion.

The image quality is helped by the BenQ EW3270ZL having a WQHD (2,560x1,440) resolution.

This both sharpens and improves textures and graphics in games, but also gives you plenty of work space. Large monitors, such as the BenQ EW3270ZL, benefit greatly from higher resolutions, ensuring text, windows and icons remain legible.

The BenQ EW3270ZL comes with a number of presets, as well as Low Blue Light Plus modes, which make the screen easier on the eye at night. Each one can be turned on using the on-screen menu and buttons on the bezel of the monitor, and can be tweaked for optimum image quality.

We found both the Low Blue Light Plus in default setting, and the sRGB setting to be particularly good for working and playing on, as does the flicker-free WLED backlight. All of these things help make the BenQ EW3270ZL a very comfortable monitor to use for long periods. It certainly delivers on the 'Eye-Care' part of its name.

### Summary

If you want a large, high resolution monitor that's affordable and comfortable to use then we can enthusiastically recommend the BenQ EW3270ZL. The 32-inch screen offers plenty of space to work on, and it's easy on the eye without sacrificing either image quality or colour accuracy. ■

An excellent all-rounder with a huge 32-inch screen and an affordable price tag.

 Windows Help & Advice  
Verdict





## Canon PowerShot G9 X Mark II

£435.99 | \$429.99 [www.canon.com](http://www.canon.com)

A pocket powerhouse of a compact camera

Premium compact cameras with 1.0-inch sensors have carved out a niche for themselves over the last few years, thanks to the fact that these relatively large sensors deliver better image quality than the thumbnail-sized chips found in most compacts. They've also come to appeal to a broad range of users.

That said, many 1.0-inch compact cameras have tended to focus on enthusiast photographers, offering a host of advanced controls at the expense of size. Recognising this, Canon launched the PowerShot G9 X, a truly pocketable 1.0-inch compact that stripped away some of the more photographer-oriented features, while still delivering excellent image quality. So what does this update have to offer?

Like the outgoing PowerShot G9 X, the G9 Mark II includes a 20.1MP CMOS sensor, but teams it with Canon's new DIGIC 7 image processor, which offers a whole range of improvements.

The G9 X Mark II's compact size mean its zoom range is modest when compared to other 1.0-inch compacts, with a 3x optical zoom ranging from 28-84mm, still it's a lot more versatile than a typical fixed smartphone lens.

The maximum aperture is also not as spectacular as some rivals, ranging from f/2-4.9. This means you don't get the same control over depth of field, particularly at the longer end of the zoom range. Narrower apertures also limit the amount of light hitting the sensor, meaning you may have to increase the ISO in some lighting conditions.

As you'd expect from a camera that's trying to tempt people away from their smartphones, the G9 X Mark II offers plenty of connectivity options, including Wi-Fi, NFC and Bluetooth with the last option offering a constant low-powered connection between the camera and your smart device using the Canon Camera Connect app.

### Build and handling

Measuring just 98x58x31mm with the lens retracted, the G9 X Mark II is noticeably slimmer than its 1.0-inch compact rivals, and slips easily into a jeans or jacket pocket.

The G9 X Mark II is available in black, or silver with a tan grip, with the metal finish delivering a premium feel. While there's not much in the way of a hand grip to talk about, the textured grip and rear thumb rest allow you to get a decent purchase on the camera.

Its sleek design means there's no room for an electronic viewfinder, hotshoe or accessory port. That means the top of the G9 X Mark II is pretty clutter-free. There's a small pop-up flash, and buttons to switch the camera on and to instigate playback, while there's a zoom lever around the shutter button. There's also a mode dial for quickly switching between the various exposure modes, which include manual and creative options.



## KEY FEATURES

### PowerShot G9 X Mark II

**Supplier** [www.canon.com](http://www.canon.com)  
**Image sensor** 1.0-inch CMOS, 20.1MP  
**Lens** 10.2-30.6mm, f/2.0-f/4.9, 3x optical  
**LCD monitor** 7.5cm touchscreen  
**Autofocus system** 31-point  
**Shutter** 1/1/2000 s (Auto Mode), Bulb  
**Movie recording** 1080p Full HD  
**File types** JPEG, RAW, RAW+JPEG, MP4  
**Connectivity** micro-USB; micro-HDMI; 802.11b/g/n Wi-Fi; Bluetooth; NFC  
**Battery life** Approx 235 shots



Canon has taken a similarly streamlined approach on the G9 X Mark II's rear, with most camera operations carried out via the 3.0-inch touchscreen. There are just four buttons on the back: one to record Full HD movies; one to toggle the info displayed; one to get you into the main menu; and a 'Q' button, which accesses a quick menu for adjusting commonly used settings such as white balance.

Settings can also be adjusted via the touchscreen, while a control ring around the lens can be used to

the AF system performs well in even moderately poor light. You also get face detection and a tracking mode – tap the subject you want the camera to lock onto and it does a solid job of keeping focus. There's also a macro mode, and a manual focus option.

### Performance

Canon's evaluative metering system does a decent job, producing accurate exposures under a range of lighting situations. There are times, though, when the

## "Focusing speed is fairly snappy throughout the zoom range and the AF system performs well"

set certain parameters; selecting the aperture when in aperture priority mode, for example.

With most controls adjusted by touch, using the G9 X Mark II takes some getting used to, and unless you have small fingers, you're likely to occasionally hit the wrong option in the camera's menus.

Like almost everything else on the G9 X Mark II, focus selection is carried out by tapping the rear display, which offers coverage of almost the entire frame with the exception of the extreme edges. You can also activate the touch shutter: tap where you want to focus and the camera will trigger the shutter as well.

Focusing speed is fairly snappy throughout the zoom range, and

meter can get tricked and you may need to tweak the exposure.

It's a similar story with the G9 X Mark II's auto white balance, which copes well with mixed or artificial lighting, producing accurate colours in most situations, while the facility to shoot raw means colours can easily be corrected or fine-tuned in post-processing if desired.

The G9 X Mark II has a decent battery life of 235 shots, while there's also an eco mode that enables it to squeeze 355 shots from the battery. If you're going to be on the move a lot, the G9 X Mark II can also be charged via USB (although you'll have to buy a compatible Micro-B lead separately). Otherwise, a charging pack and lead are supplied in the box.

### Image quality

The G9 X Mark II didn't throw up any nasty surprises in terms of image quality. As we've come to expect from this 20.1MP sensor, images display excellent levels of detail, while colours are vibrant and pleasingly saturated.

JPEG images look very good throughout much of the G9 X Mark II's sensitivity range; only at ISO3200 and above does image smoothing become an issue, with detail suffering in the service of suppressing image noise.

Raw files retain higher levels of detail at the top end of the sensitivity range, although some luminance noise is present. If you want to take full advantage of what the G9 X Mark II's sensor is capable of at higher sensitivities, we'd recommend shooting in raw. This gives you the option to adjust the image in post-production.

Unlike some lenses that have a broader focal range to manage, the moderate zoom lens is sharp at both the widest setting and the telephoto end, while there are no real noticeable signs of vignetting.

### Summary

While there's a decent range of premium 1.0-inch sensor compact cameras to choose from, the Canon PowerShot G9 X Mark II sets itself apart. Its pocketable dimensions do mean there are sacrifices to be made, but if you're looking for a neat compact camera that can produce vastly superior images to your smartphone, the PowerShot G9 X Mark II is a great choice. ■

The PowerShot G9 X Mark II sets itself apart from the competition thanks to its dinky proportions.

 Windows Help & Advice  
Verdict



# WIRELESS SPEAKERS

With top-drawer speaker tech and posh designs, these premium Bluetooth systems are designed to bring out the audiophile in you



## 1 Harman Kardon Go + Play

£221.99, [harmankardon.co.uk](http://harmankardon.co.uk)

With its solid stainless steel handle and durable fabric finish, this stylish, robust speaker will easily withstand the rigours of day-to-day lugging. Firm buttons and illuminated icons on the top panel make operation easy, while a rear USB port charges your devices. The eight-hour battery life is measly compared with rivals but Harman makes up for it with solid sound quality. The quad drivers and 100W amp achieve a lovely balance across the frequencies, with tight, agile bass and sparkling treble, although it doesn't get the spine tingling.



## 2 Acoustic Energy AEGO BT2

£249.99, [acoustic-energy.co.uk](http://acoustic-energy.co.uk)

The BT2's chunky compact enclosure is beautifully engineered from aluminium, with robust rubber panels and tactile top controls. Most rivals opt for mono at this size, but not the BT2 – it uses dual 2.5-inch drivers and side-facing bass radiators. From a full charge, the BT2 offers 36 hours of playback and belies its compact size with a powerful sound. It's cohesive and well-balanced, with smooth treble and solid bass. It strains a touch at loud volumes and can't match the B&O and Edifier for clarity, but otherwise its performance is excellent for the money.



## 3 JBL Control X Wireless

£499.99, [uk.jbl.com](http://uk.jbl.com)

These battery-powered speakers deliver true stereo sound without cables, communicating wirelessly up to 30m apart. The rugged, rubber-heavy design is perfect for outdoors, with rear bass ports doubling as carry handles. In action, they're astonishingly powerful, offering a huge soundstage and bucketloads of bass. Drums thump like a live performance and vocals emerge between the two speakers as if by magic through JBL's HDI waveguides. But with only four hours of playback, you won't get to enjoy it for long.



**Y**ou can pick up a Bluetooth speaker for peanuts these days, but when it comes to performance settling for a sub-£100 speaker is often a false economy – with bass an alien concept

and less power than the Lib Dems, you might as well use a tin can on a string. So if you're serious about sound quality it's worth investing in a decent speaker that can do justice to your treasured tunes. With that in mind,

we've summoned six premium wireless speakers costing between £100 and £500, all equipped with superior sound tech and swanky designs that'll turn your music files into a thing of unparalleled beauty.



Windows  
Help & Advice  
**Winner!**

## 4 B&O Beolit 17

£449.00, [beoplay.com](http://beoplay.com)

Bang & Olufsen's typically swanky portable speaker boasts a heavy-duty aluminium grille, leather carry handle and dished rubber top to handily park your phone. A customisable top button can be assigned different tasks (alarm, EQ presets) in the BeoPlay app, where you can also pair two units in stereo. Sockets include a USB-C port and 3.5mm input, while the 24-hour battery life is impressive. With 70W in the tank, it delivers a massive 360-degree sound that justifies the price. Copious amounts of bass add warmth and punch, and the finessed treble makes music sound stunningly detailed.



## 5 Libratone Zipp Copenhagen

£329.00, [libratone.com](http://libratone.com)

With built-in Wi-Fi, the Zipp offers 10 hours of Spotify, DLNA and internet radio streaming anywhere in the home, with multi-room and Bluetooth to boot. Its cylindrical design is enhanced by a pure wool sleeve and aluminium end caps, making it uniquely stylish. A clever touch panel pauses music and adjusts volume, while the back sports a USB charge port and 3.5mm input. Libratone's 360-degree technology and a 100W amp fill the room with warm, weighty sound. However, its imaging and soundstage width are limited.



## 6 Edifier Luna Eclipse

£149.99, [edifier.com](http://edifier.com)

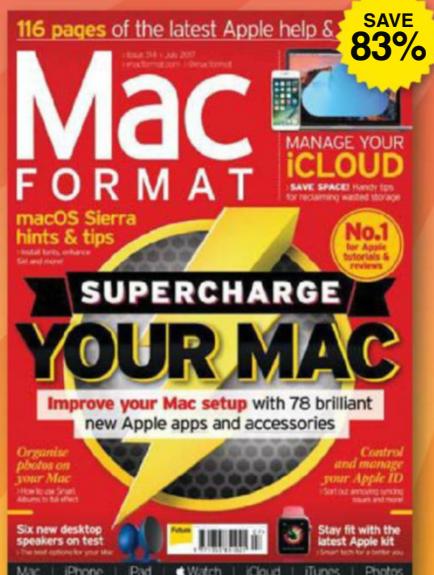
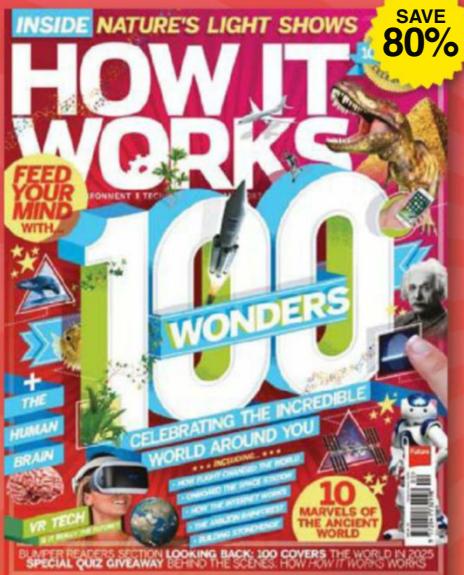
Slim, curvy and clad in vibrant piano finishes, Edifier's desktop system is a proper jaw-dropper. It's a master/slave setup governed by the right speaker, where you'll find touch-sensitive controls and a 3.5mm input. The tweeter, full-range driver and passive radiator in each speaker deliver full-bodied, bass-rich Bluetooth sound with accurate imaging and precise detail. The stage has wonderful width and air, and it goes loud without flapping. The only mystery is why Edifier is only charging £150 for such a sweet-sounding system, though we certainly aren't complaining.



SUMMER  
SALE!

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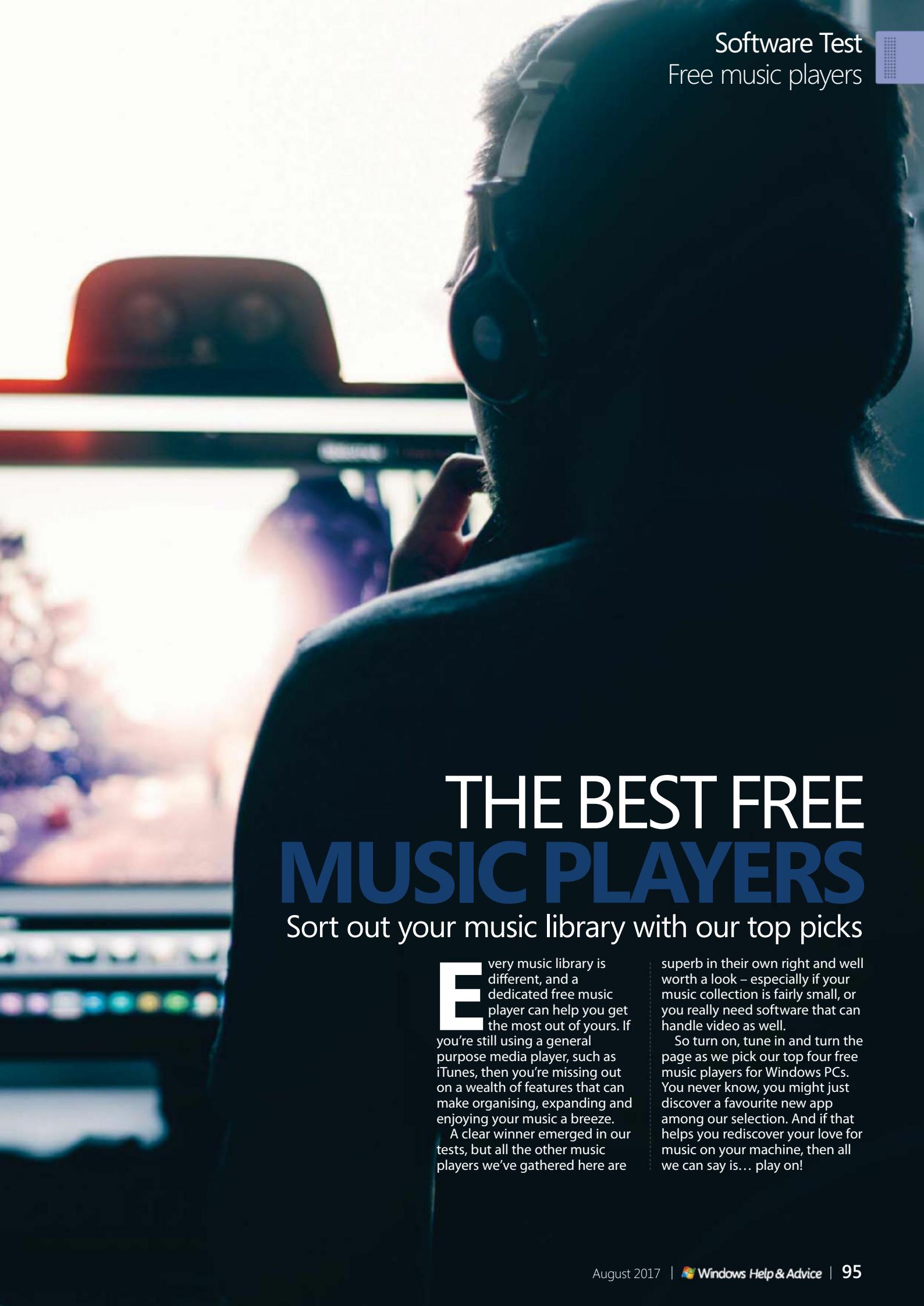
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# THE BEST FREE MUSIC PLAYERS

Sort out your music library with our top picks

**E**very music library is different, and a dedicated free music player can help you get the most out of yours. If you're still using a general purpose media player, such as iTunes, then you're missing out on a wealth of features that can make organising, expanding and enjoying your music a breeze.

A clear winner emerged in our tests, but all the other music players we've gathered here are

superb in their own right and well worth a look – especially if your music collection is fairly small, or you really need software that can handle video as well.

So turn on, tune in and turn the page as we pick our top four free music players for Windows PCs. You never know, you might just discover a favourite new app among our selection. And if that helps you rediscover your love for music on your machine, then all we can say is... play on!

# 1 MusicBee

<https://getmusicbee.com>

MusicBee is a free music player for serious music lovers and includes everything you need to manage and enjoy your collection, no matter how large (it's reportedly handled a library of over 500,000 tracks without a hiccup).

Switching to MusicBee is easy. The first time it runs, the app scans your PC for music and lets

you import your files from Windows Media Player or iTunes. Tracks are catalogued, but aren't moved unless you've checked that option under Library Preferences so there'll be no surprises.

Once your songs are imported, tagging them is a piece of cake; hit [Shift] + [Enter] to open the tag editor and go to work. MusicBee's



automatic tagging is superb, or you can update metadata yourself using tags for each file format.

The free music player supports almost every audio format around and converting files is simplicity itself, with presets for different playback devices (though for MP3 encoding you'll need to download the LAME codec).

If that isn't enough, there's even an Android app for controlling MusicBee remotely, and support for WinAmp plugins. You won't find a more comprehensive free music player, and although it's not open source, it's completely free for personal use.



RATING



Stylish and feature-packed, MusicBee is the best free music player around.

# 2 AIMP

<http://aimp2.us>

Like all the best free music players, AIMP makes organising your songs a breeze – even if your collection is a disorganised mess of tracks in different formats and locations, with incomplete or missing metadata.

Your library can be built using files from multiple locations and ripped from CDs, with automatic track numbering and tag filling to help you get it in shape.

AIMP supports a huge number of formats, with other encoders

available as user-created add-ons. AIMP's plugins include some real gems, including a YouTube extension that lets you build playlists from a collection of videos; and another for controlling AIMP remotely via a web browser.

The app also features some unusual tools, including an alarm clock, a wind-down setting that shuts down your PC at the end of a playlist, and a voice remover for making karaoke tracks.

It's not as feature-filled as MusicBee, but its thoughtful design and carefully curated feature-set earn this free music player a respectable second place.



RATING



# 3 MediaMonkey

[www.mediamonkey.com](http://www.mediamonkey.com)

MediaMonkey plays and organises both music and video, and unlike some dual-purpose media players, it does an excellent job of both. It identifies tracks with missing metadata and searches for the info online, and like MusicBee, its tagging tool lets you tag files using industry-standard formats.

You can also tag music during playback, which is a great option that avoids the need to preview snippets of tracks before labelling them with a mood or genre to generate playlists.

MediaMonkey organises your music library in a logical hierarchy, and its File Monitor ensures



MediaMonkey's tagging tools make organising your music and video library easy.

everything is kept up to date as you add, edit and remove files. It works well, but if you want total manual control you'll need to install a third-party plugin.

As a slightly trimmed-down version of a premium product, MediaMonkey's interface has a little more gloss than its open-source competitors, but at the expense of some features. The paid-for Gold version includes a party mode, built-in conversion for TVs and mobile devices, and MP3 encoding for ripped CDs. None are essential, but their absence pushes MediaMonkey's free music player to third place.



### RATING



# 4 Foobar2000

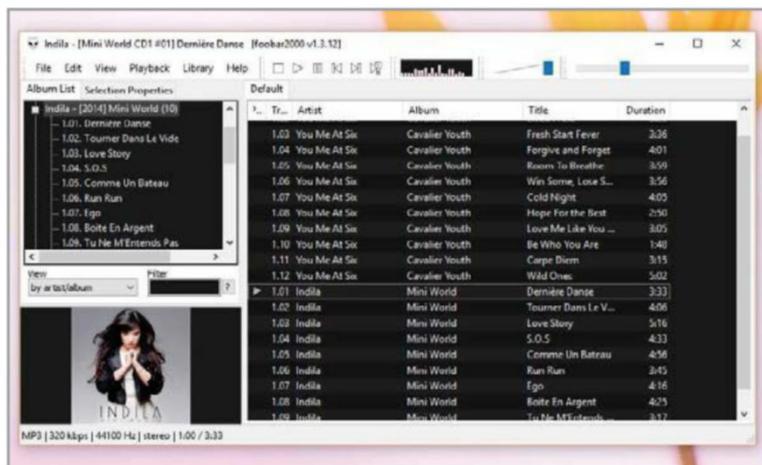
[www.foobar2000.org](http://www.foobar2000.org)

Foobar2000's advanced tagging tool makes light work of cleaning up a messy library, with options including batch processing, automatic metadata completion and track numbering, and copying and pasting data between fields.

Foobar2000 will look up metadata for untagged tracks

when you rip an audio CD, and can identify and erase duplicated tracks. Its library doesn't update in real time, but it can detect changes and remove dead links.

Foobar2000 supports all common audio formats, and includes a Quick Convert tool with various presets and options for



Foobar2000 is a modular player suited to small collections, and almost infinitely customisable.

creating your own profiles. If you encounter a file that it can't open, extra codecs are available as user-created plugins.

Foobar2000 also features a customisable modular interface that gives you the information you want in a format that's convenient for you. Modules include album art, search box, playlist manager and various visualisations, with optional tabs for easier navigation. Custom layouts can be saved as themes for future use, and you can experiment with settings.

All in all, Foobar2000 is a lightweight and adaptable option that suits smaller music libraries.



### RATING



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## BREATHE NEW LIFE INTO WINDOWS 7

Tips, tricks and secrets for older PCs

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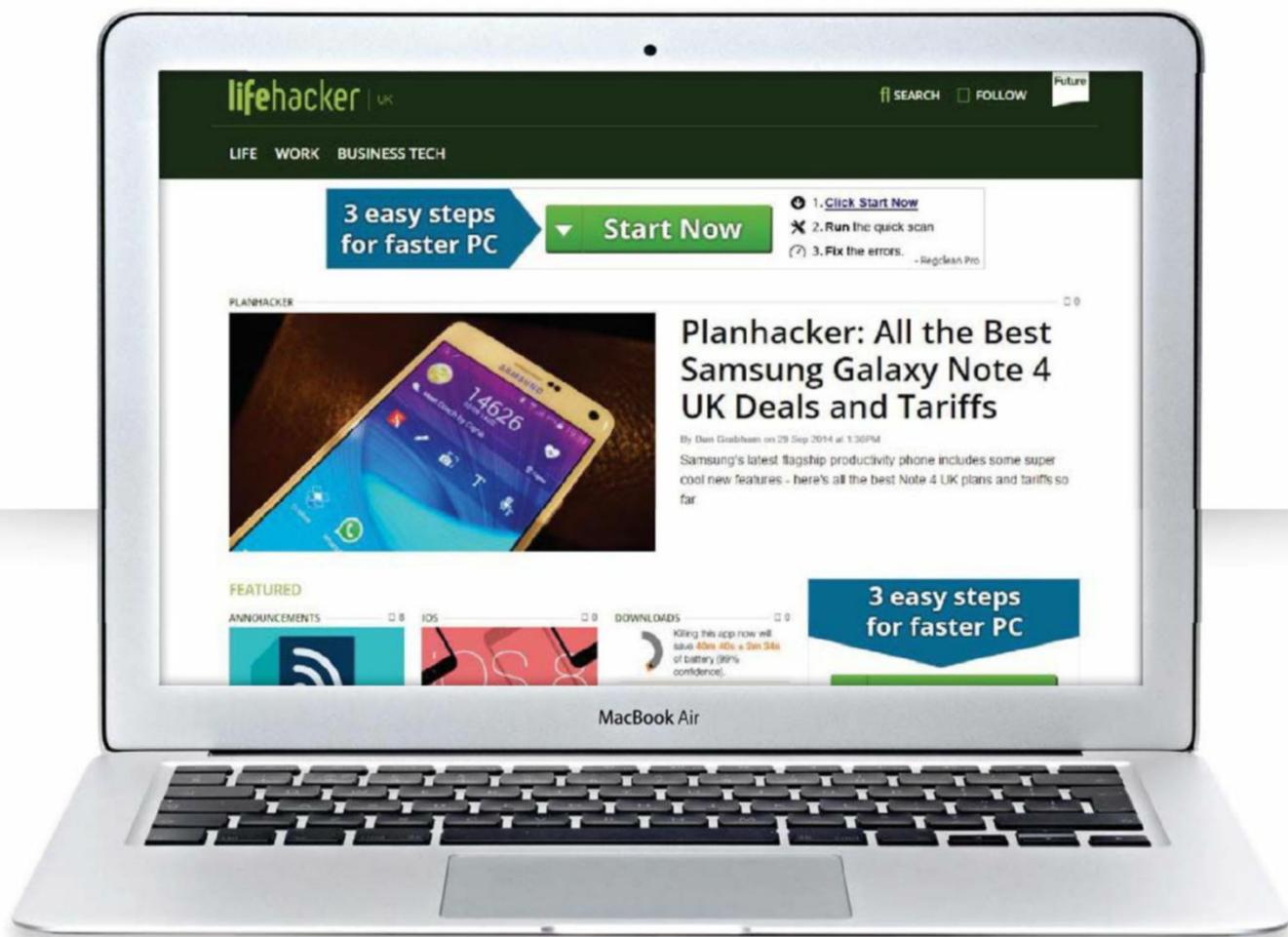


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