



DIGITISE ALL YOUR PAPERWORK

Find any phrase within it – fast, accurate searching

Instructions p35

**DON'T GET
BURGLED**

Best tech to protect
your home (and
outwit intruders)



p60

Computer
active

ISSUE 548 | 27 FEB – 12 MARCH 2019

Ready, shreddy, go! p24

Learn something new in every issue

Get a new... **FASTER** **Wi-Fi Router**

FOR FREE!

p50



Follow our expert guide and your ISP will send
you a **SPEEDIER & STRONGER** model within days

PLUS

GET 'PRO' SOFTWARE FOR £0!

Unlock the hidden **FREE** versions in powerful paid-for programs p62





From the Editor

How polite are the British? Microsoft says we're the most civil country online (see page 8), which may surprise those who think our national discourse has become more aggressive in the past few years.

I've always suspected that beneath our good manners lies a fierce determination to get what we want. When talking to companies for example, we can tell when we're being messed around, and will fight our corner – perhaps using more pleases and thank yous than citizens of other countries.

This good-natured persistence will serve you

well when following the advice in our Cover Feature (page 50). Your ISP may fob you off at first, but calmly stating your desire for a new router, while shrewdly pointing out the attractive deals on offer from rivals, should make them think twice. It certainly worked for Deputy Editor Will Stapley when BT initially refused to upgrade his router.

Please let me know how you get on. It would be interesting to learn whether you had to try specific tactics for different ISPs.

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Computeractive
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p35

p50

p62

p60



THIS ISSUE IN NUMBERS

8Gbps

Broadband speed
 Virgin is testing in
 Cambridgeshire - [p8](#)

£879

Price of HP's five-star
 Omen 15 laptop - [p23](#)

3 atoms

Thickness of a new
 material that could
 charge phones - [p49](#)



HOW TO USE SNIPCA URLs

We use snipcas to turn long URLs that are hard to type into ones that are short and simple. They aren't websites themselves, which means they won't be recognised if you type them into Google. Instead, you need to type them into your browser address bar, then press Enter. Doing this will take you to the correct website.

Contents

27 February – 12 March 2019 • Issue 548

6 News

Government tells Ofcom to stop ISPs ripping you off

10 Question of the Fortnight

Is the BBC's news website killing local papers?

11 Protect Your Tech

Scam voice messages as .EML files

12 Letters

"I want a solid, not 'featherlight' laptop"

14 Consumeractive

Can I get a refund for goods stuck at customs?

16 Grow Your Family Tree

Transfer files to a new program

18 Best Free Software

LibreOffice 6.2

21 Named & Shamed

Junk Offender: Windows 10 games

Reviews

22 PC Specialist Vortex Adonis

Brightly lit PC gets glowing review

23 HP Omen 15

A game laptop that's up for anything

24 Paper shredder round-up

Six of the best models for shredding your most sensitive paperwork

26 Google Pixel Slate

Premium tablet for Chrome bodies everywhere

28 HP Tango

Futuristic printer for early adopters only

29 Vodafone Smart N9 Lite

Budget phone for making calls but little else

30 Buy It/ Competition

Win Edimax Office 1-2-3 Wi-Fi system



Is the BBC's news website killing local papers?

p10

PC Specialist Vortex Adonis

p22



Computer
active
BUY IT!
★★★★★

HP Omen 15

p23



Computer
active
BUY IT!
★★★★★

Subscribe now!
See page 58 for our special subs offer



Workshops & Tips

35 How to... Digitise your paperwork so you can search it

38 Sync your passwords across devices for free

40 Add tabs to File Explorer for faster access

42 Readers' Tips
Quickly unsubscribe from spam emails

44 Phone and Tablet Tips
Type faster using SwiftKey Keyboard

46 Make Windows Better
Set up system restore for a new SSD

47 Make Office Better
Add commands to Quick Access Toolbar

48 In the Club
Record a podcast for your members

49 What's All the Fuss About?
Rectennas

50 COVER FEATURE
Get a new faster Wi-Fi router for free
Are you putting up with an old router that's holding your Wi-Fi back? We reveal the tricks for getting the latest model from your ISP

60 Beat the burglars! Home security needn't cost the earth – we reveal affordable ways to keep intruders at bay

62 Get pro tools for free
Don't pay princely sums for software used by experts

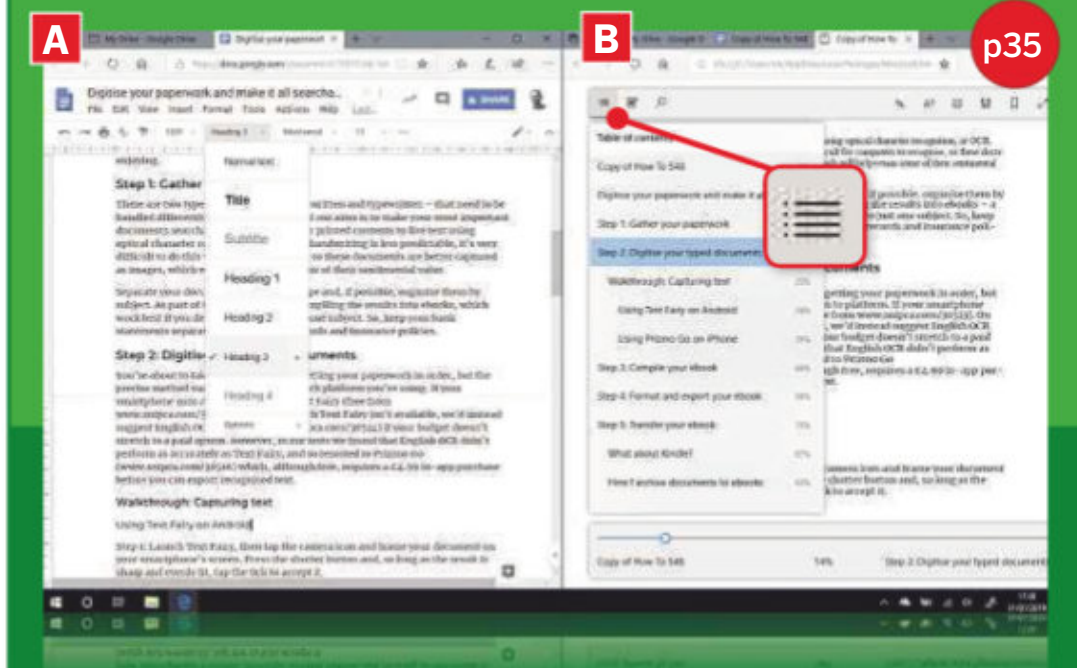
64 Problems Solved
Can I put an SSD in my music player?

71 Reader Support
Why can't I connect to 5GHz Wi-Fi?

73 Jargon Buster

74 Easy When You Know How
Virtually install Linux

Digitise your docs



Get a new...
FASTER
Wi-Fi Router
FOR FREE! p50

Make your
home safe
as houses

p60



Govt tells Ofcom to stop ISPs ripping you off

Telecoms watchdog Ofcom has been told by the Government to fix the problem of loyal phone and broadband

WHAT WE THINK

These measures sound like good news, but there's a danger companies will raise prices across the board if regulation threatens profits. However, there's no excuse for not telling customers when their contracts are ending, and what prices new customers can get. Companies in all sectors rely on discounted deals to attract new customers, so this shouldn't be discouraged. But it should be easier for existing customers to cancel a contract then rejoin soon after to get the lower price.

customers being ripped off by higher bills.

It has been set this challenge as part of the Government's first ever Statement of Strategic Priorities (SSP) to get "a better deal for consumers", as well as boost mobile coverage and increase broadband investment.

Typically, customers who stick with the same ISP or mobile provider after their contract ends pay more than new customers attracted by discounts. It's estimated this "loyalty penalty" costs customers £1.3 billion a year.

The Government said it will consider passing stronger laws if Ofcom believes its current powers don't go far enough. The regulator recently proposed that ISPs should be forced to send letters to customers telling them their contract is ending within 10 to

40 days, and what their new monthly bill will be afterwards.

It also wants ISPs to send customers details of the best deals available once their initial contract ends, including those applicable only to new customers.

Other priorities outlined in the SSP include boosting mobile coverage in rural areas. In particular, Ofcom will examine whether it can introduce **mobile roaming** to improve customer choice, and tackle "partial not-spots", described by ministers as areas where "at least one operator is present, but all four are not".

The SSP is designed to bring Ofcom in line with the regulatory bodies covering other sectors, like water and energy.

Ministers hope this closer



scrutiny will help the Government hit its targets of extending mobile coverage to 95 per cent of the UK by 2022, covering most of the country with **5G** by 2027, and ensuring 15 million premises can get fibre-to-the-home (FTTH) broadband by 2025.

MS Paint not being given the brush off?

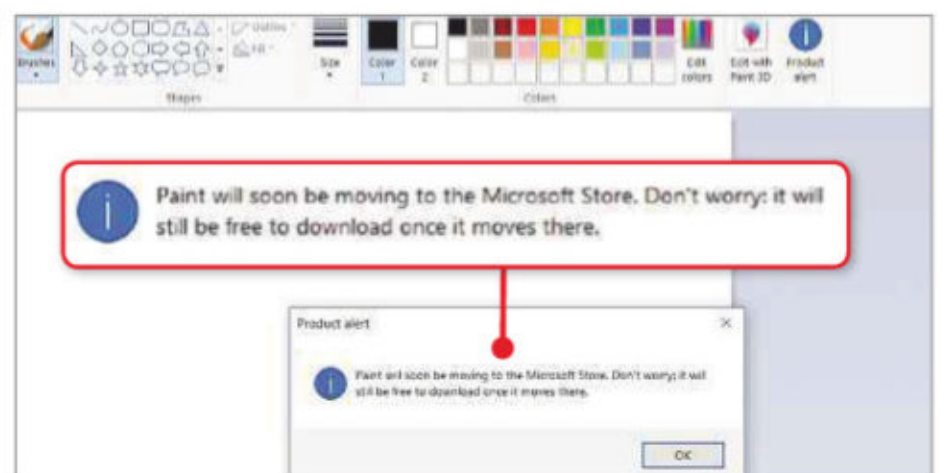
Microsoft might be thinking twice about removing its MS Paint program from Windows 10 after it took down a message telling users it's being replaced with an app.

It announced in July 2017 that MS Paint would be "deprecated", meaning it wouldn't be developed further. In April 2018 it added a 'Product alert' to the program saying it would soon be replaced by a free app

downloadable from the Microsoft Store (see screenshot).

That message has stopped appearing in the latest preview build for the next Windows 10 update (version 1903, due in April), suggesting Microsoft is considering keeping MS Paint built into the operating system.

Long term, Microsoft wants users to switch to Paint 3D,



which launched in April 2017. This contains more advanced features, including tools to

build 3D models, but many users have stuck with MS Paint because of its simplicity.



You'll like this...

A woman's lost USB stick was found in seal faeces (www.snipca.com/30687)



but not this...

A new system to halt money-transfer scams might be delayed (www.snipca.com/30717)

UK shows EU proof China hacks Western companies

The UK has shown evidence to the EU claiming to prove that hackers backed by the Chinese government have attacked Western companies, prompting officials in Brussels to consider retaliation.

Sources at the meeting at the end of January said the UK Government accused the hacking group Advanced Persistent Threat 10 (APT 10) of targeting companies in construction and engineering, aerospace, and telecoms in a bid to steal military and intelligence secrets.

Officials discussed potential responses, such as sanctions against China. This would require EU countries to agree unanimously that China was responsible, and currently some doubt the UK's evidence. The issue is likely to be raised during the EU-China summit in April.

The evidence against APT 10 is part of a wider clampdown by Europe and the US on alleged hacking by China. In



December, the US Justice Department accused the group of infiltrating companies around the world in attempts to access sensitive information and steal intellectual property.

China strongly denied the claims, saying there were “unfounded and groundless, driven by ulterior motives”. It called for countries to stop “defaming” China in order to maintain good relations.

The claims came as the US stepped up pressure to get European countries to boycott Chinese firm Huawei, which makes smartphones and mobile networks.

US Secretary of State Mike

Pompeo warned European countries that using Huawei technology to build 5G services could damage their relationship with the US.

In January, the FBI director Christopher Wray announced 23 criminal charges against Huawei, including paying bonuses to workers who stole confidential information from companies.

Both New Zealand and Australia have banned Huawei from working on telecoms projects, and the UK looks set to follow suit following reports ministers are planning laws that prevent Chinese firms from investing in “strategically significant” UK tech projects.

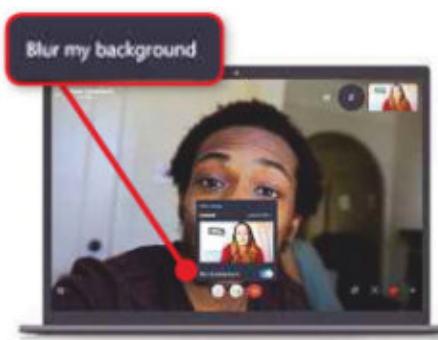
Blur backgrounds in Skype videos

You can now blur your background when making video calls in Skype's PC program. The service uses artificial intelligence to recognise your hair, hands and arms, keeping you the focal point of the video.

Microsoft announced the new feature in its blog ([www.](http://www.snipca.com/30641)

[snipca.com/30641](http://www.snipca.com/30641)), but added that while it does its best to “make sure that your background is always blurred”, it doesn't offer a guarantee.

The company said that because blurring is a software effect, it won't work with computer processors that lack the ability to handle it.



Blurring isn't dependent on hardware, so should work whichever make of webcam you use.

To switch it on, right-click your mouse or hover your cursor over the video button, then select 'Blur my background' (see screenshot). It's available only on PC versions of Skype, not Android or iOS.

MICROSOFT KILLS SKYPE 'CLASSIC'

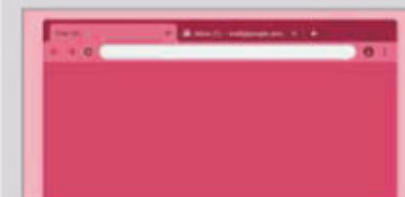
Microsoft no longer lets people use Skype 7, commonly known as Skype Classic, forcing them to update to Skype 8 instead. If you try to launch Skype 7 you're told to 'Update Skype Today' or quit the program. Microsoft first tried to kill off Skype 7 last September, but backtracked after many users complained that several popular tools hadn't been included in Skype 8.



IN BRIEF

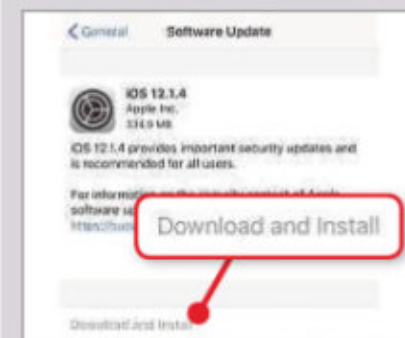
GOOGLE RELEASES ITS FIRST CHROME THEMES

Google has released the first ever official themes for its Chrome browser, letting you change its colour. The 14 styles include 'Just Black', 'Banana', 'Honeysuckle' (pictured) and 'Pretty in Pink'. You can install them from the Chrome Web Store: www.snipca.com/30686.



UPDATE IPHONE TO FIX FACETIME FLAW

Apple has updated iOS on iPhones and iPads to fix a FaceTime security flaw that let people listen to and see you without you even accepting their call. If you've yet to install the update (12.1.4), do so by tapping Settings, General, Software Update, 'Download and Install' (pictured).



TOMORROW'S WORLD

Has the rise of artificial intelligence been exaggerated? In a recent debating competition in San Francisco, Londoner Harish Natarajan

(pictured) beat IBM's Miss Debater computer, despite the latter having access to 10 billion sources of data. Watch the contest at www.snipca.com/30691.



IN BRIEF

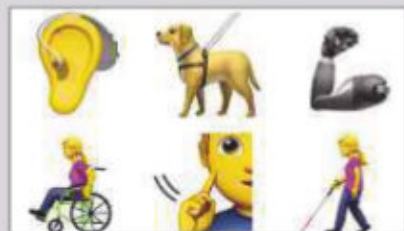
THREE OFFERS UNLIMITED 4G DOWNLOADS

Phone network

Three has launched its first home mobile Wi-Fi package to offer unlimited downloads. Called HomeFi, it provides broadband to the home via 3G and 4G, instead of cable. Customers will be sent a B311 Huawei router, which connects to up to 32 devices (2.4GHz only). It costs from £22 per month on a 24-month contract term. Visit Three's site for details: www.snipca.com/30594.

NEW EMOJIS SHOW DISABLED PEOPLE

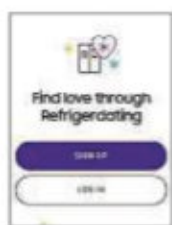
Disability rights campaigners have welcomed new emojis of characters in wheelchairs, wearing hearing aids and holding white canes, as well as guide dogs and prosthetic limbs (pictured). They should become available on phones in the autumn.



THE WORLD'S GONE MAD!



Do you love Tibetan yak cheese, and want to share your life with someone else who loves it? Then you need to take up 'refridgerdating' using Samsung's new app (www.refridgerdating.com). It scans your fridge and looks for partners who have similar food – as long as you have a smart fridge costing £3,599. Think how much yak cheese that would buy.



Sorry, excuse me, did you know UK is the politest country online?

The UK has the politest internet users in the world, according to Microsoft's latest survey on how civil people are to each online.

It comes ahead of 21 other countries in Microsoft's 'Digital Civility Index' for 2018, which measures how safe teens and adults feel when using the web.

The US is the second politest country online, ahead of France in third. Peru is the least civil, just below South Africa, Chile and Russia.

The research asked people about their exposure to a number of online dangers



across four categories: reputational, behavioural, sexual and personal/intrusive.

Globally, people are behaving better to each other, Microsoft says. Its index – in

which a lower score means a greater level of civility – now stands at 66 per cent, two points lower than in 2017.

Unwanted contact such as online harassment is by far the biggest risk across all age ranges and countries, with 40 per cent saying they had suffered it.

Writing online (www.snipca.com/30586), Microsoft's Chief Online Safety Officer, Jacqueline Beauchere, said that after feeling threatened on the web people became "less trusting of others both online and off".

Alongside the research, Microsoft called for people to follow 'Digital Civility Challenge' principles, including treating people online with "dignity and respect"; respecting differences and "avoid name-calling" when disagreeing; and supporting those who are "targets of online abuse or cruelty".

PEOPLE BLAME VICTIMS NOT ABUSERS

Microsoft's research may suggest the UK is a cordial place online, but a new study from Glasgow Caledonian University and the University of the West of Scotland found that people are more likely to blame victims for receiving online abuse than censure the perpetrators for sending it.

Researchers carried out the test by creating fake Facebook profiles and posting abuse on them, then asking participants how much the victim should be held responsible for provoking the comments. People were more sympathetic to victims considered attractive.

Virgin tests 8GB broadband

Virgin Media is testing 8Gbps (8,000Mbps) broadband in Cambridgeshire, letting users download a high-definition 5GB film in just five seconds.

The six-month trial will involve eight homes in the village of Papworth, which has a population of 3,000, though Virgin hopes to extend this to 50 homes. Virgin previously used Papworth for successful 1GB trials in 2014.

However, Virgin says it has no plans to roll out 8GB broadband beyond Papworth,

so for now the trial is most likely a way to test the potential of its fibre-to-the-home (FTTH) broadband.

The trial runs on an ethernet passive optical network (EPON), which offers the same speeds for downloads and uploads. It means users will be able to upload 300 high-resolution photos totalling 3GB in just three seconds.

New router hardware and software have made such speeds possible, though most existing devices can't handle

anything above 1Gbps.

Virgin said that as the amount of data customers use online doubles every year, such trials "will ensure we have the capability to meet the demand of data-hungry services in the future".

There have however been faster trials in the UK. London-based ISP Hyperoptic tested 10GB broadband last year in the former Olympic village in east London.



Microsoft: *don't* buy Office 2019 – but still give us your money

Microsoft has launched what appears at first to be a surprising advertising campaign urging you *not* to buy Office 2019, but subscribe to Office 365 instead.

It shows identical twins using the two versions of Office software to perform tasks, including design PowerPoint slides, fill out an Excel spreadsheet and write a CV in Word.

In each case the twin using Office 365 completes the task faster than their sibling using Office 2019.



The adverts are part of Microsoft's long-term strategy of encouraging users to pay a monthly or yearly fee to subscribe to the web-based Office 365, rather than pay just once to download Office 2019.

It stands to make more

money, and create more loyal customers, by charging £60 a year for Office 365 than £119 for a one-off download of Office 2019. When Microsoft launched Office 2019 in September it insisted the release

wouldn't be the final downloadable version, but some might think the Twins adverts suggest otherwise.

In a blog post (www.snipca.com/30624) containing the adverts, Microsoft's Jared Spataro said Office 365 "crushes" Office 2019.

He added that the main advantage of Office 365 is that Microsoft continuously updates its tools, while Office 2019 is "frozen in time", stuck with the same tools it had at launch.

You'll find Microsoft's prices for its different editions of Office at www.snipca.com/30623.

STOP USING INTERNET EXPLORER TOO

Not content with putting people off Office 2019, Microsoft has reiterated why using Internet Explorer (IE) is a bad idea. Chris Jackson, who works in cyber-security at the company, wrote a blog explaining the "perils of

using Internet Explorer as your default browser" (www.snipca.com/30643), saying it no longer works with the latest web standards. Though aimed at businesses, his advice is equally relevant for home users.

NHS could use Echo to spot suicidal signs in users' voices

The NHS should use smart speakers like Amazon's Echo to detect signs of suicidal thoughts in a person's voice, a government report has suggested.

Devices would also be able to spot deterioration in the condition of people with asthma, diabetes or high blood pressure via sensors attached to their body, warning them to take medication or sending an alarm to their nearest hospital.

The plans come in the Topol Review (<https://topol.hee.nhs.uk>), commissioned in 2017 by former Health Secretary Jeremy Hunt to explore how the NHS could benefit from technological change.

Led by US geneticist Dr Eric Topol, the report predicts that in some cases artificial intelligence will make more accurate diagnoses than doctors, freeing them up to spend more time with patients.

Robots could be used to speed up repetitive tasks like dispensing drugs, the report said, as well as assist doctors during surgery. It claims such technology will save 5.7m hours of GPs' time across England every year, noting that some hospitals already use speech-recognition software to save doctors from writing notes.

The report also calls for fresh training for staff, saying



that within 20 years 90 per cent of NHS jobs will require digital skills.

It stressed that new technologies will *aid* medical staff rather than replace them, a point reiterated by Health Secretary Matt Hancock. He said: "Technology must be there to enhance and support clinicians. It has the potential to make working lives easier for dedicated NHS staff and free them up to use their medical expertise and do what they do best: care for patients".

IN BRIEF

FIREFOX TO BLOCK AUTOPLAY VIDEOS

Mozilla says Firefox 66, due to launch on 19 March, will mute videos that play automatically on websites.

If you want to permanently reverse this on a particular site, you'll need to click an icon in



Firefox's address bar and select the 'Allow' option (see screenshot). Read Mozilla's blog for more details: www.snipca.com/30580.

GOVERNMENT SCRAPS 5G TRAIN TEST

The Government has scrapped plans to test 5G on the TransPennine Express train route between Manchester and York. Digital Minister Margot James said installing the requisite masts would prove too expensive. The trial was part of a scheme to introduce 1Gbps speeds on all mainline train routes by 2025. However, National Rail is on schedule to lay fibre-broadband cables along the route by May this year.

MORE TIME TO DOWNLOAD FLICKR PICS

Flickr has extended its deadline for users to download their photos before they're deleted. You now have until 12 March to either download them or upgrade to Flickr's Pro package (£5.99 a month or £47.88 a year). If you do neither, Flickr will wipe all but the first thousand photos you uploaded to the site. The original deadline was 5 February.

Is the BBC's news website killing local papers?

A review suggests it might need to cut back on what it reports

When *The Harlow Star* closed earlier this year, the local MP noticed the impact immediately. Robert Halfon, a Conservative MP who chairs the Education Select Committee, said elderly people were so starved of local information they rang his office for news updates. Many older people don't have access to online news, he added, and feel "isolated" when their local paper rolls off the presses for the final time.

He was accused of overreacting by calling it a tragedy for the local community, but it's being repeated throughout the UK. The figures are startling. Since 2007 a quarter of local papers – about 320 – have closed, capitulating in the face of



THE FACTS

- A report into the future of the media says Ofcom should consider setting boundaries on what the BBC can report
- A quarter of all local newspapers (320) have closed in the past 10 years, as people turn to the web for their news
- One MP said people rang his office for local news after their papers closed

“ Since 2007 a quarter of the UK's local papers have closed, capitulating in the face of falling sales and ad revenue ”

plummeting sales and decimated advertising revenue.

There's little doubt the internet is to blame. As millions of readers moved online, advertisers eagerly followed. But *which* websites are they going to? Clearly many people now get their news from Google and Facebook, but a new government-commissioned report into the future of the media suggests the BBC's online news output is also

grabbing many readers that once depended on their local weekly.

The Cairncross Review (www.snipca.com/30705), led by former journalist Dame

Frances Cairncross, examined ways to protect, fund and sustain quality journalism. While the report wasn't asked to comment specifically on the BBC, it found that the corporation “could do more and think more carefully about how its news provision can act as a complement, rather than a substitute, for private news provision”.

In other words, the BBC may need to do more to guarantee the future of other news providers, like local

papers, rather than replace them.

Dame Frances also recommended that Ofcom examine whether the BBC is abandoning its “core purpose” by reporting on stories that should be left to private media companies. This is the kind of ‘soft news’ about celebrities, interests and lifestyle trends that the BBC's critics say lies outside its public charter.

The Sun, rarely a friend of the BBC, interpreted the review as an attack on the corporation's “taxpayer-funded online news empire”. But that's overstating the report's findings. It noted that because the BBC's charter also instructs the corporation to reach all ages, lifestyle stories are necessary to attract a younger audience increasingly switching off traditional sources of media.

Former BBC director general Greg Dyke agreed, saying it would be a mistake to cut its content “at a time when large American media companies

– the likes of Netflix and the rest of it – are going to come to dominate in the world”.

Others, including Labour's deputy leader Tom Watson, said the real problem was Google and Facebook's dominance of the online ad market. The report addresses this concern by asking the Competition and Markets Authority to investigate whether the tech giants' ‘duopoly’ is unfair.

Fears that the BBC harms local papers are not new. It responded to past criticism by adding links to local newspaper websites at the bottom of its regional news. Visit www.snipca.com/30706, click a region, then scroll to the bottom. Every click earns the paper advertising money.

But it's unlikely this will be enough to prevent regulators scrutinising the BBC's role. As anxieties grow about the decline of local journalism, the government may target more sites than the usual scapegoats of Google and Facebook.

Protect your tech

Scams and threats to avoid, plus new security tools

WATCH OUT FOR...

Scam voice messages as .EML files

What's the threat?

Sophisticated criminals are sending **phishing** emails containing voice messages as attachments, with subject lines such as 'PBX Message', 'Voice:Message' and 'Voice Delivery Report'.

The voice message is saved as an **.EML** attachment (see screenshot), which is itself an email. Clicking it shows a message that claims to come from RingCentral, an online phone system used by many companies.

The message lists details about the voice message to make it appear genuine, including the time it was made, how long it lasted, the caller's country code and part of the caller's number. It appears as a preview in Outlook, making it look more legitimate still, while the 'Terms of Use' link goes to RingCentral's actual website.

To hear the message you have to enter your password, at which point something interesting happens: no matter what you type, you're told that your password is



incorrect and asked to retype it. The attackers may be aware that some users deliberately type an incorrect password when they're suspicious of a login page, because if it's accepted it proves the page is fake.

It's also possible that the fraudsters simply want to make sure they have the correct password for your account. The actual voicemails are likely to change, but one current message is from an elderly British woman calling herself "Eileen's cousin" who is "calling to find out how she is".

How can you stay safe?

If you play the voicemail you can safely ignore the message, but you must change your Outlook email address and password. To avoid this predicament in the first place, make sure your scepticism always overrules your curiosity.

Researchers at US security firm EdgeWave (www.snipca.com/30543) say that .EML files won't be blocked by some antivirus tools, so it's doubly important you keep your wits about you.

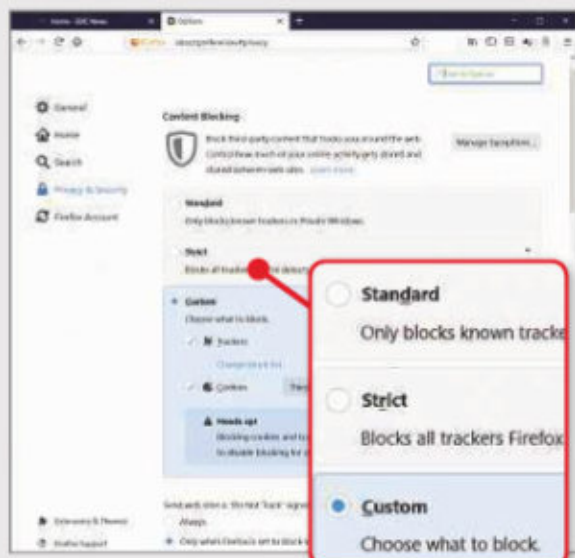
New tools | Firefox Content Blocking

Boosting your privacy online requires compromises. If you block *all* online trackers and **cookies**, for instance, you'll stop some websites remembering who you are, forcing you to type your login details every time. On the plus side, they won't know where else

you've been online, so you'll see fewer personalised adverts.

This is the balance you need to consider when deciding which trackers to allow in Firefox. The browser's updated Content Blocking options come in three levels of strength (see screenshot): the default 'Standard' setting, which will be right for most people; the 'Strict' level, for users "who want a bit more protection and don't mind if some sites break"; and 'Custom', for those who want "complete control" over what trackers do.

To access these settings, click the small 'i' icon in Firefox's address bar, then click the cog icon to the right of Content Blocking. Mozilla, which runs Firefox, explains more in its blog: www.snipca.com/30531.



ScamWatch

Readers warn readers

DVLA scams hit phones

I've noticed many scams I used to get by email are now being sent as messages to my phone. The latest was the classic scam supposedly from the DVLA saying my car tax payment has failed. It tells me to click the 'Update and verify your billing details' link in order to avoid a £1,000 fine. The message is well written, with no spelling or grammatical mistakes (none that I could see anyway). I think therefore it could fool many people, particularly those who don't realise scammers now target phone users as well as PC users. Here's DVLA confirming it's a scam: www.snipca.com/30522.

David Forshaw



Warn your fellow readers about scams at letters@computeractive.co.uk

Letters

Tell us what's on your mind

Don't force difficult tech on disabled people

✉ The News story in Issue 547 (page 9) about Ofcom warning that disabled people are being left behind by modern technology was rather pertinent in view of my experiences over the past few days.

I received information included in my trade magazine regarding the alleged high incidence of overpayment to HMRC by retired people on PAYE. I thought I should check, but was met with two days of complete frustration. I am 78 and my wife is 75 - both disabled. I have problems that prevent me using a telephone. I do not bank online, nor do we have telephone banking.

I tried to use the Gov.UK online system (www.snipca.com/30644) to check my tax via Experian, but fell at the last hurdle. I had to ring my bank and ensure a payment of 0.01p had been made and quote a number. Of course, this was not possible. HMRC was no help because its answer was so confusing. Experian told me to take up my complaint with HMRC. I have written to them asking them to check my tax liability.

Now I apologise if I have been too simplistic, but when will people accept that not everyone can cope with modern technology? We are not Luddites, just old people who have problems and who need an alternative to the idea that everybody has the latest technology. I can just about manage my Windows 7. Thank you for taking the time to read this.

Edmund Hobby

Trust Facebook with fake news? You're pulling my Clegg!

✉ I often read that in this era of Brexit and Trump political satire is impossible or dead. More proof came in Issue 547 of *Computeractive*, where I read that Nick Clegg (who now works for Facebook - when did *that* happen?) will decide what counts as fake and real news on Facebook (News, page 8).

I don't want to get into a debate about the merits or otherwise of Brexit (Lord knows I've had enough arguments in the past few years!). But if I had to write a list of people I'd trust to be judge and jury on what comprises proper news, Nick Clegg would be at the very bottom.

It unsettles me that Facebook, which



has a huge influence on what people think, has hired a politician to hold such a vital role. Is he really the right person to impartially assess the reliability of news? Surely he'll be tempted to treat news he disagrees with (he mentioned 'immigration') more harshly than reports he approves of.

Anthony Porter

Phones at bedtime? Comics didn't hurt my Eagle eyes

✉ I wonder whether parents' and teachers' fears about children taking phones to bed are overblown (News, Issue 547, page 7). When I was a child I used to hide a torch under my pillow and read the latest *Eagle* comic (pictured), sometimes spending a couple of hours flicking through, unbeknown to my parents.



Many of my friends did the same - and if we'd had phones back then, I'm sure we'd have also sent excited texts about Dan Dare's battles with the Mekon late into the night. Or maybe taken 'selfies' holding the latest front cover.

I don't want this letter to turn into one of those 'Well, it didn't do me any harm' nostalgic meanderings, but I can't stop myself. It really *didn't* do me any harm! I accept that staring at a screen at night probably affects the brain differently to squinting at a comic, but I suspect most concerns are based on uncertainty about what technology is doing to children than any hard evidence.

John Hales

✉ I showed the news story about kids using phones in bed to my son, who's a teacher. He told me a story about a 13-year-old who kept falling asleep during his lessons. My son asked him why he was so tired all the time, and he said it was because he's texting his mates until 11pm most nights. When asked whether his parents try to stop him, he replied that they're even worse, and are often glued to their screens until well after midnight. Therein lies the problem: when

Thanks Consumeractive, you got me new headphones

✉ I was most grateful to read about the Sony MDR-1000X headphones fault in Issue 542's Consumeractive. I bought these headphones (pictured) and about four months later one side broke off and on careful inspection I could clearly see stress lines on the joints.

I contacted Amazon and advised them of your report. Two days later I got a brand new pair with a free return

label for the old pair. If these also fail, I will ask for a credit note that I can put towards a different make of quality headphones.

This one piece of information has saved me more than my subscription to *Computeractive* for two years, so many thanks.

Michael Brumby

CA SAYS Our pleasure Michael. The best thing about Consumeractive is that the advice we give



isn't useful just to the person who emails us. Other readers can check whether our advice applies to them, and can pursue a refund accordingly. Please let us know if any recent cases have helped you.

parents set such bad examples, can we blame children for copying them?

Alan Stockwell

'Insulting' to teach women separately from men

I couldn't agree more with Ruth Evans (Letters, Issue 547) when she called GCHQ's all-women cyber-skills classes "patronising". I'm fed up with the tech elite treating women as a special case just to appear politically correct.

I mentioned GCHQ's plan at my local library, where I run a well-attended and enthusiastic computing class (roughly split 50-50 male and female). I asked jokingly whether I should set up a new class just for the women. They all looked at me as though I was mad. I hope GCHQ thinks twice. It's worse than patronising – it's insulting. It will have the opposite effect anyway, probably putting off more women than it attracts.

Helen Adams

Bad Apple harvest when global warming hits

I'm delighted for Apple that it thinks storms caused by global warming will boost iPhone sales (News, Issue 547, page 7), but how precisely does it intend to deliver signals to people forced to live under water?

Sorry Apple, nobody will care about your overpriced gizmos when they're struggling to find the basics needed for survival.

Eric Hayworth

Access all areas

In Issue 547's Letters you asked readers whether we wanted tips on Microsoft's database program Access (www.snipca.com/30645). Like reader Peter Stevens, I too use Access 2010 for cataloguing a vast music collection, and would appreciate detailed information and advice on reliable alternatives.

Robert Fairbairn

I endorse Peter Stevens' comments about advice needed to ensure Access users can continue using this program. I use Access 2002 for several of my own internal data collections, books, music recordings, garden plants, addresses, labelling and more. Setting up a new database using Access is quite easy, and I don't want to lose this facility.



STAR LETTER

I want a solid, not 'featherlight' laptop

I was delighted to see the article, 'Do I Really Need a 17in Laptop?' (Issue 546, page 25) because it answered a long-standing question for me.

At present I have a four-and-a-half-year-old Dell Latitude E6530 laptop (pictured) with Windows 7, which I am very attached to and use like a desktop PC. It does everything that I require of it quite effortlessly, such as running Office programs and photo editing.

However, because support for Windows 7 ends in 2020, I had decided to buy a replacement, possibly halfway through this year in order to familiarise myself with Windows 10 before I actually *had* to start using it.

I went on to Dell's website (I've always had Dells) to buy a 17in replacement but found to my dismay that unless I wanted a gaming laptop such a thing didn't exist. I don't need a featherlight laptop I can carry around, but a solid machine, complete with 17in screen and DVD disc drive.

I think I will hold off from buying a replacement for the time being to see if



a manufacturer comes up with what I want. If not, then I'll turn to companies that allow you to build computers/laptops to your own specification.

I have read your wonderful magazine practically since it first came out and owe you all a great debt of gratitude for all it has taught me in the world of computers.

Margaret MacEachern

CA SAYS Thanks Margaret. Do other readers share her frustration at the trend for laptop makers to prioritise weight over features?



The **Star Letter** writer wins a **Computeractive** mug!

Please at some time soon could you offer advice on keeping it going as a legacy program if and when necessary.

John Riley

Google gobbles up too many companies

It looks as though Google is finally going to close down the pathetic Google+ service. Now we only need to close Facebook, LinkedIn and Twitter then the world will be a far better place. I have come to despise companies such as Google and Microsoft who gobble up other smaller companies and then start to integrate these into their mainstream business.

I want apps and services I use to be discrete, and not pop up in other services. It's sad to hear that WhatsApp is now getting closer and closer to the dreaded Facebook. It will soon be time to change to Telegram (<https://telegram.org>) I think.

Ron Hagley

Like Jonathan Powell (Star Letter, Issue 547), I'm a big fan of WhatsApp, and use it to talk to friends, family and former work colleagues. But I was perturbed by the news that Facebook is planning to "merge" it with Instagram and its own Messenger service. Does this mean WhatsApp will be plagued by lots of drivel from Facebook, with all the privacy risks that entails?

Bernard Fairweather

CA SAYS It's hard to predict the repercussions of Facebook's decision to merge their messaging tools. Its aim is to let users of one app send messages to those using another without having to switch services. So for example, WhatsApp users will be able to send messages to Instagram users without leaving WhatsApp (and vice versa). As long as you can block people, this shouldn't mean receiving endless messages from others, but will people ever trust Facebook's motives again?



We stand up for your legal rights

Can I get a refund for goods stuck at customs?



Q I bought a Xiaomi Mi Note 2 phone for £241.68 from GearBest (www.gearbest.com) at the end of August last year, which appears to be stuck with German customs. Initially, GearBest insisted I'd received the phone but accepts now that I didn't. But until it investigates with the courier DHL, it won't give me my money back. PayPal refused my claim for a refund because GearBest said the phone had been delivered. What can I do?

Phil Skelton

A We'll contact PayPal on Phil's behalf with the proof he's given us from GearBest that it's now admitted the phone was never delivered to him. Luckily, he's still within the 180-day time limit to make a claim.

We've also contacted GearBest to point out that it should've given Phil a refund or sent him a replacement as soon as it realised the goods hadn't been delivered to him. It's so frustrating to have to keep reiterating to sellers that it's not the buyer's responsibility to find goods that are lost in transit.

As we've often found in similar cases, part of the problem is that the retailer is based outside Europe – in this case Hong Kong. It has a website specifically targeting UK customers and so should abide by UK consumer law, but forcing it to do so won't be easy.

Phil could email the Chinese consumer protection organisation (www.cca.org.cn), but we've no idea if it will take any notice. For clarification, we've asked it whether it responds to complaints about Chinese companies selling abroad.



CASE ONGOING

Why won't Motorola upgrade my phone to Android 8?

Q I bought a Moto G4 Plus phone from Motorola in January 2017, partly because I was told in several emails it would be upgraded from Android 7 to 8 during the year. This did not happen despite promises from customer support. Can I get a refund?

Neil Bloom

A Phone makers give many reasons for not upgrading devices to the latest version of Android, including complaints from customers about problems with previous upgrades. But Motorola says that it upgrades phones "pending partner support", which means upgrades will arrive only when phone networks agree to deliver them.

We've asked Motorola to confirm this, and clarify why Neil's phone *still* hasn't been upgraded. Until we know this, it's hard to answer Neil's question about a refund. He might be able to argue that the phone isn't as described, or cite misrepresentation because of customer support's emails. It will depend on the validity of Motorola's justification in delaying the upgrade.

CASE ONGOING

CASE UPDATE

Missing card not found, but £738 refund issued



Despite channeling our inner Miss Marple, we failed to solve the case of the missing graphics card, but reader Phil Duscovitch-Davis has now received a full refund from Amazon (see Issue 546).

Last year he ordered the PNY GeForce RTX 2080 8GB XLR8 card for £738, along with a Linx Windows tablet. When the parcel showed up, there were two boxes inside – one with the tablet, the other with an empty space where the graphics card should've

been (and presumably once was).

We think it's odd that a passing thief would take the graphics card but not the tablet. Yes, the former is worth more, but the tablet would be easier both to use and sell.

At first Amazon refused to accept responsibility, saying that because the package had been signed for (albeit not by Phil) it didn't have to chase the missing card. But its responsibility ends only when the customer physically receives the item. It eventually realised this, and accepted

that it's more likely the card wasn't packed properly at its warehouse than it was stolen from Phil's doorstep.

So the case has had a happy ending, but here's a note of caution. Make sure you have complete trust in your neighbour if you agree with a retailer that they can sign for it on your behalf. Once your neighbour collects it, the retailer has completed its contract with you. If you then suspect the item has been stolen, the onus would be on you to contact the police.

Contact us so we can investigate your case

✉ **Email:** consumeractive@computeractive.co.uk
Please include your name, phone number and address.

Can Amazon Spain refuse to refund me?

Q Last November I ordered a OnePlus 6T mobile phone from Amazon's Spanish website (www.amazon.es) – it had sold out in the UK. I paid 630 euros and 10 days later received a pack of Lupilu baby wet wipes. Despite having to spend £10 to return the wipes and getting a crime number from Action Fraud, I can't get my money back. Amazon UK won't help, so can you?

Stephen Warwick

A We'll do our best, and will start by contacting Amazon UK, rather than its Spanish branch.



We're bemused why it's giving Stephen such a hard time because all Amazon sites worldwide offer the same buyer protection.

We understand that it needs proof that Stephen was scammed, but once he'd

provided this with a crime number it should've refunded him.

For future reference, we see no reason why you won't be able to contact EU consumer protection organisations whatever happens with Brexit. EU country laws are already slightly different to UK consumer law as it stands (UK laws are generally stronger). There's been no indication of changes to UK consumer laws, many of which have been based on previous EU directives. However, we'll update readers to any changes as and when the Brexit uncertainty clears.

CASE ONGOING

Can Amazon fob me off with a refurbished tablet?

Q I bought an Amazon Fire HD 10 tablet (pictured) in November, but it failed on 8 January. Amazon sent a replacement that's refurbished and faulty. I didn't want a refurbished tablet even if it *was* working fine, so returned it for a brand new device. Can Amazon fob us off with refurbishments after such a short time?

Lawrence Bradbury

A Yes, we think it can. Amazon appears to have followed the letter of the law, which is that after 30 days retailers can offer to repair or replace a faulty item. However, the law doesn't state a replacement must be new, justifying Amazon's decision to send a refurbished tablet. That said, refurbished goods must be of the same standard as the item they're replacing.

Lawrence received a faulty replacement, so he was entitled to a full refund, which Amazon has now issued.




He was keen to buy the tablet again, but felt it was unfair that since first buying the device its price had increased by £50. To its credit, Amazon offered to knock £50 off the price, which Lawrence accepted. He now has a new Fire tablet that's working well.

To be clear, Amazon didn't have to do this. Under law, it just has to make the customer 'whole again', which is put them in the position they were initially (in Lawrence's case, this would have meant being refunded the money he originally spent).

CASE ONGOING

CREDIT WHERE IT'S DUE

Email to British Gas boss fixed meter problem

 Last July after I switched from Scottish Power to British Gas. I became aware that my direct debit payments were insufficient to cover my usage. I emailed them several times asking to increase my payments, but nothing happened.

My saviour came in Issue 542's Letters, when reader Dean Stockton explained how to contact company bosses via CEOemail (www.ceoemail.com). I did this, and received an email from a British Gas employee, who

asked me to send photos of my meter. Two days later he said the problem was that I had two meters when I was with Scottish Power, and British Gas thought I still used these.

The assistant was apologetic and wrote off my debt of £588. He also added me to the British Gas Priority Services Team, which has a specific telephone number, meaning future problems will be dealt with immediately.

✉ Has a company impressed you with its customer service? Please let us know: editor@computeractive.co.uk

I am very grateful to Dean Stockton, and would like to thank British Gas for the excellent way they dealt with the problem.

Norman Clark

Contact:
British Gas

• **Phone:** 0333 202 9802
• **Support page:**
www.snipca.com/30547

Grow Your Family Tree



If your current genealogy software isn't up to the job anymore, follow **Nick Peers'** advice to...

Transfer files to a new program

In an ideal world, you'd never change the program you use to record your family history. But time moves on, and eventually you may decide – or be forced, in the case of reader John Roderick-Milne – to switch to new software. John emailed us for help after discovering his program Family Tree Legends wasn't compatible with Windows 10.

Transfer files in GEDCOM format

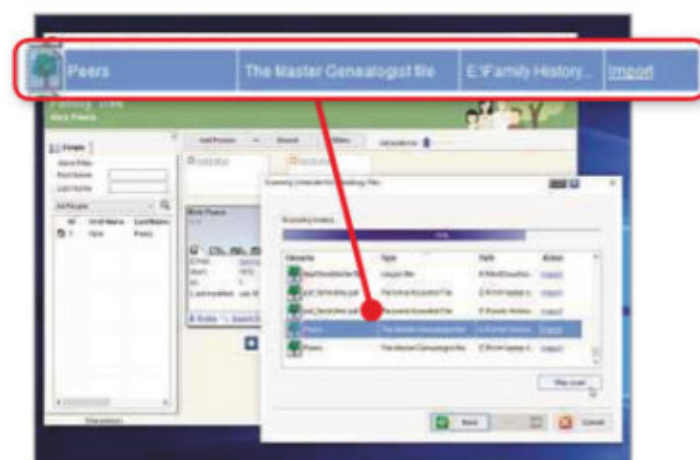
The most straightforward way to move your research from one program to another is via the universal **GEDCOM** file format (.ged). Almost all family-history programs let you both export and import

your family tree as a GEDCOM file.

It's a relatively straightforward process – in theory. In practice, not all programs handle GEDCOM files correctly, which can lead to parts of your research being left behind when you transfer it. The most common form of data loss is links to your images, which sometimes need to be manually uploaded to your new program and linked again.

Look for an option to export or save as GEDCOM in the File menu of your current program (see screenshot below left), then choose what to export. Most programs, including RootsMagic and Family Tree Maker, let you select which ancestors to include (leave this set to 'Everyone' to transfer your entire tree) and which data to export.

Check these options carefully before exporting to make sure everything you need to transfer is included. It's worth visiting the support section of your new program's website to see if it has any advice for importing GEDCOM from specific programs. For example, if you're switching to Legacy Family Tree, visit www.snipca.com/30437, where you'll find instructions for importing your data from most major programs.



Family Tree Builder lets you import files directly from many other programs

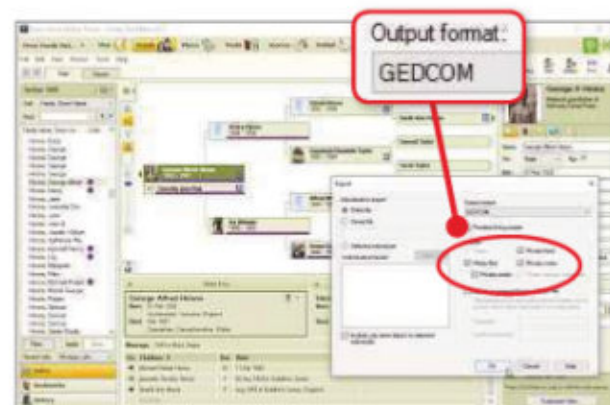
Once done, don't rush to remove your old program. You should wait until you've carefully checked that everything has been transferred. If lots of important data is missing, you may need to try exporting again, experimenting with different settings, or simply manually copying and pasting from the old program to new.

Import files directly

Some programs can import from others without having to use GEDCOM. This will narrow your options as to which program you can switch to, but it may be your only option if you no longer have access to your original software.

This was John's circumstances with Family Tree Legends, but we got lucky and discovered that MyHeritage.com's Family Tree Builder (www.myheritage.com/family-tree-builder) lets users directly import files from that program. It can also import directly from The Master Genealogist, Family Tree Maker (FTM), and Personal Ancestral File (PAF) among others (see screenshot above). John told us that it worked flawlessly.

Other programs that can import directly from rival products include Family Tree Maker (PAF and Legacy), RootsMagic (PAF, Legacy, FTM, Family Origins and The Master Genealogist) and Ancestral Quest (PAF only).



Make sure you tick all the relevant boxes when exporting your family tree as a GEDCOM file for use in another program

Your Genealogy Problems Solved

My cousin has developed an interest in family history and would like me to pass on my research (currently stored in RootsMagic). Is it possible to save only the shared portion of our heritage with him?

Francis Davies

Yes, most programs let you export only a specific part of your family tree as a GEDCOM file.

In RootsMagic, click File, Export, then

choose 'Select from a list'. Select your cousin and click the 'Mark group' box to bring up a dropdown menu and choose 'Ancestors of highlighted person'. Click 'Ancestors and descendants', set the number of descendant generations to '2', then click OK to mark common family members for sharing.



Have a genealogy question for Nick? Email letters@computeractive.co.uk with 'Grow Your Family Tree' in the subject line.

Best Free Software

Will Stapley recommends new programs that won't cost you anything

OFFICE SUITE

LibreOffice 6.2

www.libreoffice.org

What you need: Windows 7, 8/8.1 or 10

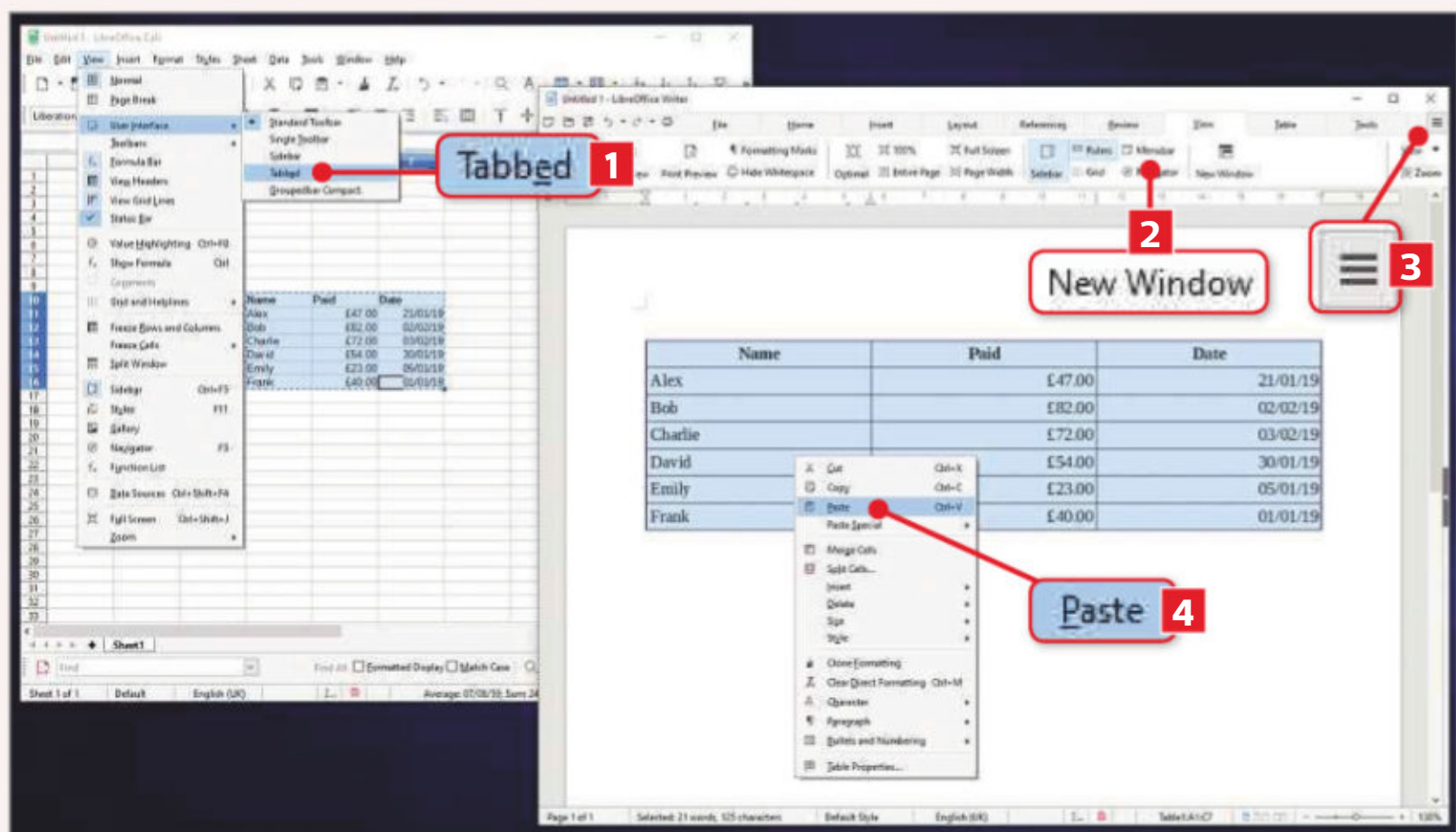
LibreOffice is a free office suite that provides everything most people need. Writer (documents) and Calc (spreadsheets) are the two stars of the show, but it includes presentation, drawing, maths formula and database tools.

The developers say version 6.2 of LibreOffice provides “a familiar interface for users coming from proprietary office suites”. Make no mistake, they’re referring to Microsoft Office here. And the new Tabbed toolbar (available within the User Interface section of the View menu) does indeed bear more than a passing resemblance to Microsoft’s version. LibreOffice veterans will be pleased to hear the new design is optional – if you don’t like it, you can revert to the old toolbar. Our only complaint is that once we changed to Tabbed, it wasn’t immediately obvious how to get back to the old version. We eventually discovered you need to click the Menu button (far right), then select User

Interface and then Standard Toolbar (see below).

Along with the new toolbar design, version 6.2 brings other improvements. Copying data from Calc spreadsheets to a table in Writer is now much easier. Previously, pasted cells would simply appear as an object in a Writer table, leaving you to cut and paste the data into the appropriate parts of the table. Now, however, LibreOffice automatically pastes the cells into the table so they appear just as they were in Calc.

Advanced spreadsheet users will be pleased to hear Calc now supports the REGEX function that’s long been a feature of Microsoft’s Excel. This lets you search for a specific string of characters within cells and, optionally, replace them. If you’re new to REGEX and want to give it a try, visit LibreOffice’s help page at www.snipca.com/30704.



1 You can enable the new Tabbed toolbar by clicking View, User Interface, then Tabbed. The setting will only affect the tool you’re currently using (such as Writer or Calc).

2 The new Tabbed toolbar will feel familiar to anyone moving from Microsoft Office. To show the standard menus at the top (File, Edit, etc), click View, then Menubar.

3 To turn off the Tabbed toolbar and revert to the old design, click the Menu button (three horizontal lines), then select User Interface, Standard Toolbar.

4 This version improves the process of copying text from a Calc spreadsheet, letting you paste cells directly into a table in Writer.



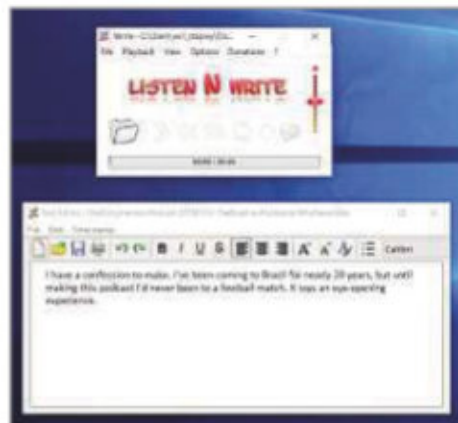
AUDIO TOOL

Listen N Write 1.21

www.snipca.com/30733

What you need: Windows 7, 8.1 or 10

If you've ever transcribed audio – such as from a podcast or a speech – you'll know how arduous it is. You have to constantly pause and rewind it while frantically typing what's being said, then spend time correcting mistakes. Listen N Write is a simple but brilliant tool that makes the process much easier. It comprises two windows: an audio player and a text editor. You load an audio file, click the Play button, then start transcribing in the text editor. When you type, the audio will automatically pause. Stop typing, and it starts playing again. By default, the audio will rewind by 0.2 seconds before resuming, but you can adjust this, and many other settings, in the Options menu. This latest version enlarges the text editor and fixes audio playback bugs.



EMULATOR

Windows95 2.0

www.snipca.com/30720

What you need: Windows 7, 8.1 or 10

This **emulator** gives you a fully working version of Windows 95 running within a window on your desktop. At 500MB it's a large download, but runs without needing any additional software. This version is based on a new Windows 95 **disc image** and adds support for audio. It also comes with some classic software installed, including the desktop-publishing delight Microsoft FrontPage and Netscape Navigator – a real blast from the past. To keep you entertained, you'll also find copies of classic games, such as Wolfenstein 3D, Doom and Grand Prix Circuit. For us, though, simply getting Minesweeper back was more than enough. Hopefully, the copyright owners of the emulated software (including Microsoft) won't demand that the program be pulled.



WHAT SHOULD I DOWNLOAD?

We tell you what software & apps to use

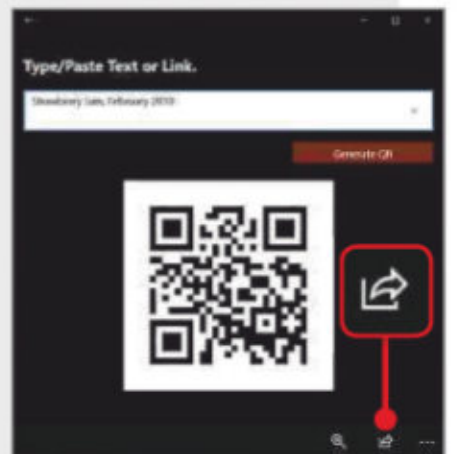
What can I use to create QR codes?

Q I would like to make **QR codes** for myself and my family. Can you please tell me what is the best free program for this?

Edward Bailey

A For anyone unfamiliar with QR codes, they're the square, black-and-white boxes that sometimes accompany adverts (particularly those on public transport). Scan them using your phone and you'll be directed to whatever website the advertiser wants to push you to. But you can also make them for everyday use, such as to label jars of homemade produce; scanning the code could reveal the ingredients, date it was made, and any other information you want to include.

'QR Code for Windows 10' is one of the simplest programs to create your own codes. As its name suggests, you need Windows 10. It's also a Windows app, so has to be downloaded from the Microsoft Store (www.snipca.com/30716). Once loaded, select 'Generate a new QR from Link or Text', then type whatever you want the QR code to store. Click the Generate QR button and you'll see your QR code. To save it, click the Export button (curved arrow icon, bottom right – see screenshot). If you use Windows Mail, click Mail to email it to yourself. Alternatively, choose 'Snip & Sketch', then click Save (floppy disk icon, top right). The QR code will be saved as a **PNG** file.



Alternatively, there are some great free apps that let you create QR codes using your phone or tablet. For Android devices, try QR Code Generator (www.snipca.com/30718). Simply type the text for the QR code, tap Generate, then the Save button (floppy disk icon, top right).

For iOS devices, give 'QR Reader for iPhone' a go (www.snipca.com/30719). Tap the down arrow (top right), QR code icon (bottom), then the plus button (top left). To create a simple QR code, select Text from the list, enter the text, then tap Create. Finally, click the Share button to save the QR code.



Do you need our advice on what software to use? Just email us at letters@computeractive.co.uk

HOW I USE...

Paint.NET

Will Stapley on Paint.NET's perfect mix of simple design and powerful features



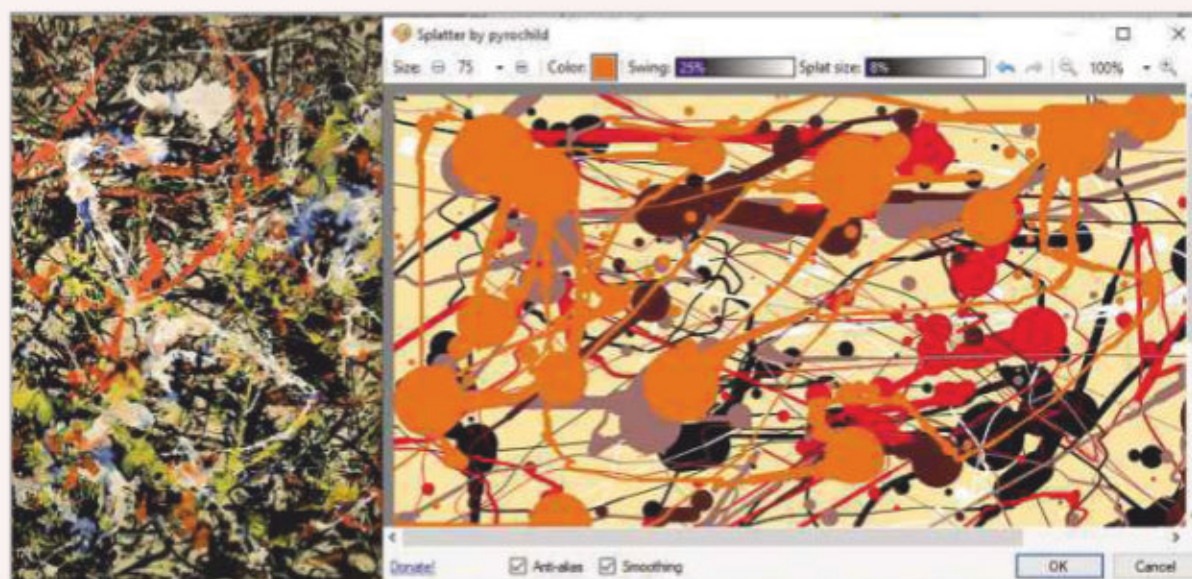
In Issue 547's 'Download the web's best-kept secrets' Cover Feature (see page 53), we revealed how to download astonishing, high-resolution images of outer space as seen by the Hubble Telescope. Keen to find out just how detailed the photos were - and create some new artwork for my lacklustre lounge - I downloaded a huge 1GB TIFF of the Triangulum Galaxy.

I opened the image using my usual image editor GIMP (www.gimp.org), but the file's sheer magnitude made loading and editing painfully slow. And so I abandoned GIMP and opened the same image in Paint.NET (www.getpaint.net). The improvement was immediate. While GIMP took 25 seconds to load the image, Paint.NET did the job in eight.

And so on to the editing. Paint.NET breezed through a 90-degree rotation of the image in three seconds (something GIMP had toiled over for 15 seconds). Saving the finished article as a JPEG was faster, too: nine seconds in Paint.NET, 30 seconds in GIMP.

To be fair, when dealing with standard smartphone photos (which are usually under 10MB), you're unlikely to notice much difference in performance levels between the two programs, but for large photos I'll default to Paint.NET from now on.

I've always been a big fan of Paint.NET because it's so easy to use. When I'm asked to recommend the next step

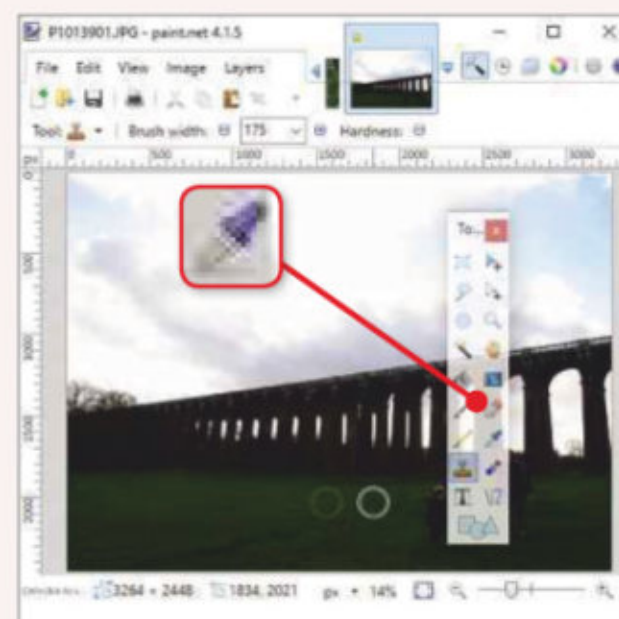


Spot the difference: Jackson Pollock (left), Will Stapley (right) courtesy of Splatter

up from MS Paint, I regularly suggest Paint.NET over more complex software. The menus are clear and uncluttered, and despite frequent updates it's retained a familiar feel throughout its 14 years.

That's not to say Paint.NET isn't powerful. It's got great advanced tools, such as Clone Stamp (click the 'stamp' button in the toolbar menu - see screenshot right), which lets me quickly remove everything from blemishes caused by dust on the camera lens to random passers-by ruining a perfectly good family photo.

Then there's the wide range of effects to choose from (built-in and **plug-ins**). Be careful, however. In 2014, criminals released a Paint.NET plug-in that promised to save you time by installing *all* available plug-ins in



The Clone Stamp tool lets me quickly remove blemishes or unwanted items from my photos

one go. Instead it installed a bunch of outdated plug-ins, and a nasty virus for good measure.

I therefore only ever download plug-ins from the official Paint.NET forum. Use the plug-in index at www.snipca.com/30694 to see what's available. My favourite is Pyrochild (www.snipca.com/30695), which provides a range of eye-catching effects including Splatter, letting me paint like Jackson Pollock but with none of the mess (see main screenshot above).

WHAT I'D LIKE TO SEE IN PAINT.NET

You can't move for iOS and Android image-editing apps. Adobe Photoshop Express (www.snipca.com/30696) is a decent free option for simple, but effective edits. Still, I'd love to see a Paint.NET app. Ideally one with an online-storage feature that lets me

begin editing on my phone or tablet, then seamlessly switch to my desktop PC for more nuanced tasks.

Sadly, I fear it may never happen - the developer has previously said he plans to focus on Windows at the expense of alternative operating systems.

Named & Shamed

Jonathan Parkyn puts the boot into tech villains, jargon-spouting companies and software stuffed with junk



WARNING: JUNK AHEAD

Junk offender: Windows 10 games

Until recently, I had forgotten quite how much I dislike the way Microsoft preinstalls Windows 10 PCs with apps I don't want, and then uses prominent areas of the operating system to try to sell me things I also don't want.



I vaguely recall spending quite some time uninstalling a range of useless apps and switching off advertising options on my own PC when I installed Windows 10 several years ago. It all came flooding back when I recently installed it on the old laptop my 10-year-old son uses for his homework.

Initially, all went well. The clean install of Windows 10 seemed to make the ageing laptop boot faster and run more smoothly than during its Windows 8.1 incarnation. The upgrade even appeared to have a positive effect on my son, who suddenly seemed much more willing to buckle down to his homework. Happy days.

Except, as it turns out, he wasn't doing his homework. Instead, he was playing



With distractions like these, can you blame children for neglecting their homework?

Candy Crush Soda Saga ¹ – a game that Microsoft often chucks into Windows 10. Cleverly, a certain someone had worked out how to switch off the sound, thus silencing the giveaway bleeps and tinkles of the game's soundtrack.

On closer investigation, I discovered a number of other unwanted apps and shortcuts in his Start menu, all seemingly designed to tempt video-game-loving kids away from their MyMaths. These

included a Minecraft icon ², an Xbox app ³ and a series of garish adverts for any number of enticing games ⁴.

Thankfully, Microsoft makes it relatively easy to prevent kids making unauthorised purchases. But it's annoying that parents need to go through Windows 10 with a fine toothcomb, removing unwanted apps and disabling intrusive adverts. They wouldn't have to if Microsoft didn't fill it full of junk.

WHAT ARE THEY TALKING ABOUT?



WHAT THEY SAY

Bluetooth Special Interest Group

www.snipca.com/30579

"The new feature allows devices to determine the direction of a Bluetooth signal, thereby enabling the development of Bluetooth proximity solutions that can understand device direction as well as Bluetooth positioning systems that can achieve down to centimeter-level location accuracy".

WHAT THEY MEAN

Bluetooth 5.1 lets users find lost items down to the centimetre.

JONATHAN'S VILLAINS OF THE FORTNIGHT

Aaron Stalberg & Keith Hancock



If you hate nuisance callers and mobile spam (and, frankly, who doesn't?), I've some good news for you. Last month, the Information Commissioner's Office (ICO) helped ban the bosses of two companies known to use illegal marketing tactics from forming new businesses.

Aaron Stalberg, managing director of The Lead Experts, received a six-year directorship disqualification, following his company's failure to pay a £70,000 fine for making 115,000 illegal

automated marketing calls.

Similarly, Keith Nicholas Hancock was handed a four-year ban after his company, Lad Media, sent more than 393,000 text messages, including to people who had specifically removed their consent.

Since December, amendments to the Privacy and Electronic Communications Regulations have meant that company bosses can now be found personally liable for abusing privacy laws. Not before time.

PC | £1,605 from PC Specialist www.snipca.com/30584

PC Specialist Vortex Adonis

Pretty quick

All the best premium PCs need to look like a fairground and have a name torn from the pages of 1970s pulp sci-fi. With its glass side and top panels and twin programmable multi-coloured LED fans kaleidoscoping away behind its mesh front, the Vortex Adonis doesn't disappoint. But what does it actually do to justify a price 60 per cent higher than the traditional thousand-pound desktop PC?

“It costs a lot of money, but you get a lot for your money”

The list of specifications isn't short of answers. Top of this list is Intel's i7-9700K, which is an **overclockable** ninth-generation processor. In this case it comes running at the factory rate of 3.6GHz, but if tweaking is your thing, you'll be pleased to hear we got it up to 5GHz without any problems thanks to the included water-cooling loop.

Even at the standard speed, this system blazed through our 'real world' general, creative and multi-tasking tests. If you'd expect a machine costing twice as much to finish tasks in half the time, you're probably underestimating the benefit of the £1,600 Adonis over an £800 PC.

That processing power benefits all kinds of work – all the more so because this processor isn't designed with only demanding tasks in mind. We can't say the same of the GeForce GTX 2070 **graphics card**, which accounts for over £450 of the total cost. Rather than offering all-round improvements over the popular 10 series, Nvidia's latest GPUs specialise in **ray tracing**, which is great if your priority is cutting-edge game graphics, but irrelevant if you want to speed up creative jobs like video production. A GTX 1080 would have been a better all-round choice. And because this is a discounted configuration, you can't swap, although creating your own Adonis (see www.snipca.com/30585) with a 6GB GTX 1060 saves £58.

A generous 16GB of memory and a fast **NVMe SSD** on the **M.2** interface help to avoid any bottlenecks. The SSD, an Intel 760p, reached 2,684 MB/s **read speed** and 1,546MB/s **write speed** in our sequential tests, which give a reasonable indication of the performance you can expect in practice with large files. We've seen quicker, but these are very good results. You're not fobbed off with just enough capacity for Windows and your favourite programs, either: the SSD has a sensible half-terabyte of space, supplemented by an inevitably slower but decent 2TB Seagate BarraCuda hard drive.

The case, a Cooler Master H500M, has an attractively chunky design and plenty of room inside, which contributes to a satisfyingly low noise level. The fans will spin up from their default low hum when



you push the processors harder, but we never found them intrusive.

Expansion is limited technically rather than physically, however, by the basic Gigabyte Z390 motherboard. Not only is there no second **PCIe** x16 slot for dual graphics (which isn't possible with the GTX 2070 anyway), but external ports are limited to 5Gbps **USB 3.0**, potentially a deal-breaker if you need to work with a lot of data at high speed – again, video editing being the obvious example. So this isn't a future-proof system, but for immediate power per pound you'd be hard pushed to do better.

VERDICT Expansion – both internal and external – is the compromise, but we can't knock what you get for your money

★★★★★

ALTERNATIVE

Scan 3XS Gamer RTX
£1,500 This similar configuration uses AMD's Ryzen 7 2700X chip, which is slightly slower overall



SPECIFICATIONS

3.6GHz Intel i7-9700K eight-core processor • 16GB memory • 8GB Nvidia GeForce GTX 2070 graphics • 512GB SSD • 2TB hard drive • 4x USB 3.0 ports • 4x USB 2.0 ports • Gigabit Ethernet • HDMI and DisplayPort monitor outputs • Windows 10 Home • 544x248x546mm (HxWxD) • One-year warranty www.snipca.com/30584



LAPTOP | £879 from HP www.snipca.com/30631

HP Omen 15

This augers well

'You've got places to go, plays to make, and power to proclaim,' says HP's blurb for this laptop. Have we? What? Just ignore all this nonsense, because the Omen 15 is a very good and surprisingly affordable gaming laptop that will serve many other purposes as well.

You wouldn't expect this kind of machine to be the thinnest or the lightest, and at 2.5kg it's a bit of a brick by today's standards. That's before you add the actual brick that connects it to the mains, which puts an extra 670g on the scales – a pound and a half in old money, making 7lb altogether. By the time you go to any place with this under your arm, all you'll be proclaiming is relief for back pain.

“Impressive speed and capacity, and a cinch to upgrade”

Still, it looks impressive, if a little plasticky, and you get a comprehensive set of ports, a nice clicky keyboard with four **LED** colour zones to remind you which keys are where, and a decent touchpad with proper left and right buttons. The screen is Full HD, which isn't super-sharp at this size but quite adequate, and its 144Hz **refresh rate** gives you a rock-steady Windows desktop as well as precisely responsive game graphics.

The graphics were generated, in our £1,499 test system, by an Nvidia GeForce



GTX 1070 GPU, assisting a feisty i7-8750H processor served by 16GB of memory, with a fast 256GB **NVMe SSD** and a 1TB hard drive providing speed and capacity for Windows, programs and files. Unusually, the bottom plate can be removed for access to upgrade the memory or storage later.

This configuration zoomed straight into powerful desktop PC territory in our tests, and did so without overheating, although the fans became loud and the battery couldn't be relied on for much more than three hours. Among laptops, you'd need to look at something like Acer's Predator Helios 500 (£2,099 from Currys www.snipca.com/30634), with an i9-8950HK chip, to go noticeably faster.

So this is a PC you could use for creative tasks like photo and video editing as well as games and work – except that the screen isn't very bright or accurate and shows visible colour shifts at slight angles. That's frustrating, but it's fine for games and general use, and overall we'd be happy to play with the Omen. Even the base model – with an i5-8300H, half the memory and SSD, and GTX 1050 graphics – is excellent value at £879.

SPECIFICATIONS

2.2GHz Intel Core i7-8750H processor • 16GB memory • 8GB GTX 1070 graphics • 256GB SSD • 1TB hard drive • 15.6in 1920x1080-pixel screen • Webcam • 802.11ac Wi-Fi • 3x USB 3.1 ports • Thunderbolt 3 USB Type-C port • HDMI and Mini DisplayPort outputs • Ethernet • SD card reader • Windows 10 Home • 25x360x263mm (HxWxD) • 2.5kg • One-year warranty www.snipca.com/30631

HOW WE TEST

Computeractive is owned by Dennis Publishing, which employs a team of specialist technical reviewers. You'll often read references to our benchmark testing, which is a method of assessing products using the same criteria. For example, we test the speed of every PC and the battery life of every phone and tablet in exactly the same way. This makes our reviews authoritative, rigorous and accurate.

Dennis Publishing also owns the magazines *PC Pro*, *Computer Shopper* and *Web User* and the websites Expert Reviews (www.expertreviews.co.uk) and Alphr (www.alphr.com). This means we can test thousands of products before choosing the most relevant for *Computeractive*.

FAIR AND IMPARTIAL

Our writers follow strict guidelines to ensure the reviews are fair and impartial. The manufacturer has no involvement in our tests.

OUR AWARDS



We award every product that gets five stars our Buy It! stamp of approval. It means we were

extremely impressed by the product, and we think you will be too.



Every product that gets a four-star review is given the Great Pick award. We highly recommend these products, although they just fail to meet the high standard of our Buy It! winners.

PRICES

Our reviews contain a link to the best price we found online at the time of press.

VERDICT Not a laptop you'll want to take everywhere, but one that will cope with almost any job you have in mind

★★★★★

ALTERNATIVE Razer Blade 15

£1,480 Much sleeker, but prices rise steeply if you want more than a 60Hz screen and GTX 1060



Which paper shredder?

They may not have fancy apps, but as the antidote to printers, shredders are still a key component of the well-equipped home office

Anyone who owns a PC and a printer should think about owning a paper shredder. No doubt somebody makes these with screens and Wi-Fi and apps, but that would be silly, so we've just reviewed regular units here.

The point of a shredder is to erase printed documents before disposing of them. This may be required if you handle sensitive information for work, but it's also sensible when getting rid of any papers that contain your own personal data, including bank statements, bills

and official notices. Of course, criminals aren't lurking behind every bin, waiting to steal your identity. But it does happen, and chucking out the exact kind of data that you'd use to apply for services, pay bills or pass security checks doesn't make a lot of sense.

Personal shredders vary in price from under £20 to over £100. Most are 'cross cut', chopping pages into rectangles or diamonds – much safer than single-cut 'ribbons'. 'Micro cut' models make smaller pieces, like confetti. Differences

include how many sheets you can insert at once, and whether it'll cope with staples, paper clips, and non-paper items like credit cards and CD-ROMs.

Run time will be limited to prevent overheating, which can be frustrating even if you don't shred very often but have a pile to get through when you do. To keep the blades working smoothly, you'll also need to spend a few pounds every now and then on oil or lubricating sheets, as recommended by the manufacturer.

£153 from Amazon www.snipca.com/30648

Amazon Basics 15-Sheet Shredder

No, 150 quid isn't our idea of basic either. But this is a relatively heavy-duty model that cuts up to 15 sheets at once into 4x31mm mini-ribbons, so even Putin's finest would have trouble reconstructing your tax return. It also handles clips and staples, has a separate input for discs and credit cards, can run continuously for 20 minutes, and has auto-reverse to clear jams. A big pull-out basket collects lots of pages. At over half a metre high and weighing 10kg, this is a hefty piece of kit, and comes with casters on



the bottom. It's overkill for many homes, but good for higher volumes.

RATING
★★★★★

£124 from Amazon www.snipca.com/30649

Fellowes Powershred 63Cb

A bit smaller than the Amazon unit (left), this is a fast shredder that can deal with discs and credit cards as well as staples and clips. Although the 10-sheet feed slot isn't quite as wide as Amazon's, it has a reassuring electronic sensor to stop the mechanism if any small fingers get too near. There's also a 'jam blocker' to stop you inserting too much paper at once. Maximum run time is eight minutes, followed by 20 minutes to cool down, and there's an energy-saving idle mode. The 63Cb cross-cuts to 4x50mm and has a good-sized pull-out bin.



RATING
★★★★★

£18 from Argos www.snipca.com/30653

ProAction 5 Sheet Shredder

If you're thinking, 'I should probably have a shredder, but I don't want to spend a lot on another gizmo that takes up space,' Argos has your back. This slim unit is for paper only, and you'll need to

remove any paperclips. It's quick, though, and quiet, with a reverse mode and a safety cut-out in case any fingers are small enough to wander into the narrow slot. A window shows when the bin is full,

which will be almost immediately, but for 20 quid this is a decent basic option.

RATING
★★★★★



£43 from Amazon www.snipca.com/30652

Rexel 2101942UK Style

Resembling a kitchen appliance, this compact unit has obviously had enormously more thought put into its design than the others. It's also easy to use and empty, although its bin will fill up faster. You can feed up to five

pages at once, including staples or paper clips, for shredding to 4x35mm, and credit cards are also accepted, but not discs (Rexel's 7- and 11-sheet versions have this same limitation). The catch, once again, is a short

two-minute running time, so it's best for occasional use, but this is a more attractive gadget to have around your study.

RATING

★★★★★



£44 from Amazon www.snipca.com/30650

Bonsaii DocShred C156-C

This low-cost micro-cut shredder reduces your paperwork to 4x10mm. It takes up to eight sheets, but is intended for fairly light use: it's not especially fast, and if you do feed multiple sheets at

once it may need to cool down after a couple of minutes. Credit cards will shred too, while discs use a separate slot that chops them into three pieces – enough to make data hard to retrieve, though not

impossible. The handle on top helps you lift the shredder off the bin for emptying.

RATING

★★★★★



£40 from Robert Dyas www.snipca.com/30651

Robert Dyas 6-Sheet Shredder

This 4x39mm cross-cut unit takes up to six sheets, but is only designed for paper, not CDs or cards. Rather than a plastic bin with a window to see when it's full, it has a fine mesh basket, which may not

look as neat but makes the whole thing lighter than any of its rivals here except the Rexel 2101942UK. There are no frills except a reverse mode to clear jams, and run time is only two minutes, followed by

half an hour to cool down. Considering the limitations, it's not great value.

RATING

★★★★★



WHAT SHOULD I BUY?

We solve your buying dilemmas

How can I best navigate audiobook chapters?

Q I used to listen to audiobooks on cassette, and could quickly rewind to find my place after falling asleep. But with CDs it's hard to find a previous chapter, and using an MP3 player I've found the files for each book get jumbled. Is there a better way?

Alan Stevenson

A This is a frustrating problem. For historical technical reasons, CD audiobooks are split into tracks that rarely correspond

to chapters. Although some CD players have 'resume', and will start from where you stopped, this is no help if you fall asleep and need to rewind. Audiobooks in the compressed MP3-CD format (requiring a compatible player) can in theory be properly chaptered, but often aren't, and this also applies to MP3 downloads.



Smarter audiobooks from the likes of Audible, which you can

read on an Amazon Kindle (from £60) or in an app on your phone or tablet, are navigable by chapter, although very long or short chapters may be split differently. This is probably your best bet, but could mean re-buying books.

Another solution would be to arrange your existing MP3s into chapters, either manually or using silence detection. One of the best free programs that does this is WavePad (www.snipca.com/30689, pictured).

Do you need advice on what you should buy? Email us at letters@computeractive.co.uk

TABLET | £969 from Google www.snipca.com/30462

Google Pixel Slate

Tile over substance

To compete with tablets running Apple's iOS, Android and Windows 10, here's one that uses Google's Chrome OS. This lacks the versatility of Windows or macOS, but can run a wide range of **web apps** and now also Android and Linux software. Exactly how well programs actually work is much less predictable than with an iPad, but with the likes of Microsoft Office available, it's a viable option for some users.

“Chrome OS at a premium price, especially if you want accessories”

Typically, Chromebooks are cheap, but, like Google's £999 Pixelbook laptop, this is the premium option. Our test model, with a low-power i5-8200Y processor, 8GB of memory and 128GB of storage, costs £969 by itself, with the almost essential Pixel Slate Keyboard adding an eye-watering £189 and the optional Pixelbook Pen stylus £99.

The range starts at just £549, however – or would do if Google had any stock of its budget model – with 4GB of memory and a Celeron processor. As regular readers will know, Celeron is from the Latin for ‘hurry up’, which is what you'd find yourself shouting at the screen.

Our model was by and large pretty speedy, but big files or lots of open browser tabs could make it stutter. The battery lasted eight hours 48 minutes of video playback (better than Windows laptops). The 12.3in screen strikes a good balance between space and portability,

SPECIFICATIONS

Intel Core i5-8200Y dual-core processor • 8GB memory • 128GB flash storage • 12.3in 2000x2000-pixel screen • Front and rear 8-megapixel cameras • 802.11ac Wi-Fi • Bluetooth 4.2 • 2x USB Type-C ports • 7x291x202mm (HxWxD) • 731g • One-year warranty www.snipca.com/30592



with very sharp resolution, but colour isn't quite iPad Pro quality. Also, we found the Pen harder to use than Apple's Pencil and significantly easier to confuse by accidentally resting your hand on the screen. The keyboard feels great to type on, but has a floppy attachment. The Slate itself feels well made, and unlike the iPad Pro has fully functional **USB Type-C** ports.

Chrome OS is more tolerant of limited hardware than Windows 10. That's the only reason you might consider the basic £549 Slate rather than Microsoft's £379 Surface Go (to which you could add a Type Cover for a total of £479), compared with the Slate and its keyboard (£738).

And yet, a £319 32GB iPad has far more processing power, albeit with a smaller screen, and you could add a Logitech Slim Folio keyboard case for £90. Comparing the more expensive models with all accessories, the Slate would cost a tenner less than a 12.9in iPad Pro with half the storage, but isn't as smooth in operation. The £749 Slate model (with m3 processor, 8GB of memory and 64GB of storage) is more appealing, but you could get an i5 Surface Pro 6 with 128GB for £879.

VERDICT The Slate is a decent tablet, but unless you love Chrome more than your money it just doesn't add up

★★★★★

ALTERNATIVE Microsoft Surface Pro 6 **£879** Comes with more processing power, Windows 10 and cheaper keyboard options



DO I REALLY NEED...

A privacy filter?

What does it do?

Commonly sold in the form of a plastic sheet that fits over your monitor, a privacy filter makes your computer screen illegible except from directly in front. At the Consumer Electronics Show (CES) in January, HP announced a number of monitors, laptops and all-in-one desktop PCs with the third generation of its Sure View privacy feature (pictured), which can be turned on and off at the click of a button. So when you need to work on something confidential, you can prevent others peeking, but at other times you can make the screen fully visible.



Why would I want it?

Many of us handle sensitive data at work, or when travelling with a laptop, whether it's our own bank details or passwords, or other people's personal data that we're required to keep safe. Despite precautions like encryption, an easy way for things to leak is simply by someone glancing at your screen.

What's the catch?

Clipping a nearly-the-right-size accessory over the front of your elegantly styled monitor is not guaranteed to improve your workplace ambience, and while peel-and-stick versions (more practical for laptops) may be easy to remove in theory, storing and re-applying them is too fiddly to do regularly. Privacy filters reduce brightness, and limiting viewing angles is exactly the opposite of what screen makers aim to do, because it's annoying to have pixels fade out toward the edges of the screen.

So can I do without it?

It may depend on your job, but if you have privacy concerns, investing in a screen with built-in switchable technology – or persuading your boss to do so – could make sense.

Reviews

PRINTER | £129 from Amazon www.snipca.com/30420

HP Tango

Future of printing is not orange

You can buy a printer with a built-in scanner nowadays for 25 quid. But that's not the future. The future is the HP Tango. No, it's not orange. They don't have that kind of Tango in Silicon Valley. Nor is it a dance, because the dance is for two people – and the HP Tango is definitely not two things. It's just a printer. It doesn't even have a scanner. Nor does it have a touchscreen – or any screen. It lacks a USB port because it only works over Wi-Fi. And you need a smartphone to set it up because it's the World's First Smart Home Printer. And it costs £129.

“A smart printer that looks good but is too limited to be the smart choice”

Alternatively, for £51 extra, the Tango X is exactly the same but comes with a grey felt cover (see image right). To wrap the cover around it, you have to remove the paper, so before you print wirelessly from your smartphone or computer anywhere in your house – or, indeed, via the cloud, anywhere in the world – you first have to go to your HP Tango X in person, unwrap it and fetch some paper from wherever

you keep paper.

You can put your HP Tango anywhere, as long as it's next to a mains socket. It has 802.11n Wi-Fi, which was superseded five years ago, so it'll need to be quite near your Wi-Fi router as well, unless you take your device close by and use Wi-Fi Direct.

HP says you can print 20 pages per minute, but that's only in black-and-white draft mode. In reality, it takes about 30 seconds to start up, then prints maybe three or four pages a minute. It's simple to use and prints photos well, but while many inkjets offer borderless A4 output, the HP Tango can only fill photo paper up to 7x5in (18x13cm), and even then we noticed a slight gap on one edge.

The paper feed takes just 50 A4 sheets, and if you want to print both sides you'll have to feed it back in yourself. If you



don't sign up to Instant Ink (see box below), a set of 303XL refills (black plus three colours) costs around £54. These are rated for 415 (colour) to 600 (black) pages, so costs work out at about 11p per colour page, which is higher than average.

If you need to scan or copy, the HP app lets you take a picture of a document on your smartphone and print or email it. Of course, your smartphone could already do that. Finally, you can print by voice, via Alexa, Google Assistant or Cortana. But you can only output preset items like your shopping list, ruled notepaper or a crossword. That's as smart as it gets.



INSTANT INK – IS IT WORTH IT?

HP encourages you to sign up for an Instant Ink plan, where they post new cartridges to you whenever ink gets low, using your internet connection to monitor your printing. Paying up front (from £2 for 50 pages) should save you money if you often use colour.

The best feature is 'free photo printing' when you print from your smartphone (not a PC) on



paper up to 7x5in (see www.snipca.com/30425). However, you are warned (in small print) that this offer could end.

Another way to save on ink would be to buy third-party refills. But HP builds chips into its cartridges, for 'security', that others can't duplicate, and the Tango won't print without them. Only a very few companies sell refilled official cartridges, and they won't show ink levels correctly.

SPECIFICATIONS

4800x1200dpi maximum print resolution • 802.11n Wi-Fi • Bluetooth LE • 91x377x206mm (HxWxD) • 3.1kg • One-year warranty www.snipca.com/30423

VERDICT This sleek, simplified gadget wouldn't look out of place in an upmarket hotel room. In your own home, you'll probably want more for your money

★★★★★

ALTERNATIVE Canon Pixma

TS5050 £70 This has a scanner and prints well at reasonable costs. If you need duplex, try the clunkier MG5750



PHONE | £60 from Vodafone www.snipca.com/30674

Vodafone Smart N9 Lite

Too cheap to discount

It's hard to imagine why anyone would bother selling an Android phone for 60 quid. Even with very basic specs, there can't be much of a profit margin on that. It's almost as if they're trying to do you a favour. But why would Vodafone, often voted the UK's worst mobile network and with an average Trustpilot score of one star (www.snipca.com/30690), practically give away hardware just to attract customers? It's a mystery to us.

“It's very cheap, but that's where the benefits run out”

Anyway, the Smart N9 Lite is currently Vodafone's cheapest own-brand model and one of the least expensive smartphones sold in the UK. That's pretty much what you'd guess by looking at its unashamedly plasticky chassis, but compared with something like the Alcatel 1 (see our review, Issue 540) it's almost elegant, and the textured back panel is easy to grip. Advanced features like a fingerprint sensor, contactless payments and face recognition are absent, however. It's not waterproof, and although it has a smaller screen than the regular N9, the case is bigger.

That screen is one of the worst we've seen recently even on budget devices. The 960x480-pixel resolution is reminiscent of the first generation of smartphones a decade ago, and this isn't even the biggest problem. Colour reproduction is abysmal, brightness is limited, and narrow viewing angles make all of this worse still.

Rounded corners, achieved by setting some pixels to black, don't add class the way Vodafone's designers think. Like the Alcatel 1, the N9 Lite runs Android Go, a version optimised for slow hardware, but the bottom-end MediaTek processor still struggled to keep things smooth in our tests. Many games were unplayable.

We won't waste your time with a detailed analysis of the front and rear



cameras, which are poor. There's a meagre 16GB of storage, and even with a **microSD card** the maximum is just 48GB. Battery life, at just under nine hours in our video-playback test, is barely enough for a day. Still, for 60 quid plus a minimum £10 Vodafone top-up you get a working smartphone, and after a month you can switch to another network. If you want to. Or maybe you'll like Vodafone. If you do, leave them a positive review. They'll be really grateful.

SPECIFICATIONS

5.3in 480x960-pixel screen • 16GB flash storage • 8-megapixel rear camera • 5-megapixel front camera • 802.11n Wi-Fi • Bluetooth 4.0 • 3G/4G • MicroSD card slot • Android Go • 148x69x9.4mm (HxWxD) • 155g • One-year warranty www.snipca.com/30674

VERDICT The screen and cameras are poor, but it's not bad for just £60. There are better phones though

★★★★★

ALTERNATIVE Motorola Moto E5 Play **£80** A superior camera, longer battery life and somewhat better performance are worth paying the extra for



GADGET GRAVEYARD

Devices that never caught on
CueCat



What was it?

Today, **QR codes** can be scanned by a mobile phone to enable various functions, such as opening a web page. Back in 2000, an inventor called J Jovan Philyaw had a similar idea. His slanted barcodes were printed in magazine articles and adverts, enabling users to reach the associated website without having to type the URL. This required a CueCat, a mouse-like scanner (pictured) that was given away free. It only worked when connected to a PC.



Why did it die?

Despite investors sinking \$185m into CueCat, the system had no obvious purpose except potentially enabling partners to track which barcodes each user was scanning, which provoked a very modern data-privacy scandal. The project folded in little more than a year. In 2005, someone put two million remaining CueCats on sale for 30 cents each, requiring buyers to take at least 500,000 units. Philyaw changed his name to J Hutton Pulitzer and started a new business selling "spiritual" crystals.

NEXT ISSUE

On Sale **Weds 13 March**



Palicomp AMD Abyss

All-round performance in a £700 PC

LG Gram 17
How small can a big laptop get?



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Our pick of products that have won the **Buy It** award

LAPTOP

HP Envy 13

£750 from www.snipca.com/29555

Tested Issue 539



The combination of an eighth-generation quad-core i5 chip and MX 150 graphics makes this an excellent all-round laptop, let down only by the poor colour reproduction of its Full HD touchscreen. Seven-hour battery life is adequate, and it's nicely made.

ALTERNATIVE Dell XPS 13

This premium laptop starts at £1,200, but the best deal is with the brand new quad-core i7-8550 and QHD touchscreen. £1,300 from www.snipca.com/26796

DESKTOP PC

Mesh Ryzen Gaming PC CS

£650 from www.snipca.com/27705

Tested Issue 528



With a six-core Ryzen 5 1600 processor and 4GB GeForce GTX 1050 Ti graphics card, this is a brilliant all-round desktop PC for the money, completed by 8GB of memory, 120GB SSD and 1TB hard drive.

ALTERNATIVE Lenovo IdeaCentre 620s

A laptop i5 CPU plus GTX 1050 Ti make this discounted compact PC a sleek silver bargain. £530 from www.snipca.com/29205

APPLE IPAD

Apple iPad 9.7in (2018)

£319 from www.snipca.com/27670

Tested Issue 527



Now with a faster processor and supporting Apple's Pencil stylus (£89), this is a brilliant full-size tablet at an unbeatable price. Has 32GB and no microSD slot, so also consider the 128GB version at a still reasonable £409.

ALTERNATIVE iPad Mini 4

At much the same price for 128GB (the only version), the smaller and slower Mini lacks Pencil support. £399 from www.snipca.com/27671

ANDROID TABLET

PRICE DROP

Samsung Galaxy Tab S3

£399 from www.snipca.com/30707

Tested Issue 501



Now discounted and with a stylus included, this full-size HDR tablet is a better deal than the new Tab S4 (see Issue 540). Apple's faster £319 iPad with optional £89 Pencil is superior, but lacks microSD expansion.

ALTERNATIVE Amazon Fire HD 8

Fewer apps work with Fire tablets, but you get the essentials plus hands-free Alexa. £80 (16GB) or £100 (32GB) from www.snipca.com/29340

APPLE IPHONE

Apple iPhone 7

£449 from www.snipca.com/29359

Tested Issue 486



Two years old but great value at this price, held back only by the mean 32GB of storage, which can't be expanded. An extra £100 gets a huge 128GB. If you want a dual camera, the 8 Plus is a better buy at £699 with 64GB (www.snipca.com/29358), but the XR is superior overall.

ALTERNATIVE iPhone XR

Lacking only the dual camera, this is a fantastic phone that's much more affordable than the £999 XS. £749 from www.snipca.com/29361

ANDROID PHONE

PRICE DROP

Motorola Moto G6

£170 from www.snipca.com/27965

Tested Issue 530



The Moto G line returns to form with this distinctive Gorilla Glass-backed 5.7in phone. Screen quality and processing power may not be top end, but the dual camera is excellent and it feels like a lot of phone for the money.

ALTERNATIVE OnePlus 6T

A high-end phone with incredible battery life and innovative in-screen fingerprint reader at a sensible price. £499 from www.snipca.com/29844

Buy It

Our pick of products that have won the **Buy It** award

EBOOK READER

Amazon Kindle (2016)
£60 from www.snipca.com/21901
Tested Issue 483



Amazon's basic ebook reader is now good enough to be our first choice. It's plasticky, but slim and lightweight, with a decent 4GB storage and good battery life. Consider the £110 Paperwhite if you want backlighting and 3G.

ALTERNATIVE Kobo Aura H2O (2017)
This premium waterproof reader from Amazon's main rival can't load Kindle books, but it's very pleasant to use. £150 from www.snipca.com/24473

SECURITY SOFTWARE

Kaspersky Internet Security 2019
£17.99 from www.snipca.com/21532
Tested Issue 516



Kaspersky Internet Security has won our past nine antivirus tests and the 2019 version is now available at an exclusive reader discount on our Software Store. Go to the link above for a one-year, one-device licence or buy a two-year, three-device licence for just £34.99.

ALTERNATIVE Norton Security Deluxe
Almost as good as Kaspersky, but blocks more legitimate software. £18.99 from www.snipca.com/25004

PHOTO EDITING

Serif Affinity Photo
£49 from www.snipca.com/23739
Tested Issue 498



Designed for both full-time professional image retouchers and the rest of us keen amateurs, this is a beautifully designed and comprehensive program for both Windows and Mac users, although so far it performs better on Macs.

ALTERNATIVE Xara Photo & Graphic Designer For all-round design and drawing plus photo filters, this affordable app has a lot to offer. £50 from www.snipca.com/26514

PC MONITOR

AOC Q2778VQE
£200 from www.snipca.com/25508
Tested Issue 468



It comes with no extras, such as built-in speakers or a USB hub, but this 2560x1440 panel gives you a full 27in screen with excellent contrast and colour accuracy at a very reasonable price. It's a little laggy for gamers, but there's no ghosting on motion.

ALTERNATIVE Philips Brilliance 241B7QPIKEB With a great picture, stylish design, speakers and webcam, this 24in Full HD IPS is an excellent smaller screen. £185 from www.snipca.com/26850

ROUTER

D-Link DIR-882 Exo AC2600
£80 from www.snipca.com/30708
Tested Issue 534



There are faster routers with more features, but this simple, compact unit covers the basics (without an ADSL modem) at a bargain price. USB 2.0 and 3.0 ports let you share drives, and media streamers are supported.

ALTERNATIVE Synology RT2600ac Comprehensive sharing features (including USB 2.0 and 3.0 and SD card), controls and plenty of add-on apps complement excellent long-range performance. £202 from www.snipca.com/30710

PRINTER

Canon Pixma TS6150
£130 from www.snipca.com/28430
Tested Issue 533



Modest speeds, no ADF and higher than average running costs are among its flaws, but crisp scans and excellent print quality on all types of documents – photos, plain text and solid-colour graphics – make this a great choice as a do-it-all home printer at a fair price.

ALTERNATIVE HP OfficeJet Pro 6960 Decent speeds, plenty of features (including automatic document feed) and reasonable running costs make this a solid buy. £92 from www.snipca.com/28483

COMPETITION

Win an Edimax Office 1-2-3 from Solwise

Solwise's Edimax Office 1-2-3 is a simple, secure, complete and expandable Wi-Fi system designed to meet the needs of small to medium-sized offices.

It delivers industrial-grade performance, combining ease of use with super-fast wireless speed. It boasts the latest 802.11ac Wave 2 technology for dual-band speeds up to



1,300Mbps. You can use 'beamforming' to boost your signals by directing them precisely where you need them.

Its three ceiling-mounted access points can cope with up to 100 people simultaneously using the system. Setting up is easy using Edimax's PC software or smartphone apps.

To enter this competition, email your address to cacomp@dennis.co.uk with 'Edimax' in the subject line by midnight Tuesday 12 March.



You can buy the **Edimax Office 1-2-3** priced £397.97 (free delivery) from Solwise's website (www.solwise.co.uk/wireless-ed-office).

Visit the site for details on more Solwise products, including HomePlugs, Powerlines and security cameras. For updates follow [@Solwise](https://twitter.com/Solwise) on Twitter.

MESH ROUTER

BT Whole Home Wi-Fi
£200 from www.snipca.com/26990
Tested Issue 496



BT's set of three discs, managed from an Apple or Android app, connects to your broadband and spreads high-speed Wi-Fi all around the house. Reception is far better than a single router, and the price is lower than any rival.

ALTERNATIVE Google Wifi

It's technically less powerful, and two dishes cost more than BT's three, but this system works well and has a great app. £229 from www.snipca.com/26989

SOLID-STATE DRIVE

WD Black NVMe
500GB (2018)
£110 from www.snipca.com/30559
Tested issue 545



Although the Corsair Force MP510 is even faster in its pricier 1TB version, WD's Black NVMe drive for the M.2 interface is a great choice across all capacities. A new edition, just released, is more expensive at the moment.

ALTERNATIVE Crucial BX500

For the traditional SATA interface, this budget 2.5in drive is surprisingly fast, though not rated for the longest life. £32 for 240GB from www.snipca.com/30538

WEB DESIGN

Xara Web Designer
Premium
£70 from www.snipca.com/29294
Tested Issue 453



This visual program makes creating sites more like laying out a document than writing HTML code, and sites can be responsive, meaning they look good on big and small screens. A cheaper, basic version is also available for £35.

ALTERNATIVE Incomedia WebSite X5 v13 Evolution It may feel basic, but this program outputs efficient HTML code and responsive pages. £60 from www.snipca.com/19440

Workshops & Tips

**Pull Out
& Keep**

Issue 548

Edited by
Sherwin Coelho

14 pages of easy-to-follow workshops and expert tips

35 Digitise your paperwork so you can search it

38 Sync your passwords across devices for free

40 Add tabs to File Explorer for faster access

42 Readers' Tips

PLUS

44 Phone & Tablet Tips

46 Make Windows Better

47 Make Office Better

48 In the Club: Record a podcast

HOW TO...

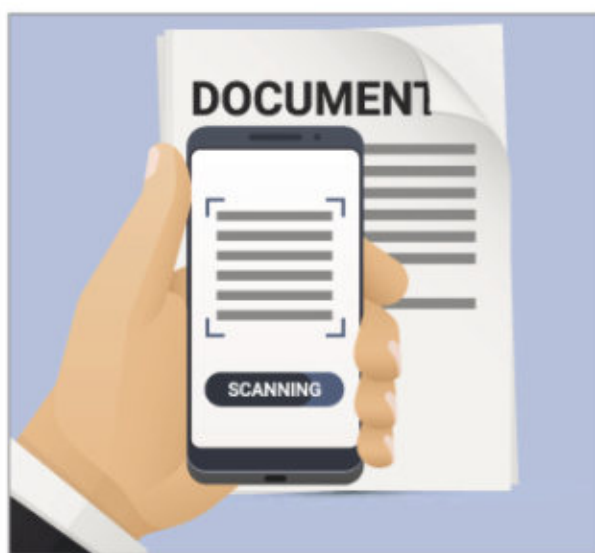
Digitise your paperwork so you can search it

by Nik Rawlinson

What you need: A smartphone running Text Fairy (Android) or Prizmo (iOS) **Time required:** Half a day

So much for the paperless future. If we're living it now, we've been sold a lie. Every day brings another bank statement, insurance certificate, income tax reminder or document that needs to be kept for future reference. On top of this we have letters from friends and family, our own travel journals and half-written biographies, stories we've clipped from newspapers and magazines... if you're anything like us, you'll be drowning in paperwork, and wondering how to make sense of it all.

That's why we've devised a way to quickly and easily digitise the paperwork that's such a large part of modern-day living. We'll make it searchable, accessible and, crucially, dispensable.



Naturally, there are some documents you need to keep hold of, like the aforementioned bank statements and insurance certificates, but by digitising

them you can store the originals in the loft for reference in an emergency. The chances are you'll never look at them again and, a few years down the line, they can be shredded and recycled.

As you'll see from the time required, this is the longest 'How To' we've yet published, but it's one you can easily break down into chunks. You don't need to digitise every document today but, as the processing pile shrinks, you'll win back more of your precious home. Who knows: you may even be able to rid yourself of a cupboard or filing cabinet somewhere down the line. When less of your time and home are consumed by filing, you'll have more of both to actually start enjoying.

1

Gather your paperwork

There are two types of paperwork – handwritten and typewritten – that need to be handled differently. That's because one of our aims is to make your most important documents searchable by converting their printed contents to live text using optical character recognition (OCR).

As handwriting is less uniform, it's very difficult for computers to recognise, so these documents are

better captured as photos or PDFs, which will help retain some of their sentimental value, too.

Separate your documents according to type and, if possible, organise them by subject.

As part of this project we'll be compiling the results into ebooks – a process that works best if you devote each book to just one subject. So, keep your bank statements separate from car service records and insurance policies.

2

Digitise your typed documents

You're about to take a big step towards getting your paperwork in order, but the precise method varies from platform to platform. If your smartphone runs Android, download Text Fairy (free from www.snipca.com/30513). On iOS, for which Text Fairy isn't available, we would instead suggest English OCR (free from www.snipca.com/30514) if your budget doesn't stretch to a paid option.

However, in our tests we found that English OCR didn't perform as accurately as Text Fairy, and so resorted to Prizmo Go (www.snipca.com/30516) which, although free, requires a £4.99 in-app purchase to enable exporting recognised text. Follow our Mini Workshops to use both apps.

3 Compile your ebook

The reason we're going to the effort of extracting the text from our documents rather than just saving them as PDFs (which would retain all of the formatting) is that we want to make them easy to search and navigate. We'll do this by compiling them into ePub documents, which open without **plug-ins** in Windows 10's Edge browser, complete with live indexes and working search (you'll need plug-ins for Chrome and Firefox).

Although there are paid-for tools for compiling ebooks, you can do it for free using Google Docs. If you use its built-in styling tools, it will index the result for you, making it easy to skip to the document you need within the larger book.

Google Docs is built into Android phones, and is a free install for iPhone and iPad users (www.snipca.com/30521). You'll need a Google account, though if you're running Android, you'll already be logged in, as you need an account to access that operating system. If you're using an iPhone and don't yet have a Google account, set one up by visiting www.snipca.com/30526 in any browser.

Launch Docs, then tap the '+' and select 'New document'. Paste in your copied text. You can apply formatting

How I archive documents to ebooks

Aside from compiling important documents like we've done here, I use ebooks to keep track of notes, ideas and half-written creative efforts. Because they can be quickly exported from Google Docs, it's easy to update them over time, either by adding to them, or removing notes once I've used them in a project. I keep these creative journals on my phone so that if I need inspiration when I'm out I can dip in and find something to spark my imagination.



Nik Rawlinson



Which method do you use to digitise documents?
Let us know: letters@computeractive.co.uk

within the mobile app, but we find it much easier to do so in a full-size browser. Further, although you can export the result as an ePub from the Android version of Docs, this feature is missing in iOS. For the time being, then, continue capturing text using Text Fairy or Prizmo Go and pasting it into your document until you've digitised every file in your first subject collection.

4 Format and export your ebook

At this point, switch to your PC and visit <https://docs.google.com>. If you're not already logged in, do so, before opening the file you compiled on your phone.

Add a descriptive title above each document that you pasted into the file, then position your cursor within the title and click 'Normal text' on the toolbar to open the styles menu. Select 'Heading

1' to mark that text as a heading, and it will be automatically added to the index when the ebook is compiled.

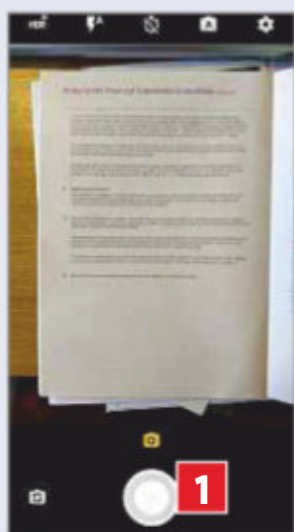
You'll notice that there are two other heading styles on the same menu – Heading 2 and Heading 3. When used to style selected text, they will make any sections to which they're applied become subsections of the portions within which they sit. For example, the feature you're reading now was written in Google Docs and, as you can see from the exported ebook in the screenshot opposite **A**, was styled using all three heading styles. 'Step 2' uses Heading 1, 'Walkthrough: Capturing text' uses Heading 2 and 'Using Text Fairy on Android' uses Heading 3.

Clicking the Index button (enlarged in the screenshot opposite **B**) reveals how each of these becomes a subsection of the style that preceded it, allowing us to tap 'Using Text Fairy on Android' to skip to that section. This principle can be

MINI WORKSHOP

Use Text Fairy on Android

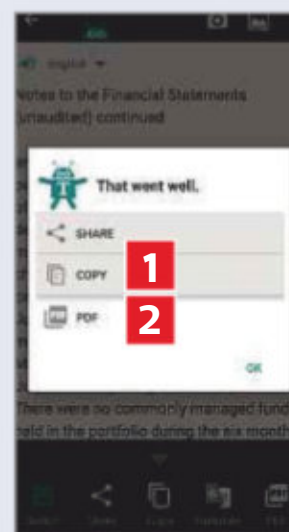
1 Launch Text Fairy, then tap the top-right camera icon and frame your document on your phone's screen. Press the shutter button icon **1** and, as long as the result is sharp and evenly lit, tap the tick to accept it.



2 Drag the corners of the blue frame so they enclose the text you want **1**, then press the blue arrow **2**. Text Fairy will crop the image. Confirm that you want to use English and tap to select either one or multiple columns.



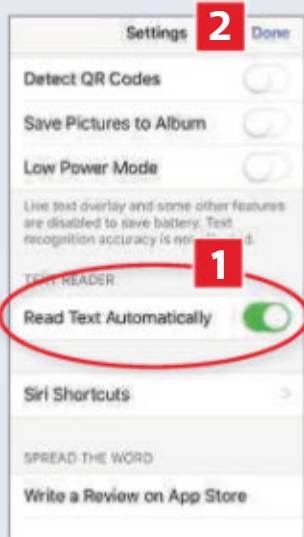
3 Tap Start and Text Fairy will scan the image, converting words into plain text. Tap Copy **1** to capture the text on the Android clipboard and, optionally, tap PDF **2** to save a copy of the original scan.



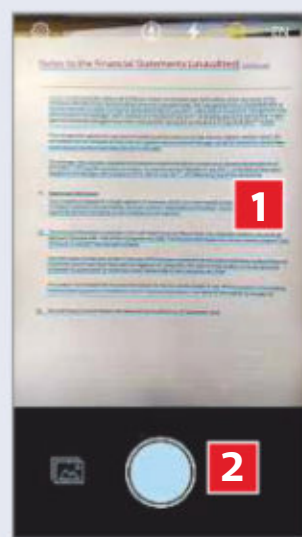
MINI WORKSHOP

Use Prizmo Go on iPhone

1 Launch Prizmo Go, then tap the cog to open its Settings. Tap the switch beside Read Text Automatically **1** to turn on OCR, which will save you a couple of taps later on. Tap Done **2** to return to the scanner.



2 Hold your camera over the document you want to capture and keep it steady until Prizmo Go has underscored each line in blue **1**. Tap the blue shutter button **2** to capture the text and the app will automatically convert it.



3 Either tap the Copy button **1** to copy the text to the iOS clipboard, or tap Share **2** and select the app you'd like to export it to. You can also attach it to an email from the Share menu, or export it to a note-keeping app like OneNote.



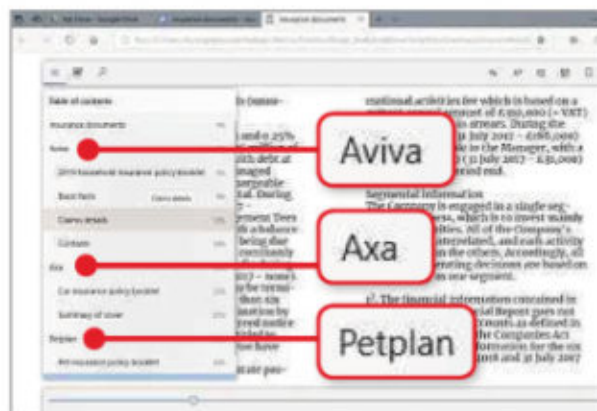
applied to your copied documents.

So, if you've compiled all your insurance documents into a single file, it makes sense to organise them by insurer. Add the name of the first insurer before the first captured document, followed on the next line by a description of the document – for example, 'Aviva' followed by '2019 household insurance policy booklet'.

Now style the first of those using Heading 1, and the second using Heading 2. Continue using Heading 2 for the titles of any other Aviva documents, which should immediately follow the first, and only use Heading 1 again when you need to start a new section for a different insurer.

Once you've finished adding your titles, click File on the Google Docs menu (on

the line immediately above the styling controls, not on the browser application menu) and select 'EPUB publication (.epub)' from the 'Download as' sub menu.



Here, we've organised our insurance documents by provider, so each has a section (Aviva, Axa, Petplan). They've been styled using Heading 1, and the documents that relate to them using Heading 2

5 Transfer your ebook

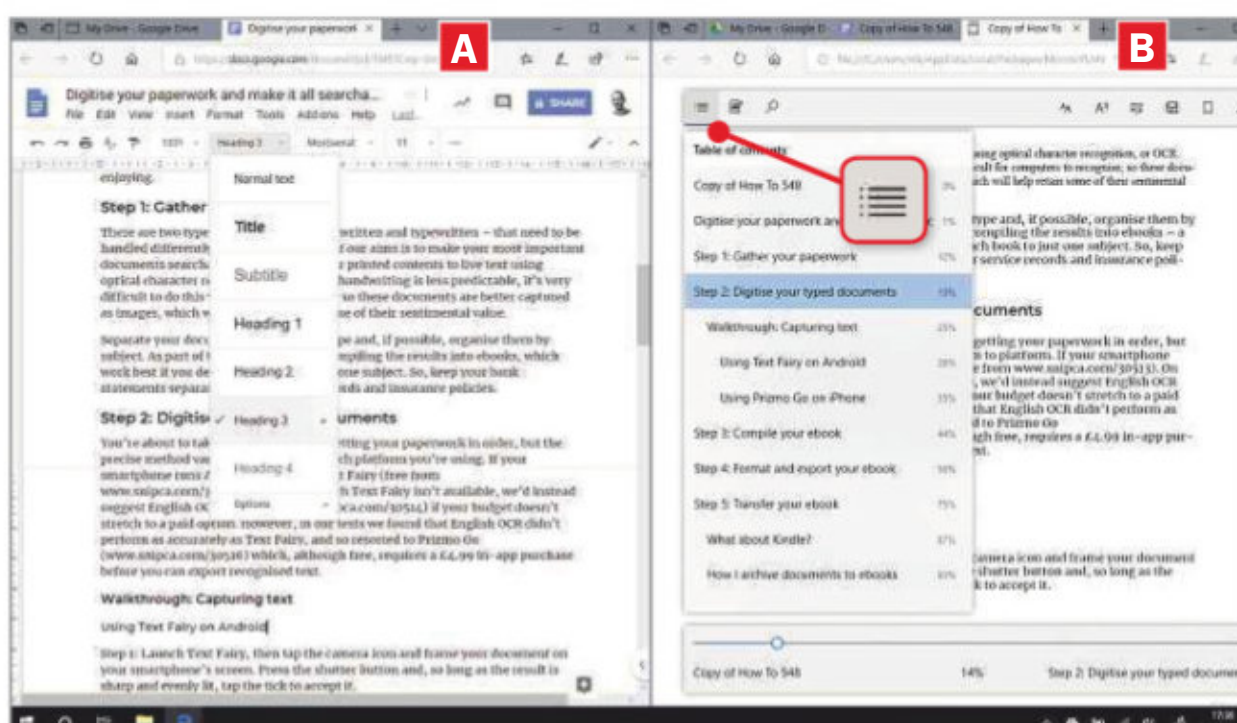
This step is optional. We enjoy the convenience of managing our documents in Edge, but that won't be to everyone's taste and, of course, it means they're out of reach when we're away from home. You might therefore prefer to transfer them to your tablet or phone. Books, Apple's ePub reader, is pre-installed on iPhone and iPad. If you're using Android and don't already have an ePub reader installed, download Google Play Books (free from www.snipca.com/30520).

Although these apps can synchronise books between devices, the easiest way to transfer your newly compiled ePub is by email. On an iPhone or iPad, having received the book from your PC, tap the attachment and select 'Copy to Books' from the menu. It will open right away.

On an Android device, tap the attachment and your device will notify you that it's uploading to Google Play Books. Tap 'Got it!' to confirm that you understand and the book will appear in your Google Play Books library. Tap it to open it.

To navigate your book on either platform, tap in the middle of the page to reveal the menus that appear at the edge of the screen, then tap the magnifier to open the search box. Any results that your search turns up are hot-linked, so tapping them will take you straight to the relevant part of the file.

Alternatively, tap the three bars to open an index of your book, which uses the same headings as you styled in Google Docs to provide direct links to each section.



The original document, in Google Docs on the left, has been compiled as an ebook and opened in the Edge browser on the right

Workshop1

Sync your passwords across devices for free

What you need: Bitwarden; Windows 7, 8.1 or 10; Phone or tablet

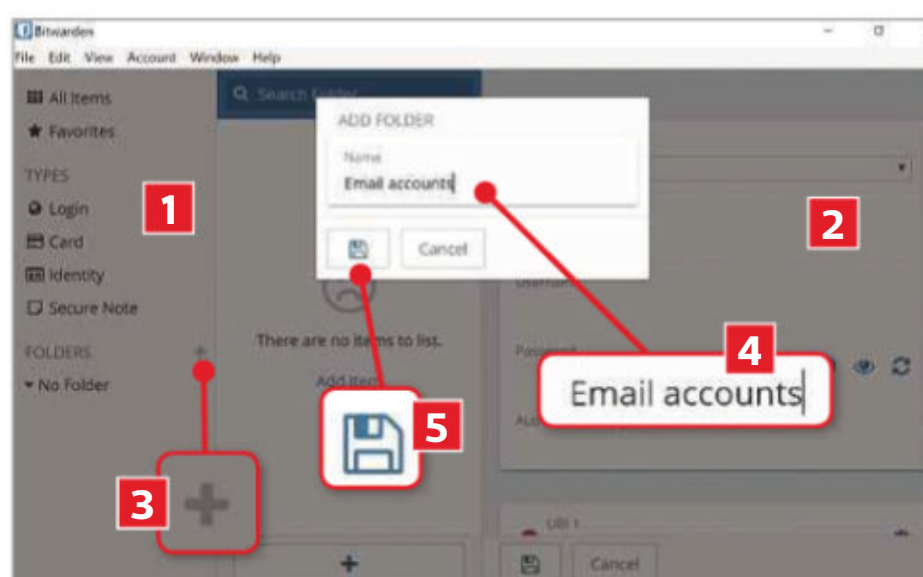
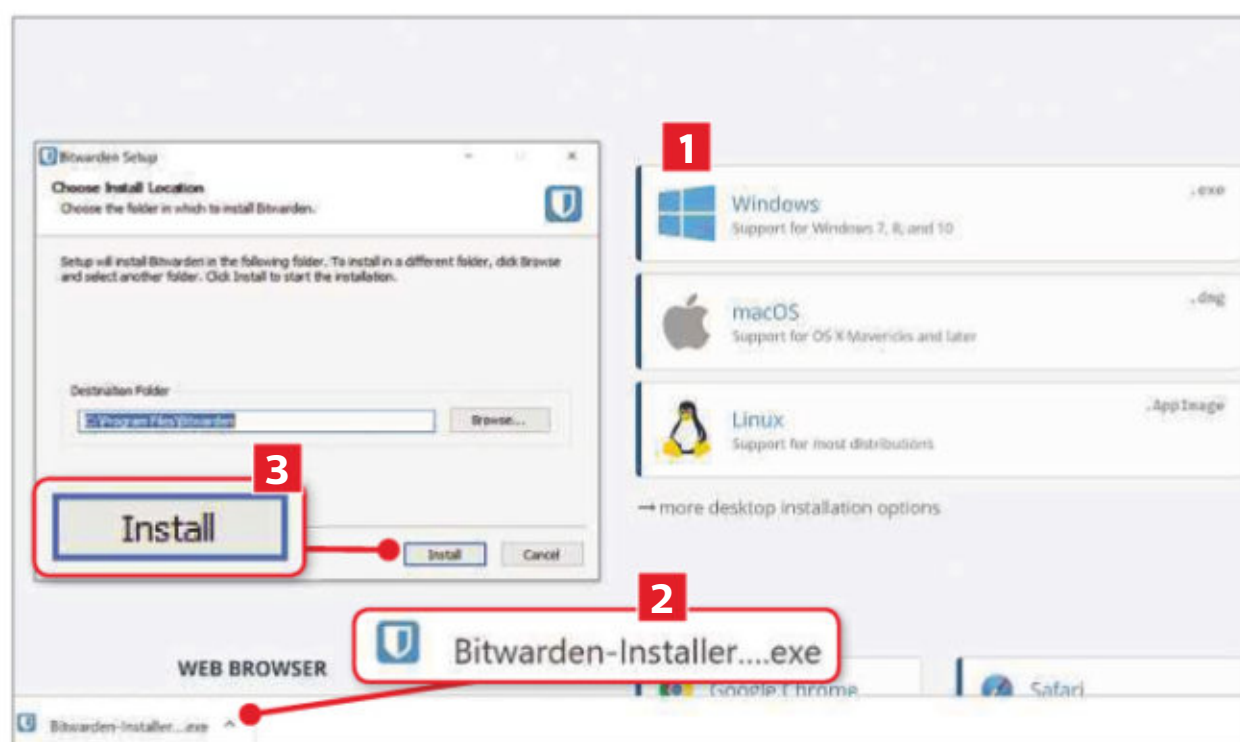
Time required: 30 minutes

There are plenty of password managers to choose from, but most don't let you sync your passwords across devices, while others charge for this feature. Bitwarden is a free password manager that lets you

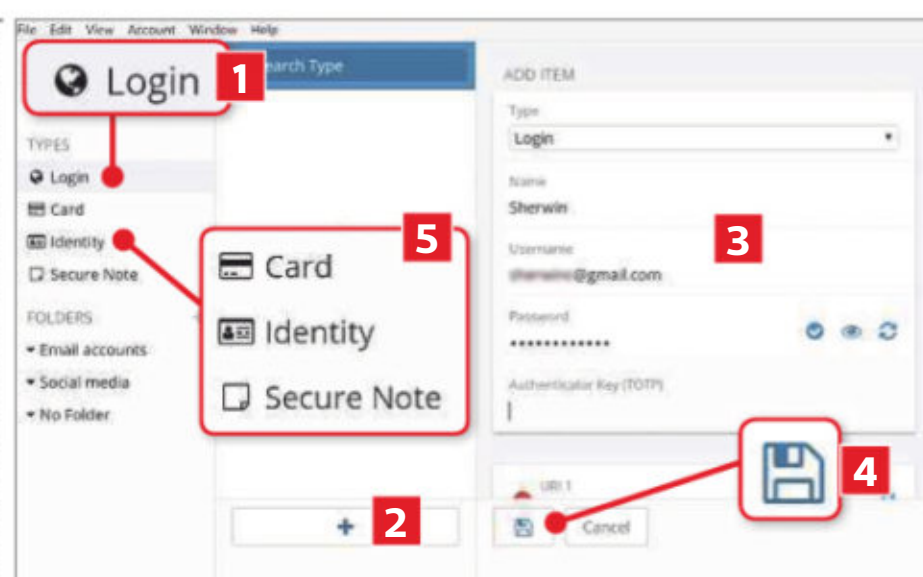
save your login, payment-card and personal information. This data is then encrypted and automatically synced across all your devices. We'll show you how to use its PC program, browser extension and mobile apps.



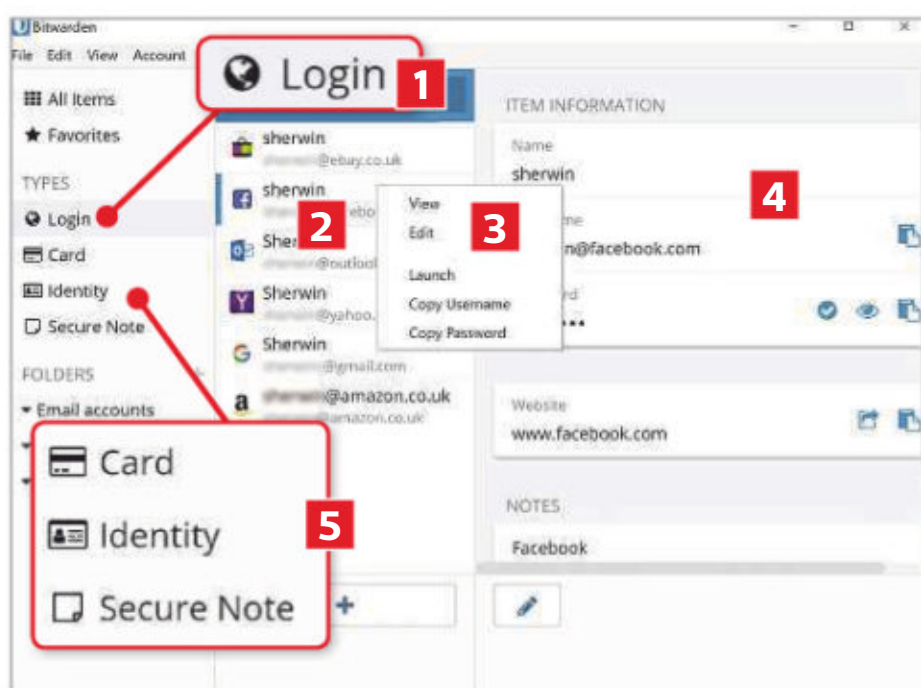
STEP 1 To install the Bitwarden PC program, go to www.bitwarden.com, scroll down to the Desktop section and click the Windows button **1**. Open the downloaded setup file **2**, then click the Install button **3**. Once that's done, click Finish to open the program. You'll now see options to log in or create an account. If you choose the latter, you'll need to type your email address, enter and reconfirm a master password, type a hint for your password, then click Submit.



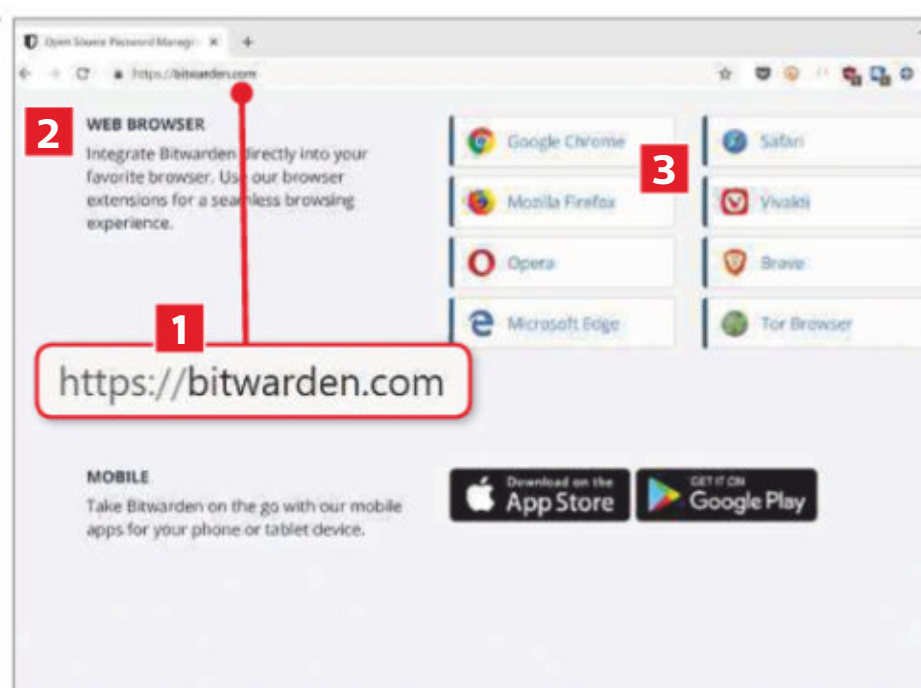
STEP 2 Log into the program and you'll notice its main window is divided into three sections. You choose the relevant section on the left **1**, select or search for the item you want in the middle section and your data is displayed on the right **2**. It's a good idea to create folders for different accounts (email, shopping, social media, credit cards) so you can find these easily on other devices (via browsers and apps). To do this, click the '+' icon **3**, name your folder **4** and click Save **5**.



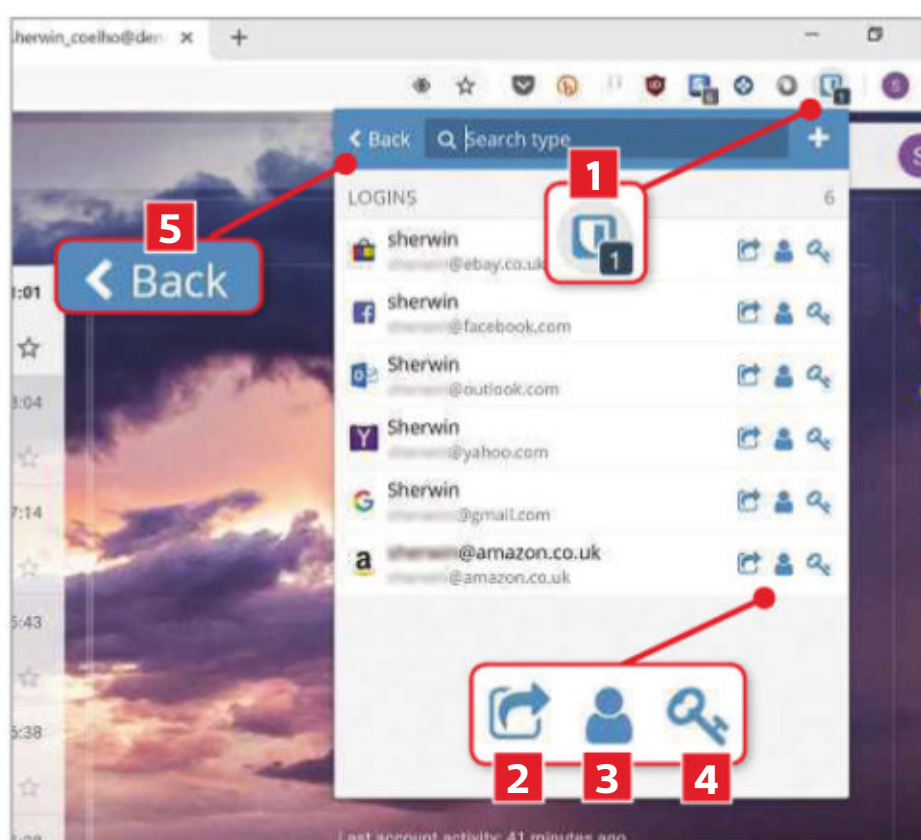
STEP 3 We'll now show you how to add your login and payment-card details to your PC program. Click Login **1**, the '+' button **2**, then type your name, username, password, verification code, and so on in the right-hand section **3**. Scroll down for fields to copy and paste the website's URL, select the relevant folder in the dropdown menu, add any notes about the account, then click the Save icon **4**. Using this method you can also add your payment-card details, personal information (address, passport and driving license number) and any confidential notes **5**.



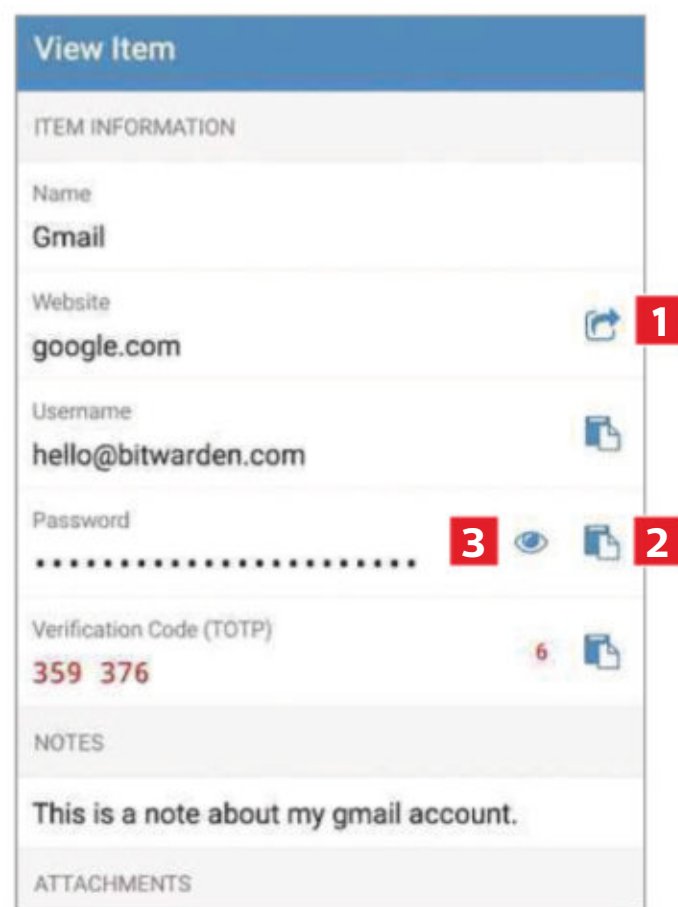
STEP 4 Once you've done this, you can instantly open any website you added, and copy and paste the username and/or password from any of your accounts. To do this, first select Login **1**. You'll see all the accounts you added in the middle section **2**. Right-click any account whose information you need. You'll see a pop-up window **3** that lets you view its entry, edit it **4**, open its website and copy its username or password to paste into websites. You can use the same process to copy and paste information from your credit cards, personal information and confidential notes **5**.



STEP 5 We'll now show you how to use the Bitwarden browser extension to use your information without leaving your browser. Go to <https://bitwarden.com> **1**, scroll down to the Web Browser section **2**, then select the browser you use **3**. This takes you to the relevant browser extension store. If you use Chrome, click 'Add to Chrome', then click 'Add extension'. You'll now see the Bitwarden extension (blue and white shield icon) in your browser's toolbar. Click it, then log in using the master password you created in Step 1.



STEP 6 From now on whenever you're on a website that requests your login or payment details, click the Bitwarden extension **1**, then click the My Vault tab at the bottom to see all your sections and folders. Select one (for example, Login) to see all the accounts you added. Each option has three icons - to launch the website **2**, or copy your username **3** and password **4**. Go back **5** and click the Settings icon at the bottom right for options to automatically log out of the extension after a certain period of time (options range from '1 minute' to '4 hours').



STEP 7 Finally, we'll show you how to use the Bitwarden mobile app. We're using the Android app (www.snipca.com/30638), but it works exactly the same in iOS (www.snipca.com/30639). Open the app and log into your account. The menu icon at the bottom left lets you access your folders. Select the one you want, then tap the relevant account. Here you can launch the website/app **1**, copy any information **2** or see your password **3**. Click the cog (settings) icon at the bottom right of the app to see sliders that let you unlock the app using your fingerprint or the PIN code you use to unlock your device.

Workshop 2

Add tabs to File Explorer for faster access

What you need: QTTabBar; Windows 7, 8.1 or 10

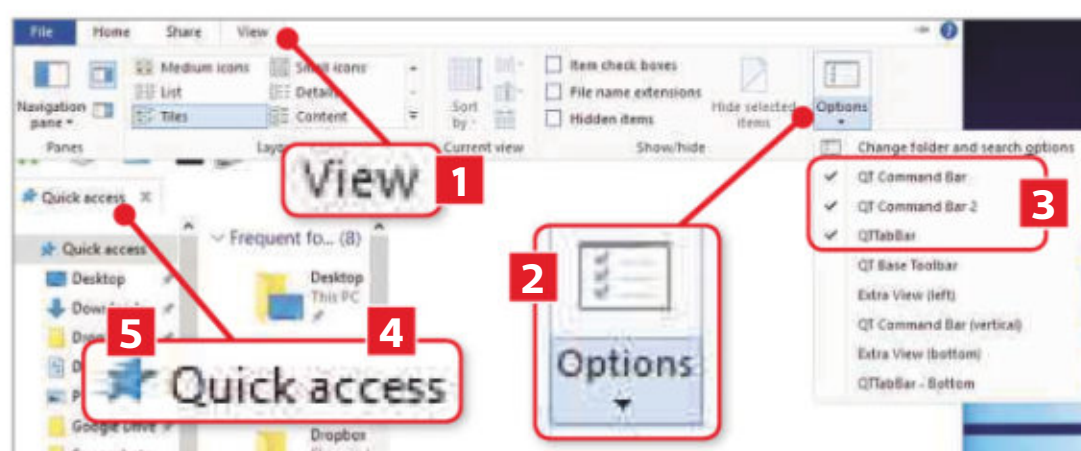
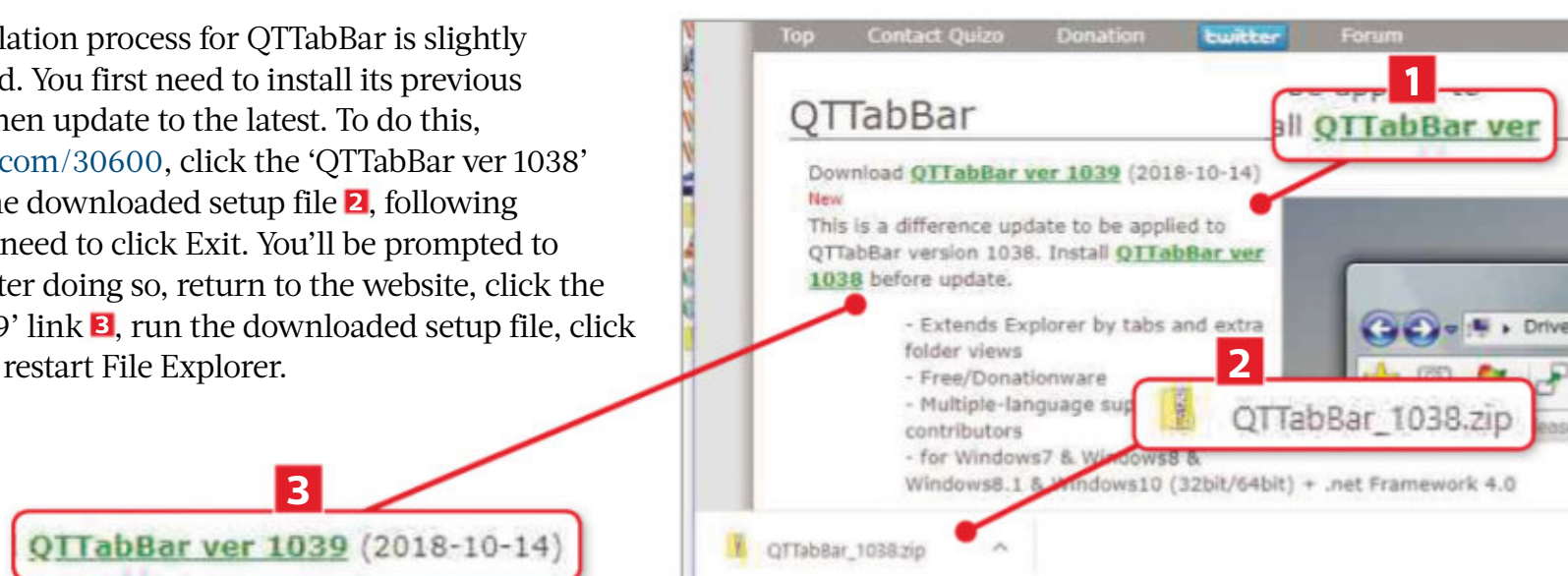
Time required: 30 minutes

Last year, Microsoft announced a new feature called Sets that lets you open different File Explorer locations as tabs. Initially planned for the Windows 10 October 2018 Update, the feature has now been delayed. Instead,

you can use QTTabBar, a brilliant free program that lets you replicate the same features. You can create groups to access multiple file locations, and create your own keyboard shortcuts to switch between open tabs.

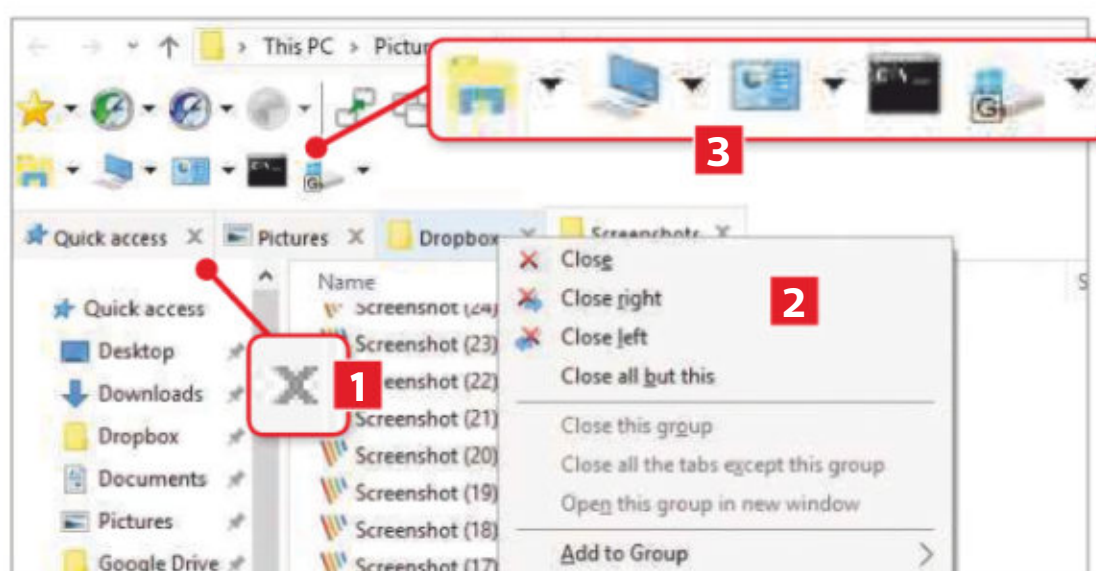


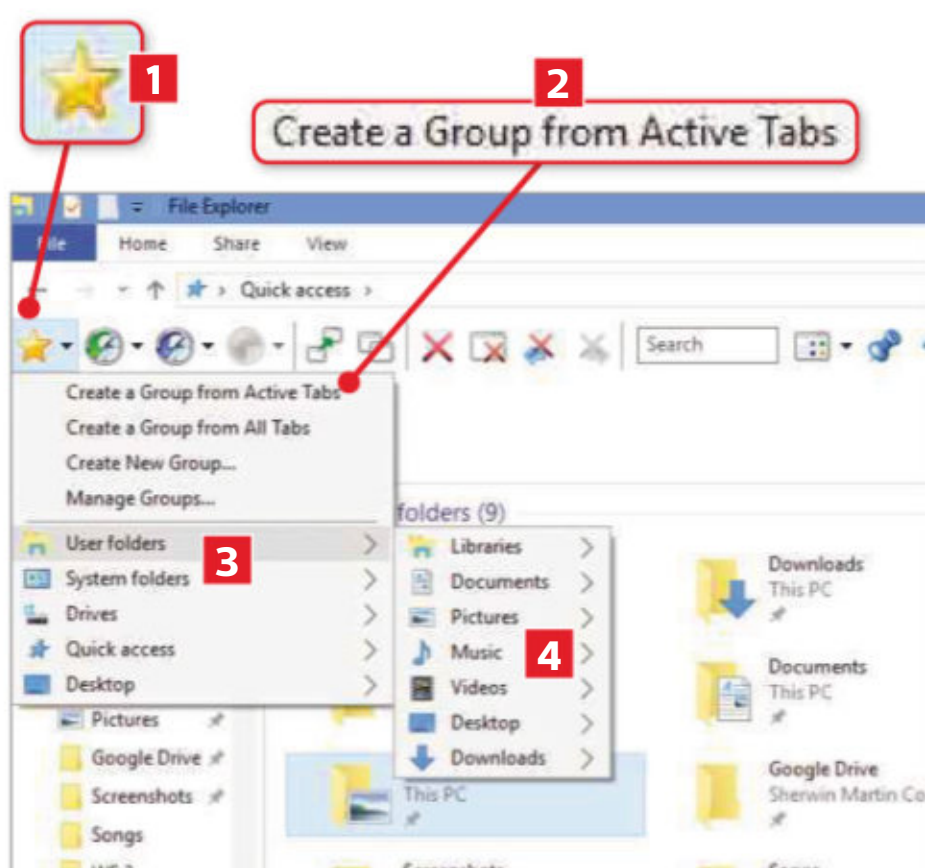
STEP 1 The installation process for QTTabBar is slightly convoluted. You first need to install its previous version, then update to the latest. To do this, go to www.snipca.com/30600, click the 'QTTabBar ver 1038' link **1**, then run the downloaded setup file **2**, following prompts until you need to click Exit. You'll be prompted to restart your PC. After doing so, return to the website, click the 'QTTabBar ver 1309' link **3**, run the downloaded setup file, click Install, then OK to restart File Explorer.



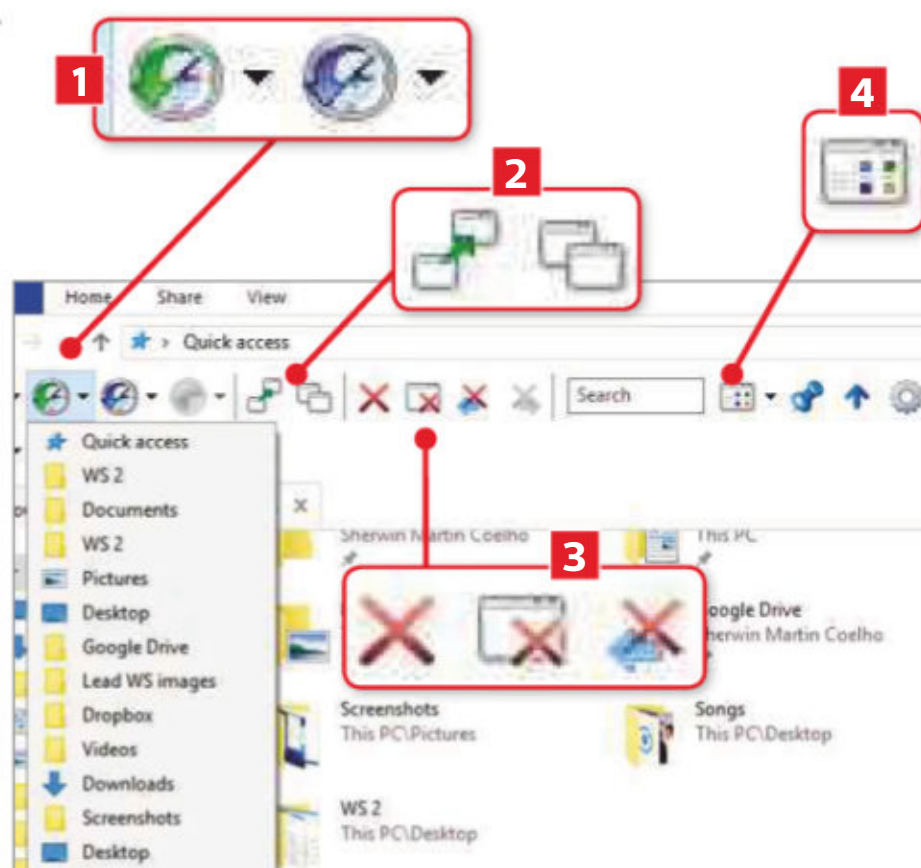
STEP 2 QTTabBar will now be added as a File Explorer extension, but you need to enable it. Open File Explorer, click the View tab **1**, the Options dropdown menu **2**, then tick the first three options **3**. You'll now see two rows of options in File Explorer and a new tab of your current location **4**. Clicking the tab icon **5** displays all items in that location in a pop-up menu that you can click to open.

STEP 3 To open another folder in your current File Explorer location as a new tab, select that folder, right-click it, then click 'Open in new tab' at the top of the menu. Like browser tabs, you can click and drag tabs to rearrange them, and close **1** any you don't need. Right-clicking a tab displays a pop-up menu **2** with options to close it, close other tabs, add it to a group and so on. The five icons with dropdown menus **3** immediately above the tabs let you access your User account folder, items on your desktop, Control Panel, Command Prompt and items on your drives.

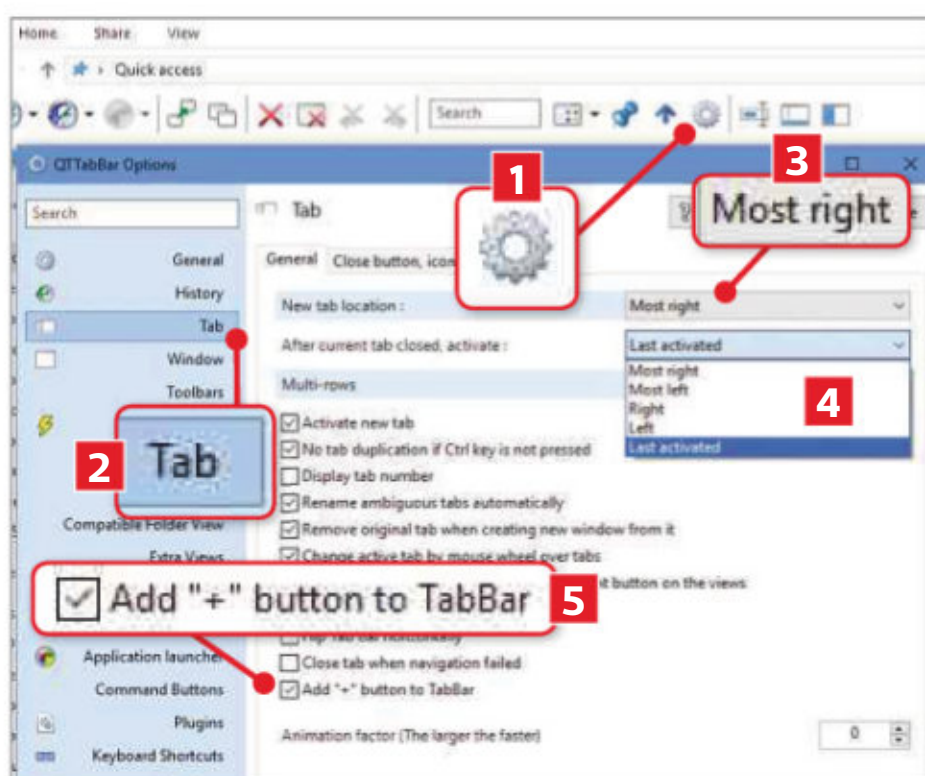




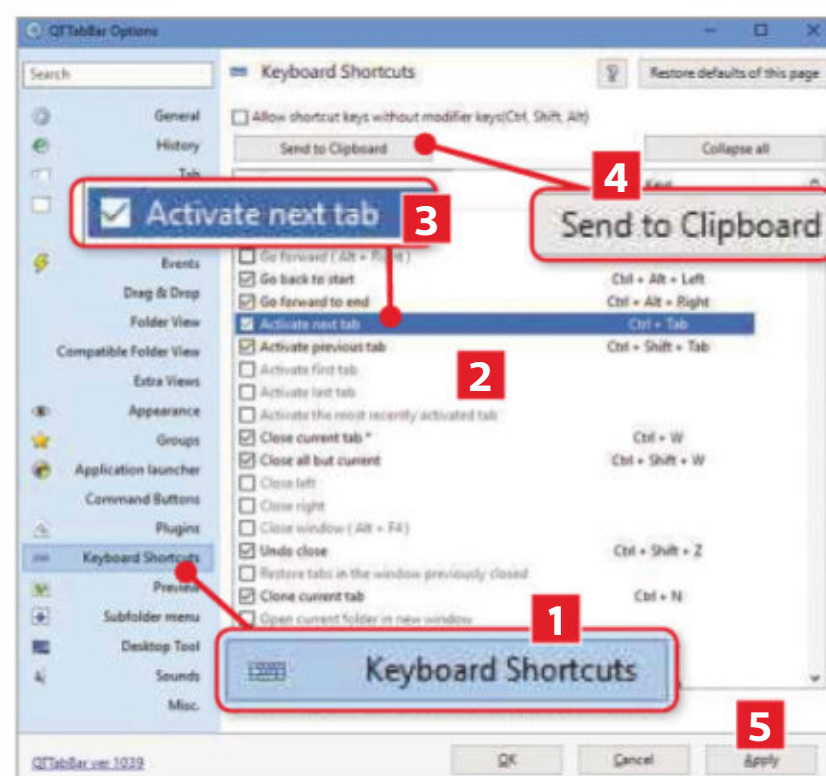
STEP 4 To group specific tabs you use often first close all your open tabs, then only reopen the tabs you want to add to a group. Next, click the Groups dropdown menu **1** and select 'Create a Group from Active Tabs' **2**. From now on, whenever you click the Groups dropdown menu, you'll see all your group tabs listed as menus **3**. Move your cursor to any menu **4** to see the folders and files it contains.



STEP 5 The icons to the right of the Groups icon display your recent tabs and files as dropdown menus **1** for instant access. The two white window icons **2** let you open your current tab in a new window and duplicate your tab. The red X icons **3** let you close the current tab, close all other tabs, and close tabs to the left and right. Click the menu dropdown menu **4** to see options to copy the current folder and file path - useful if you need to copy and paste this into a program or email, for example.



STEP 6 We'll now show you how to customise the program's default settings. Click the Options button on your toolbar **1**, then the Tab section **2**. Here, you can choose where to position any new tabs **3**, and what happens when you close a tab **4**. If you want to add a '+' button on the far right of your tabs (like in browsers), tick the 'Add "+"...' box **5**. Click Apply at the bottom right to make your changes. Now whenever you click your new '+' button, you'll see your desktop items in dropdown menus letting you choose which folder you want to open in that tab.



STEP 7 QTabBar also has default keyboard shortcuts that you can customise. Open the Options window, then click the Keyboard Shortcuts section **1**. You'll see a list of actions and their default keyboard shortcuts **2**. To create a shortcut for an action not provided or to change a default, select that entry in the list **3**, then press the keyboard combination you want to use. You can copy all your shortcuts to your clipboard **4**, which is useful if you want to paste and print this to refer to. Click Apply **5** to confirm your changes.

Readers' Tips

EMAIL

Quickly unsubscribe from spam emails

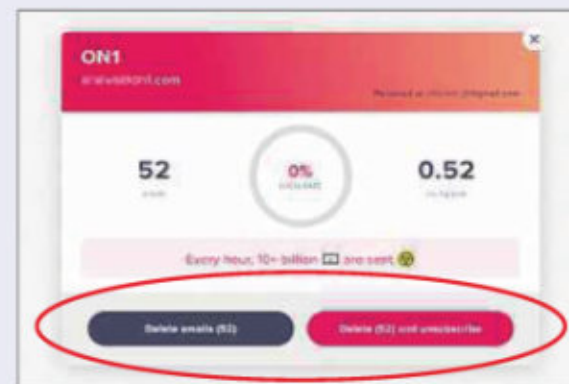
Email newsletters and subscriptions are a modern-day scourge, much like junk mail lying around at home that piles up for years. To take myself off mailing lists in the past, I've had to click Gmail's Unsubscribe button, which takes you to the relevant website, where you need to enter your email address, state your reason for unsubscribing, then read a message saying telling me the company is sad to see me go. What a waste of time and energy!

Thankfully, I found a useful website called Cleanfox that saves you from all this palaver. Once you've granted the website access to your email account, it automatically scans your inbox for email subscriptions and newsletters.

You'll then see the option to delete all emails from a specific account, or delete all emails *and* unsubscribe from that account in one go.

Go to www.cleanfox.io, select your email provider on the right, click I Agree, log into your account when prompted, then click Allow. Cleanfox will then scan your account (it can take a few minutes) and list all the spam accounts you receive emails from. Those sending the most emails that are ignored (ie, unopened) appear first. You'll see buttons to delete all emails from that account or delete all emails and unsubscribe (see screenshot).

After making your selection, you'll see the next spam account and so on. The progress bar at the top tells you how



many more accounts you need to go through. The time this takes depends on the number of spam accounts you're subscribed to – it took me between 10 to 15 minutes – but this is much better than individually sifting through and unsubscribing from each account one at a time.

Joe Hardy



Joe wins a copy of our 2018 Back Issue CD

Buy it on Amazon www.snipca.com/30307

FILE EXPLORER

Remove EXIF data using Windows Explorer

✓ In Issue 547, you included a useful Workshop ('Remove location details before uploading your photos', page 40), which explained how to use the free program EXIF Pilot to remove location data from image files before uploading them online. I'm very careful about what I post to my

Facebook page and have tried various free programs that let you strip out personal data before uploading, and never realised there's an easy way to do this in Windows Explorer.

One point worth mentioning is that none of my cameras record GPS information, so I can't be certain it strips out location data – but it's worth a try.

To remove EXIF data in Windows Explorer, right-click your photo, then

click Properties in the pop-up menu that appears. In the window that opens, click the Details tab to see all the EXIF data about that photo. To remove all this data in one go, simply click the 'Remove Properties and Personal Information' link at the bottom (see screenshot below).

You'll now see two options in the window that opens: create a copy of your photo with all the properties removed or

Why I stopped using...

Satnav

✓ I generally used my satnav unit for longer trips and Google Maps for shorter ones. One reason I stuck with my satnav for so long is because it shows me speed cameras along my route and tells me the speed limit. However, I constantly need to connect the unit to my PC to update it, especially before a long trip.

And what I use instead...

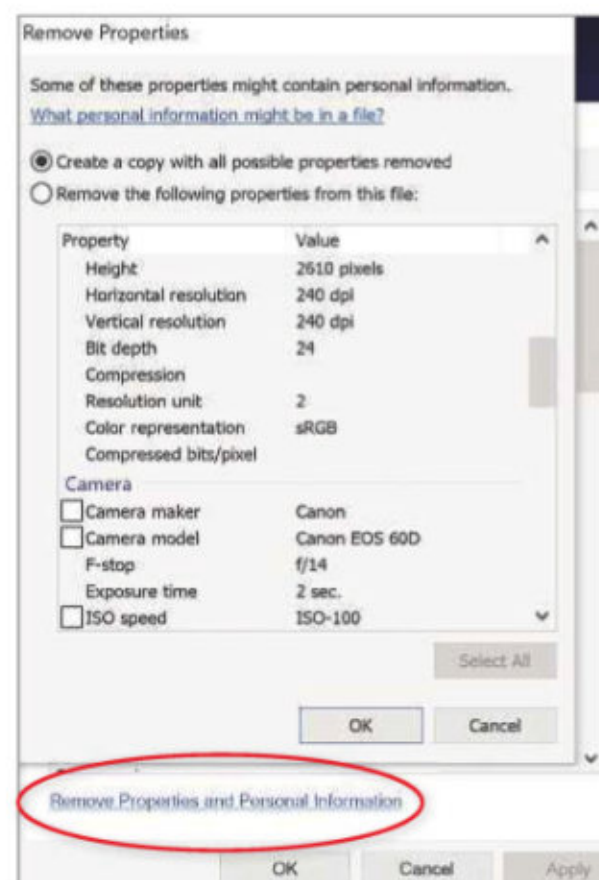
Last week, I was driving to a friend's house using **Google Maps** (default on Android; iOS www.snipca.com/30702) when I saw the speed limit pop up at the bottom left of the app's window.

I also heard an audio notification whenever I was approaching a speed camera.

I later read that Google trialled the feature in a few US cities last year and it's now live in the UK. Since Google Maps introduced these handy features, I've never needed my sat nav. I'm more comfortable with Google Maps because I find its traffic forecasts more reliable, the app informs me of any delays on my route well ahead of time, and it updates automatically – unlike my satnav, which I've now given to my son.

Brian Jamieson

✉ Tell us why you stopped using a website, app or program: letters@computeractive.co.uk



Handy hints and tips from your fellow readers

✉ Email us your tips: letters@computeractive.co.uk

selectively remove certain properties from your original photo (by ticking the boxes on the right). Choose the option you want, then click OK.

Andy Newton

HARDWARE

Fix problems by replacing laptop's CMOS battery

✓ I may have found a possible solution to the problem posed by Peter Jenkins in Issue 547 (see Problems Solved, page 68). Like him, my PC also displayed a message about the power adapter not being 'determined' even though I checked the output voltage of my Dell power adapter. As well as this, I was seeing a pop-up message saying my mouse could not be identified.

I have a Windows 10 Dell Latitude D630 laptop that I only use to run astrophotography image-capture software in conjunction with my telescope. I read several message boards online, which attributed this problem to the laptop's internal CMOS battery (pictured below). The solution was to replace this. I found a YouTube video detailing how to do this safely on my laptop (www.snipca.com/30715), but you can call a technician if you find this challenging.

Lo and behold, on booting with a fresh CMOS battery, no message displayed and it has never appeared since. My power adapter is now successfully charging the main battery and my mouse is detected as normal. I suspect the reason the CMOS battery was failing was because the laptop was being used outdoors in the cold. I hope this solution can help Peter resolve his problem.

A big thank you for your magazine. I cannot count how many times your articles have solved my problems and how much I have learned from your magazine. Best subscription I have ever taken out!

Peter Comley



Reader recommends...

Kasa Smart Wi-Fi Plug by TP-Link

£22.99 from Amazon www.snipca.com/30713

✓ Over the Christmas holidays, I saw an advert for the Kasa Smart Wi-Fi Plug on my Facebook news feed. Considering how cheap it is (£23) and the great reviews, I decided I had nothing to lose and bought one.

After using it for a few days and being so impressed, I ordered another one, and then another. I now have about six connected to various devices around my home.

Using the Kasa mobile app, you can connect a plug to your Wi-Fi in under a minute. After that, you can turn all the plugs off and on instantly with the touch of a button, which I do when leaving the house. I've set up 'schedules' to turn on the kettle at a particular time every morning; the air purifier comes on for an hour every evening;



and my device chargers only charge overnight. You can also set up and control the plug with voice commands if you have an Amazon Echo or Google Assistant device. These are fantastic.

Pete Driver

✉ Want to recommend hardware or software to fellow readers?
Email letters@computeractive.co.uk

CHARGERS

Mark your chargers with Tipp-Ex

✓ I love that your magazine simplifies modern-day technology for older people, like myself, so I thought I would contribute my own tip to help others.

Like most of your readers, I have many different devices at home - cameras, phones and tablets - each with their own charging cables. In poor light and with my fading eyesight, inserting the cable the right way round into the device socket can be difficult, time-consuming and irritating, so I came up with my own novel solution to this problem.

As you can see from the photo I provided (see below), I put a small white dot using Tipp-Ex correction fluid on the right side of the connector and a matching one on the same side of the

device, so that I know precisely how to line them up. This is a simple solution that I find very useful and the Tipp-Ex can easily be removed with your fingernail if necessary.

William Gayer



KEYBOARD SHORTCUTS

Type special characters using keyboard shortcuts

✓ First, I want to commend you on a fabulous magazine. In Issue 545 (see Make Windows Better, page 46), you explained how to type words containing special characters (like piñata and déjà vu) using Windows' Character Map tool. While that's great for inserting symbols not found on keyboards, I prefer a faster method that involves using keyboard shortcuts. Once you familiarise yourself with them, it's very simple.

For example, to type **á** or **â** press the Ctrl key while typing **'** or **^** (single quote) then press the letter **a**. Similarly, Ctrl+**:** (colon) inserts **â**; Ctrl+**^**+**a** inserts **â**. Ctrl+**,** (comma) followed by **c** inserts **ç**; Ctrl+**~** followed by **n** gives **ñ**; and Ctrl+**@** followed by **a** gives **á**.

These shortcuts apply to both lower- and upper-case letters. Some of them may require you to also press the Shift key depending on your keyboard settings.

Bert Paice

Phone and Tablet Tips

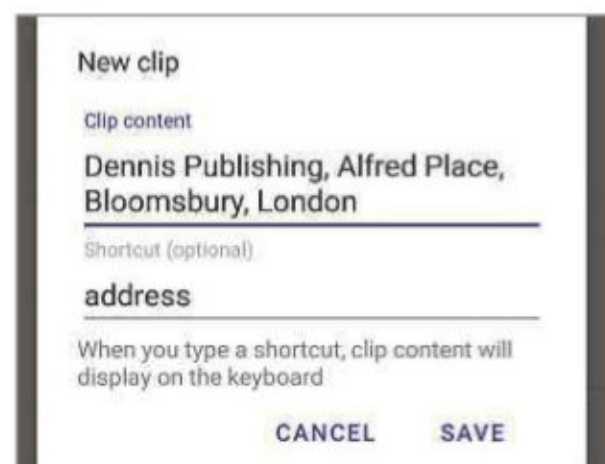
ANDROID & iOS

Use typing shortcuts in SwiftKey keyboard



One of the best features of our favourite keyboard app SwiftKey is the option to save text you type often so you can add it quickly when you need it. What's more, you can create shortcuts that will insert the text quickly. For example, you can save your entire address, then create a shortcut for this (say, the word 'address'). From then on, whenever you type **address** it will display your address as an autosuggest option you can select.

Install the SwiftKey Keyboard app (Android www.snipca.com/30655; iOS www.snipca.com/30656). You then need to set it as your default keyboard. On Android, open Settings, tap 'Apps & notifications', 'Defaults apps', Keyboard, SwiftKey Keyboard, then tap Yes to confirm. On iOS, tap Settings, General, Keyboard, Keyboards, then tap and drag SwiftKey Keyboard to the top of the list.



Now open any app that requires you to type (for example, Gmail), tap the clipboard icon at the top of your keyboard (between the paintbrush and pin icons), the pen icon at the top right, then tap 'Add a new clip'. You'll now see two fields. Type the text you want to add to your clipboard at the top and (optional) a shortcut for that text at the bottom (see screenshot below left), then tap Save.

There are two ways to add your saved text to any app you're using. You can either type the shortcut you created (**address**, in our example). Doing this displays three options in the autosuggest menu above the keyboard. The middle option is the full address that you saved. Alternatively, if you forget your shortcut or didn't assign one, tap the clipboard icon at the top of your keyboard again, then select the saved text to add it to the app.

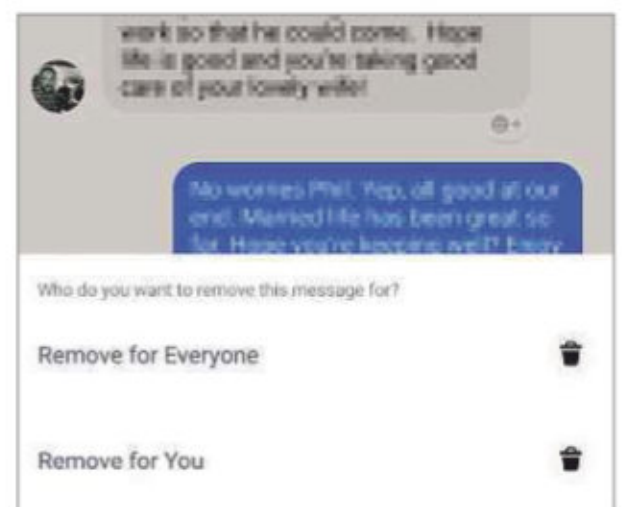
ANDROID & iOS

Delete messages you've sent by mistake in Facebook Messenger



Facebook Messenger (Android www.snipca.com/30657; iOS www.snipca.com/30658) has recently added a new feature that gives you 10 minutes to delete messages that you've sent by accident.

Tap and hold the relevant message. You'll now see three options at the bottom - Copy, Forward and Remove. Tap Remove to see two options at the bottom



- 'Remove for Everyone' and 'Remove for You' (see screenshot above). The latter option only removes the message from your chat window but the recipient(s) will still be able to see it. Instead, tap 'Remove for Everyone', then tap Remove again to confirm.

ANDROID

Increase your choice of ringtones



All Android phones come with a few default ringtones that you can use. These are preinstalled by your phone manufacturer (Google, Samsung, Huawei, etc) and the process for adding new ones varies for each make of phone. The easiest way to choose from a larger variety of ringtones across *all* phones is to use the free app 'Zedge: Ringtones and Wallpapers' (www.snipca.com/30659). Install and open the app, then follow the onscreen prompts.

To set a new ringtone, tap the three

BEST NEW APPS

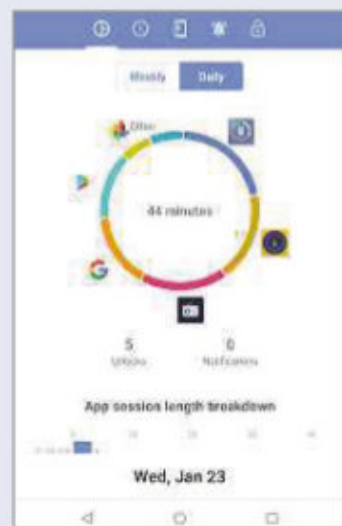
What you should install this fortnight

ActionDash

Free*

Android www.snipca.com/30661

Google's Digital Wellbeing tools, which show you how much time you spend on apps, are limited to the company's own Pixel phones. ActionDash bypasses this restriction by bringing Wellbeing tools to all Android devices.



VHS Camcorder Lite

Free*

Android www.snipca.com/30662

iOS www.snipca.com/30663

Last year, VHS Camcorder released a £3 app that let you add 1980s retro-style effects (glitches, wobbly scan lines, etc) to your videos. This Lite version limits recording time to 20 seconds, which is perfect for shorter video messages.



ZipScan

Free

Android www.snipca.com/30664

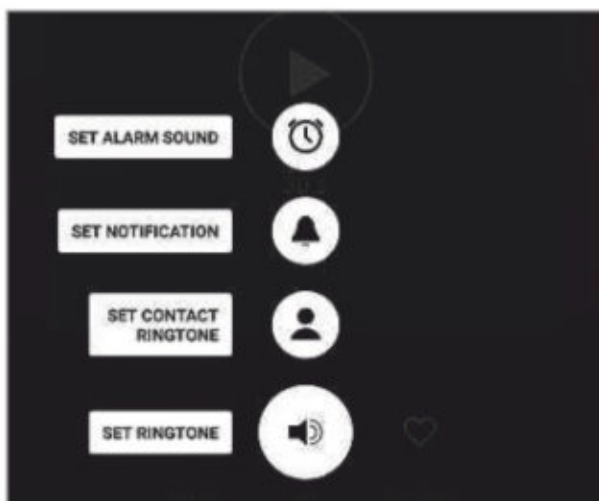
iOS www.snipca.com/30665

ZipScan lets you scan documents by



pointing your device at the relevant item. You can turn on the device's torch if the lighting is low. After taking the scan, you'll see options to edit or add filters, then save it to your device or share it.

*Contains in-app purchases



lines at the top left of the app, tap Ringtones, then the Categories tab at the top. You'll see several music genres that you can select from, including Classical, Blues, Country and Rock. Choose the one you want, then tap the play icons beside the ringtones to listen to them. To use the one you want, tap its name, then tap Set at the bottom. You'll see options to set it as your alarm tone, default notification tone, ringtone for a particular contact or default ringtone (see screenshot above). Tap Ringtone.

You now need to give the app access to your system setting in order to change your default ringtone. Tap Settings, then switch on the 'Allow write system settings' slider. You'll see a message saying your ringtone has been updated. If you choose to set that ringtone for a particular contact, you'll need to select the person's name from your contacts' list.

iOS Take photos on your iPhone or iPad using the volume button

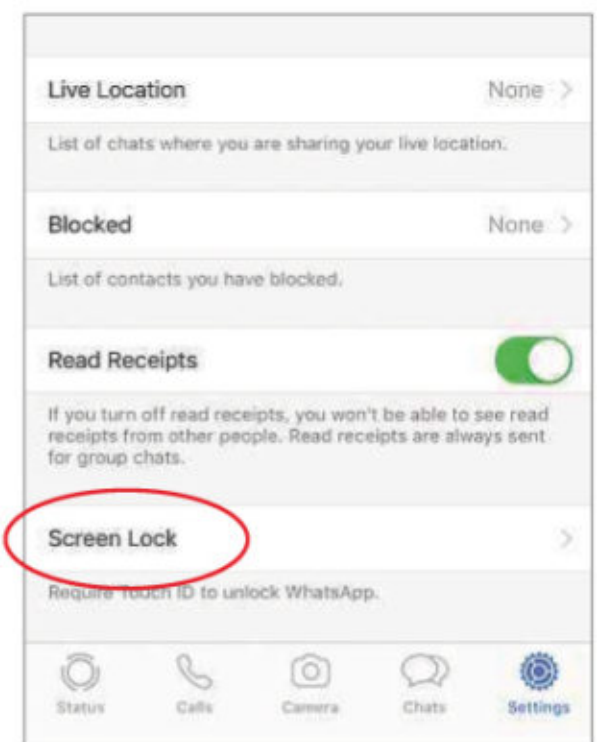
All iPhones and iPads let you take photos in three ways. The most common method is to open the Camera app and tap the circular shutter button at the bottom. Keeping this pressed takes a series of photos in succession until you release your finger. This is known as 'burst mode', from which you can select the photos you want to keep and delete the others.

The two other lesser-known ways involve opening the Camera app and pressing the volume down button. Alternatively, you can connect your Apple earphones (£29 from www.snipca.com/30681) and press the volume down button on those. In both cases pressing the button once takes a single photo, while keeping the button pressed activates burst mode and takes multiple photos.

iOS Unlock WhatsApp using Touch ID

WhatsApp (www.snipca.com/30660) has added a new layer of security that lets you unlock the app using whatever method you use to unlock your iPhone (Face ID or Touch ID).

To use it, open WhatsApp, tap Settings at the bottom right, Account, Privacy, Screen Lock at the bottom (see screenshot right), then tap the slider beside Touch ID or Face ID to turn it on. From now on, whenever you open WhatsApp, you'll be prompted to use the unlock method you use for your phone. Android phones don't offer this feature yet.



BEST APPS FOR...

Analysing your Wi-Fi network

Speedcheck Speed Test

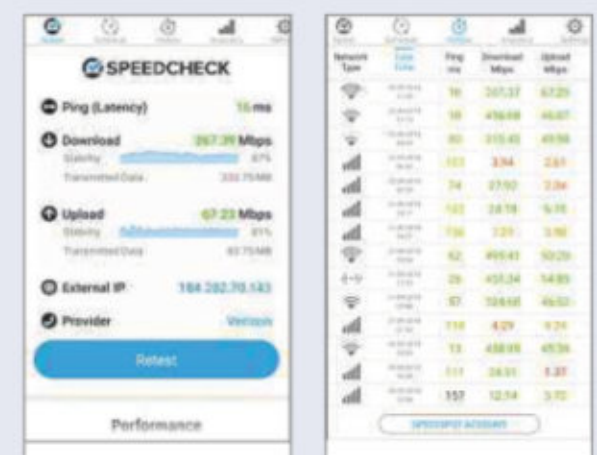
Free*

Android www.snipca.com/30666

iOS www.snipca.com/30667

Check for any lags in your home Wi-Fi network, and find out what your download and upload speeds are. You can also schedule the app to scan your network at certain times. Results are saved in a list, so you can compare your speeds over time.

Best for: Monitoring Wi-Fi speeds



Network Analyzer

Free

Android www.snipca.com/30668

iOS www.snipca.com/30669

This app lets you scan all the devices on your network and displays the strengths of the signal they're receiving as a graph. It also lists IP addresses, tells you whether your device is encrypted and which ports are closed, open and secure behind firewalls.

Best for: Getting detailed information about devices on your network



Wifi Analyzer

Free

Android www.snipca.com/30670

Wifi Analyzer scans all the channels on your Wi-Fi network and tells you the best one to use for the fastest speeds. There are two alternative views (timeline and graph) that you can switch between. You can also adjust the interval between scans and change the graph colours to make data easier to read.

Best for: Finding the best Wi-Fi channel



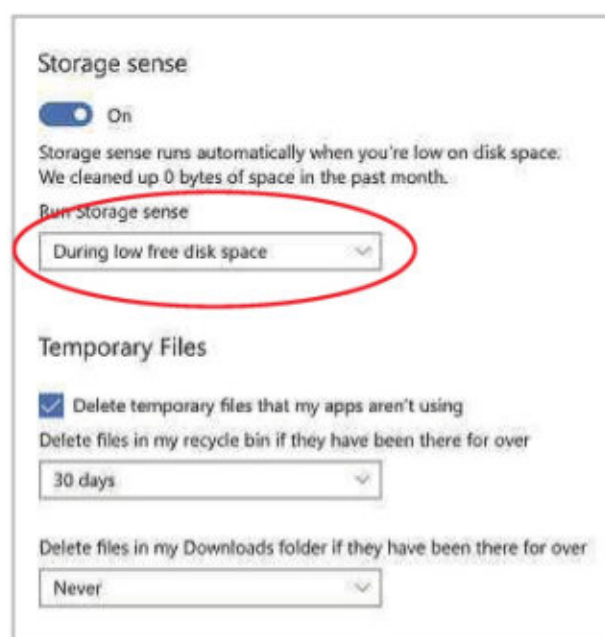
WINDOWS 10

Automatically delete unwanted files



The Windows 10 October 2018 Update (version 1809) added a useful new scheduling feature to 'Storage sense' - Microsoft's tool that automatically deletes unused files to recover storage space on your PC.

To use it, click your Start menu, the settings icon (cog) at the bottom left, System at the top left, then click Storage in the left-hand panel. You'll see an overview of how much storage space you've used up and how much is free. Make a note of this.



Next, click the 'Change how we free up space automatically' link below the 'Storage sense' slider, then switch on this slider. Previously, you could only switch Storage sense on or off, but you can now choose when you want it to clean things up. Click the 'Run Storage Sense' dropdown menu to see four options - Every day, week, month and 'During low free disk space' (see screenshot above).

The Temporary Files section below lets you delete **temporary files**. Below that you'll see new dropdown menus for emptying your recycle bin and Downloads folder of files that have been there for a certain amount of time. Clicking those menus you can choose from Never, 1, 14, 30 and 60 days.

WINDOWS 10

See the time in different world cities



Windows 10's 'Alarms & Clock' app has a great feature that lets you keep track of time in cities across the world. Open your Start menu, click the app to open it, then click the

WINDOWS 7, 8, 10

Set up system restore for a new SSD



If you've recently bought a new PC that has an **SSD**, or you've replaced your traditional hard drive with one, Windows' **system restore** won't be switched on by default. This means you won't be able to roll back your system to a previous point in time should something go wrong. Once this is enabled, any restore point you do create will take up space on your new SSD, but you can limit the amount.

If you're not sure whether you have a hard drive or SSD, press the Windows key, type **defragment**, then click 'Defragment and Optimize Drives'. In

the window that opens, you'll see the type of drive you have in the 'Media type' section. If this says 'Solid state drive', follow our instructions below to switch on system restore and assign storage limit to it.

First, press the Windows key, type **restore**, then click 'Create a restore point'. In the System Properties window that opens, find your drive's name and you'll notice that Protection (system restore) is turned off. To turn it on, select the drive name, click the Configure button at the bottom right, select 'Turn on system protection' (see screenshot), then

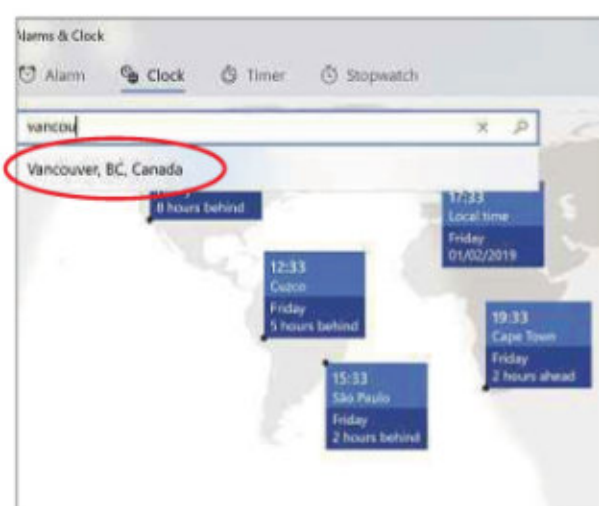
move the Max Usage slider below to assign a maximum limit of space for your system restore points (about 10GB should suffice, or lower if you're short on storage space). Finally, click Apply, then OK twice.

When you reach your set limit Windows will start deleting the oldest system restore points.



Clock tab. By default, you'll see the time wherever you are.

To see the time in other cities, click the '+' icon at the bottom right, type the name of the city you're interested in, then click the correct option from the suggestions (see screenshot below). You'll now see a dot representing that city on a world map, along with its time and how many hours ahead or behind it is from *your* time zone. To remove a city from the map, simply right-click its time in the pop-up and click Delete.

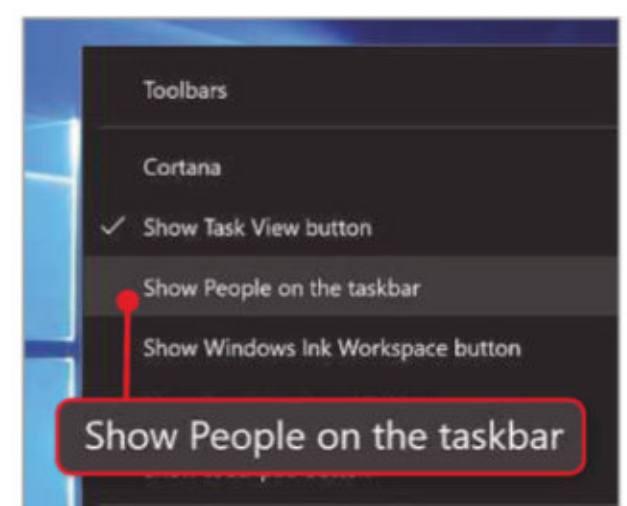


WINDOWS 10

Make more room on your taskbar



All Windows 10 PCs have a People app icon that sits on the left of your taskbar. Clicking the icon lets you instantly share files with any contacts that you've added to the app. If you don't use the People app, you can remove it from your taskbar to retrieve more space for something else. Right-click anywhere on your taskbar, then untick 'Show People on the taskbar' (see screenshot below).



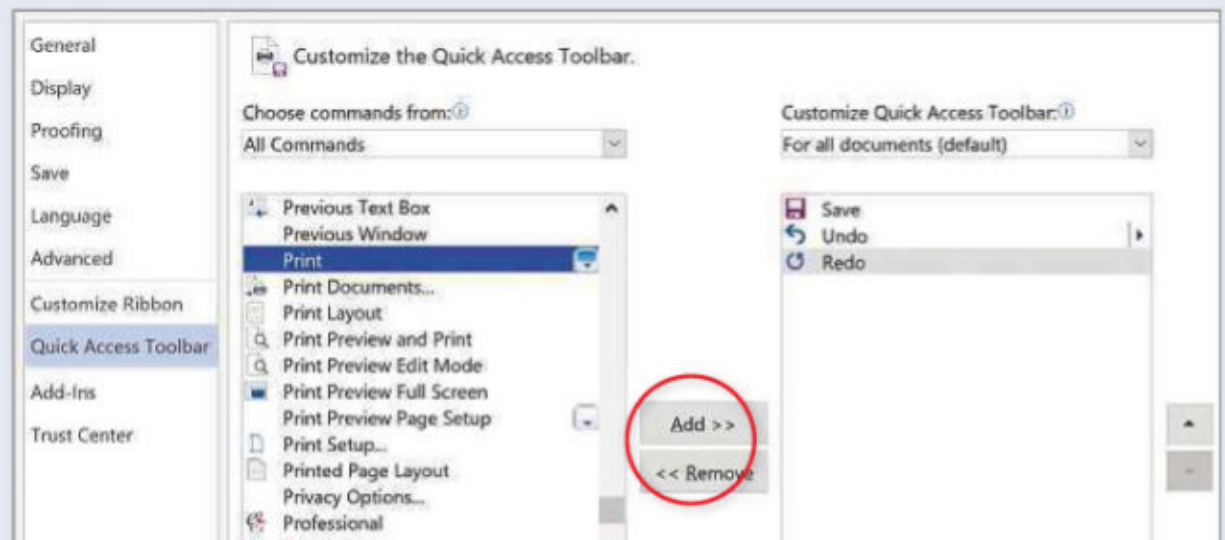
OFFICE

Add commands to your Quick Access Toolbar



All Office programs have a Quick Access Toolbar (QAT) on their Ribbons - at the top left, above the File tab. By default, this toolbar has four icons - the program logo, the option to save your file, and undo and redo the last action, as well as a dropdown menu. If you often use a particular command that takes a few clicks to carry out (such as print, zoom, enabling read mode), it's a good idea to add this to the QAT for instant access.

We'll show you how to add the Print command to Word's QAT, but you can use the same process for other commands in all Office programs. First, click the QAT dropdown menu, then click More Commands. You'll see two columns in the window that opens - a list of popular commands listed alphabetically on the left and a Customise Quick Access Toolbar



dropdown menu (with three options) on the right.

Scroll down the left column and select the command you want to add to your QAT. If you can't find the command (for example, Print is not displayed by default), click the left 'Choose commands from' dropdown menu and select 'All

commands'. You'll now see a much more comprehensive list with all Office commands listed. Scroll down the list, select Print, click the Add button in the centre (see screenshot), then click OK at the bottom right. You'll now see a new Print icon on your QAT that lets you print files quickly.

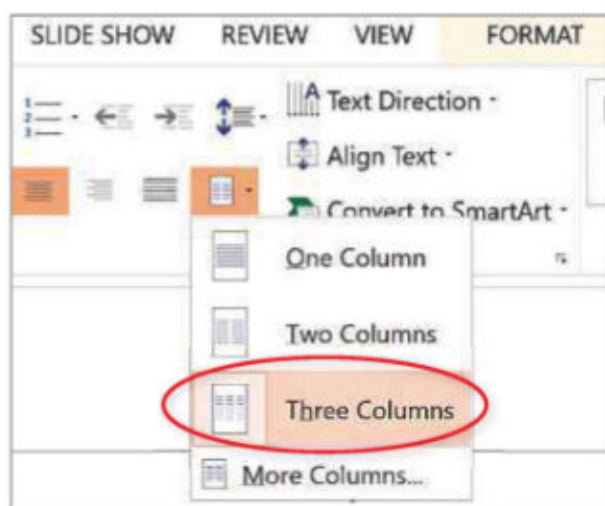
POWERPOINT

Display long lists as multiple columns in one slide



If you add (either by typing or copying/pasting) a long list of items to your presentation, the list will display as a single column above or below your slide (depending on the layout of your template). The easiest way to display this list so that it fits in one slide is to divide it into multiple columns.

To do this, first highlight your list. Next, click the 'Add or Remove Columns' button in the Paragraph section. By default, it's set to One Column, but you can set it to Two or Three Columns (see screenshot below). If you need more than three columns, click the More



Columns button, type the number of columns you want in the Number field, then click OK.

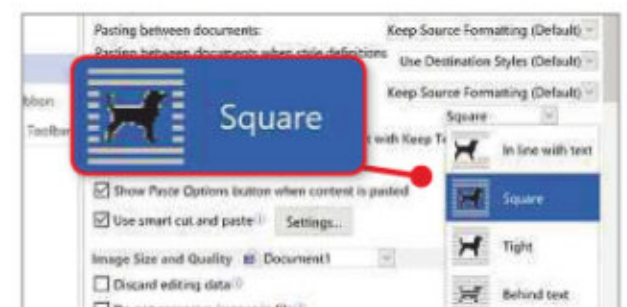
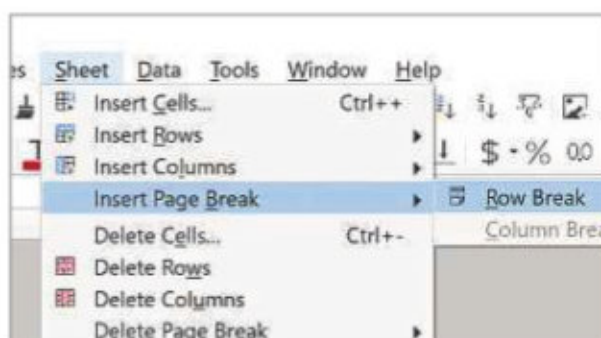
LIBREOFFICE CALC

Select which rows start on a new page when printing



It can be very handy when printing your Calc spreadsheets to have more control over how you divide the print-outs. Thankfully, you can determine which row starts on a new sheet when printing.

First, click the View tab, then Page Break. Next, select the row you want to start on a new sheet, click the Sheet tab, move your cursor to Insert Page Break, then click Row Break (see screenshot below). You'll see a purple line above the row you selected, indicating this is the start of a new page. Repeat this process for other sheets if you need to, then print your spreadsheet as normal.



WORD

Flow text around your images



By default, whenever you insert an image (portrait or landscape) into your document, it appears on a new line with text running above and below it. Click and drag the image to reposition it and your text will always stay above and below.

If you want your text to flow around all four sides of your image, there's a useful setting in Word that lets you do this. Once you've set this up you can click and drag your image to position it where you want. Click the File tab, Options at the bottom, then Display at the top left of the window that opens. Here, ensure that 'Object anchors' is ticked. Next, click the Advanced tab on the left, scroll down to the 'Cut, copy, and paste' section, click the 'Insert/Paste pictures as' dropdown menu, change it from 'In line with text' to Square (see screenshot above), then click OK to confirm your changes.

In The Club



Run a club or society? Here's how your tech can make it easier

Record a podcast for your members

The word 'podcast' was coined by British journalist Ben Hammersley as a portmanteau of the words 'iPod' and 'broadcast' in 2004. Today, podcasts are one of the easiest forms of media to consume because you can listen to them while cooking, doing household chores, on a commute, and even while working.

Producing a podcast can seem challenging, but there are many ways to make it easy. In this issue, we'll show you how to record and edit a podcast episode for your club members and upload it online, so they can listen to it on any device.

Buy a good microphone

When choosing your podcast's name, make it generic (like The Computeractive Podcast) or more specific, depending on your content (for example, Southend Wellbeing Podcast or Tamworth Seniors Badminton Club). Limit it to four words because most websites and apps don't display longer names.

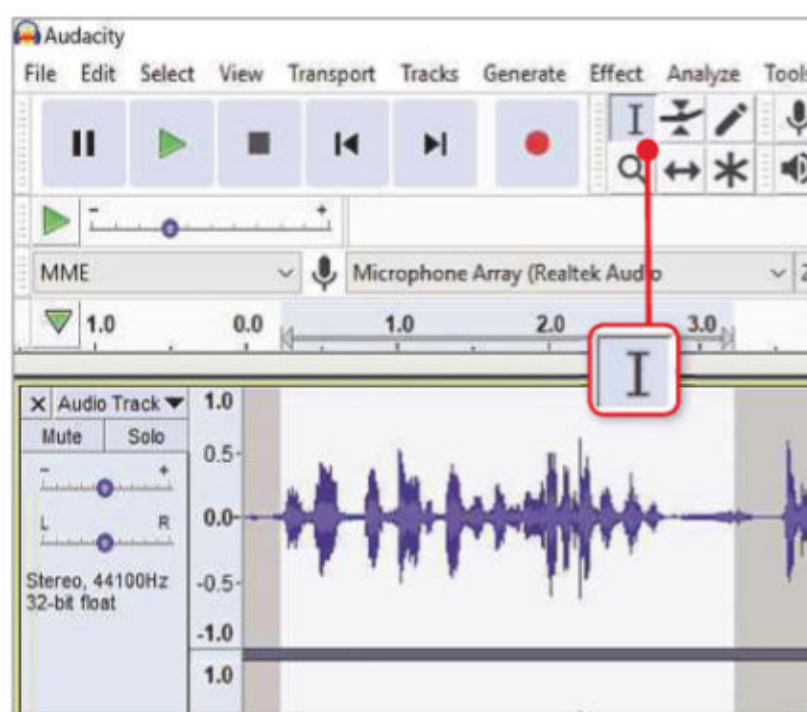
The only piece of hardware you need to buy is a good microphone to enhance voices from different directions and reduce background noise. A good one costs as little as £24.99 (www.snipca.com/30731).

Master Audacity

There are many PC programs that let you produce podcast episodes, but Audacity (www.audacityteam.org) is one of the best. Launch it, select your microphone from the dropdown menu at the top left, click the red Record button above it and talk for a minute. You'll notice that your recording appears as a waveform on the timeline below as you talk.

Click the Stop button, then press the spacebar to play/pause your recording. Press Ctrl+3 to zoom into a segment of your recording and Ctrl+1 to zoom out. The main editing tool you need is the selection tool (see screenshot above). Click this to highlight and select a portion of your recording.

You can now cut, copy and paste this



Audacity's selection tool lets you highlight a portion of your recording to cut, copy and paste

selection using the usual keyboard shortcuts. This is useful to remove mistakes and minimise any long silences.

Audacity has a helpful Getting Started page (www.snipca.com/30725) with comprehensive instructions.

Export your audio file

When you're ready to record, press Ctrl+N to open a new window, click the Record button and start speaking. There are two things you can do after you finish. You can either save the episode as a 'project', which you should do if you need to listen to and edit it later. To do this, press Ctrl+S, name the file, choose where you want to save it on your PC, then click Save.

Alternatively, if you think the episode is ready to be published, convert it to an MP3 and then export it. We'll use the MP3 format because it limits audio file size without compromising quality, making it ideal to upload later. Unfortunately, Audacity doesn't support MP3 by default, so you'll need to install the LAME extension (go to www.snipca.com/30726, then click the 'LAME v3.99.3 for Windows.exe' link and run the downloaded setup file).

Now, click Audacity's File tab, move your cursor to Export, select 'Export as

MP3', rename and choose where you want to save the episode on your PC, then click Save. In the window that opens, fill in the relevant data (name, title, year, genre, etc), then click OK to export the audio file on your PC. You can listen to this using your default media player.

Host your podcast

There are many websites that let you host your podcast, but most limit their 'free' offerings. Of these, Podbean (www.podbean.com) is the most

generous because it lets you upload five hours for free and gives you your own podcast website, where you can track how many people have listened to each episode.

Create a Podbean account and name your podcast. When you're done, click the My Podcast button at the top right, the Publish Episode button, upload your podcast episode when prompted, type a name and description (see screenshot below), then click Publish. Like Audacity, Podbean has detailed instructions if you need help (www.snipca.com/30728).

Each episode needs an accompanying image. You can either use your club logo or a relevant photograph.

Put the episode link in your club newsletter or mention it on social media. Upload episodes on a schedule (preferably weekly or fortnightly) so listeners know when to expect the next one.



When your podcast has been uploaded to a hosting site, give it a name and description

What's All the Fuss About...



Rectennas

You soon might be able to charge your phone on a 'tablecloth' just three atoms thick

What are they?

Rectifying antennas, which convert electromagnetic energy (such as radio waves) into direct current (DC) electricity. They were invented in 1964 by US engineer William C Brown, who demonstrated the technology by powering a model helicopter using microwaves transmitted from the ground. This method has been proposed as a way to power military drones from the ground, but a recent breakthrough could see rectennas also being used to charge phones, laptops and other gadgets. It involves technology described as an "electronic tablecloth".

What's that?

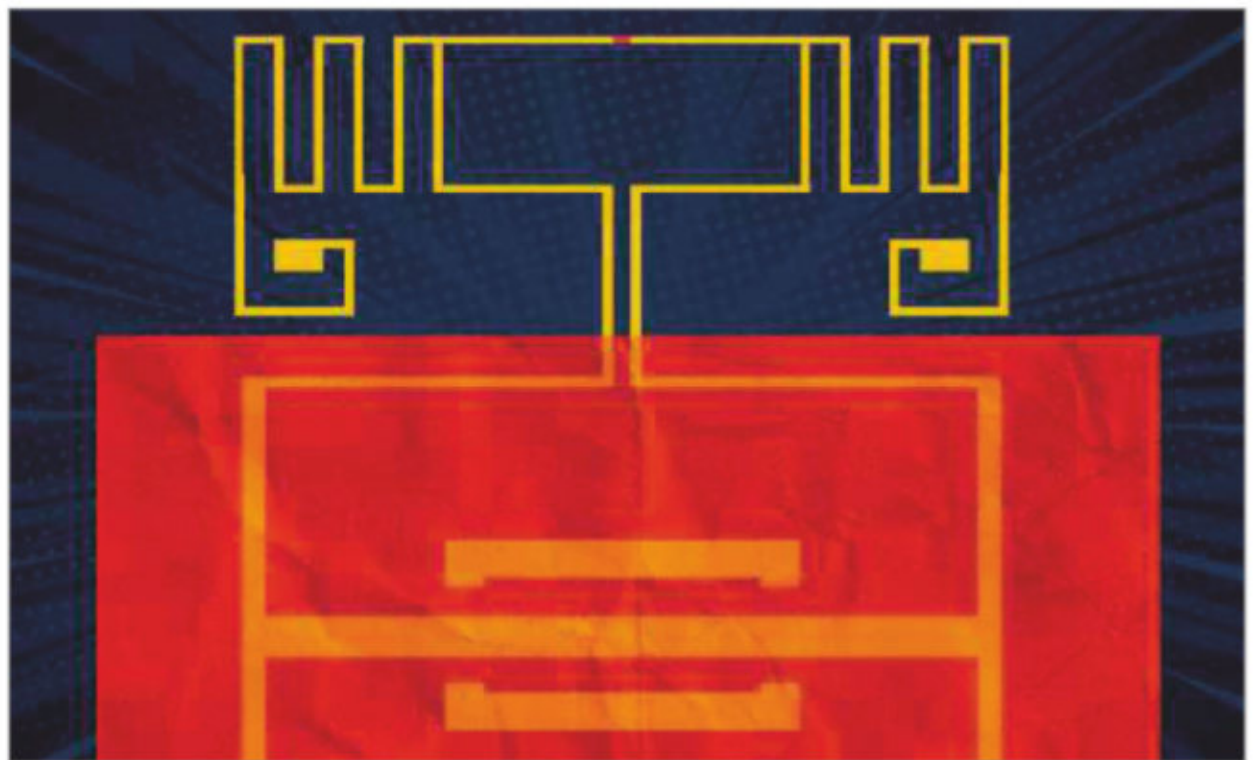
A semiconducting material just three atoms thick that, with an antenna attached, absorbs Wi-Fi signals (which *are* radio waves), then converts them into an electrical current. You could store this energy in a battery to use later.

So you wouldn't eat your dinner off it?

Presumably not. It's been developed by scientists at Massachusetts Institute of Technology (MIT), who say you could cover your desk with the material so it collects energy around the clock, whether or not you're there.

Does that mean you could charge devices without plugging them in?

Correct. They wouldn't even need batteries. The material is so thin and flexible (it's also been called a 'smart



skin') that Professor Tomás Palacios from MIT imagines a time when you could use it to "wrap around a bridge or cover an entire highway, or the walls of our office", turning large surfaces into chargeable areas. The image above is an artist's impression of what it looks like - with a golden antenna sticking out of the ultra-thin sheet.

How much energy can they create?

Not a lot. MIT scientists have managed to extract 40 microwatts from Wi-Fi signals of around 150 microwatts, which is enough to light a simple LED or activate a processor, but not much else (a computer needs 60 watts).

So is it of any use?

Professor Palacios certainly thinks so, predicting rather grandly that it will bring "intelligence to every single object, from our clothes to our desks and to our infrastructure". By this he's referring to the 'internet of things', which is the term given to describe ordinary objects that become 'smart' when they're connected to the web. This raises the possibility of rectennas powering gadgets like smart watches, fitness trackers, and even medical devices implanted in the body, such as pacemakers.

Pacemakers? Is that safe?

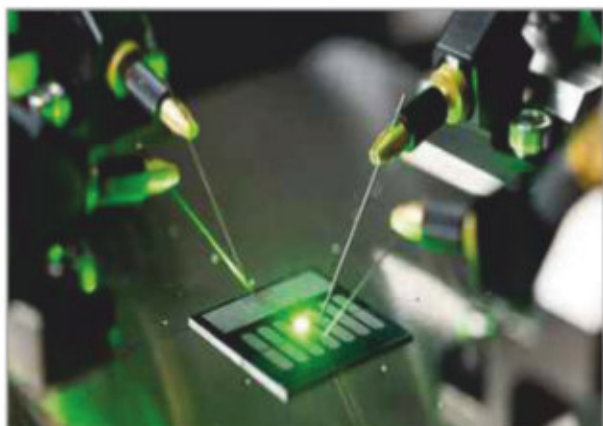
Yes. In fact, it would be far safer than current pacemakers, which are powered by batteries containing lithium. If this leaks, the patient could die. Wi-Fi signals pass through people, so they'd have no trouble reaching a pacemaker. Professor Jesus Grajal from the Technical University of Madrid, who also worked on the project, said rectennas could also power smart pills that stream health data to computers after being swallowed by the patient.

Are rectennas expensive to make?

Historically, yes. The potential to power large areas has always been there, but it's been held back by the expense of producing rectennas. But these new models are thin enough to be mass produced more cheaply.

Are there other types of rectennas?

Yes, optical antennas, also called nanotenna, which can convert light into electricity. Scientists at the Georgia Institute of Technology built the first device in 2015 (pictured left), saying it could be used to turn sunlight into solar energy. But it's all many years off, so you'll have to put up with plugs and wires for the foreseeable future.



US scientists have used optical rectennas to convert green laser light to electricity

Get a new... FASTER Wi-Fi Router



FOR FREE!

A new router can speed up your Wi-Fi and boost coverage. **Will Stapley** reveals the tricks to persuading your ISP to give you a brand new model for free

Is your router out of date? Research has shown that over one million UK broadband customers are using routers that are several generations old. If you're one of them, you're not only

WHAT YOU CAN DO

- Find out how likely you are to get a free upgrade
- Get your ISP's latest router without signing a new contract
- Cancel your contract early and get a free router from another ISP
- Sell your old router or keep it as a network switch

likely to be suffering poor wireless coverage and slow speeds, but you're also exposing yourself to hackers. Older routers that are no longer receiving updates or don't have the latest security features (such as **WPA2** wireless encryption) can be easily infiltrated by criminals.

But before rushing out and buying an expensive new router, why not try to get one for free? In this feature, we reveal the best ways to get a free upgrade from your internet service provider (ISP). Even if your router is relatively new, the very latest models will still improve your Wi-Fi coverage and add new features like USB ports that let you create network storage using a USB stick.

The most significant improvement is likely to be an upgrade to **dual-band** Wi-Fi. These routers broadcast two wireless networks; one on the 2.4**GHz** frequency of older routers, the other on the less congested 5GHz frequency. This lets more devices connect without affecting speed or coverage.

We also take a look at the latest routers offered by the UK's major ISPs and how they improve on previous models. And to prove getting an upgrade is possible, we reveal how we managed to get a new BT Smart Hub for free.

As you'll discover as you read this feature, it's not always a quick process, but it can be done as long as you don't take 'no' for an answer.



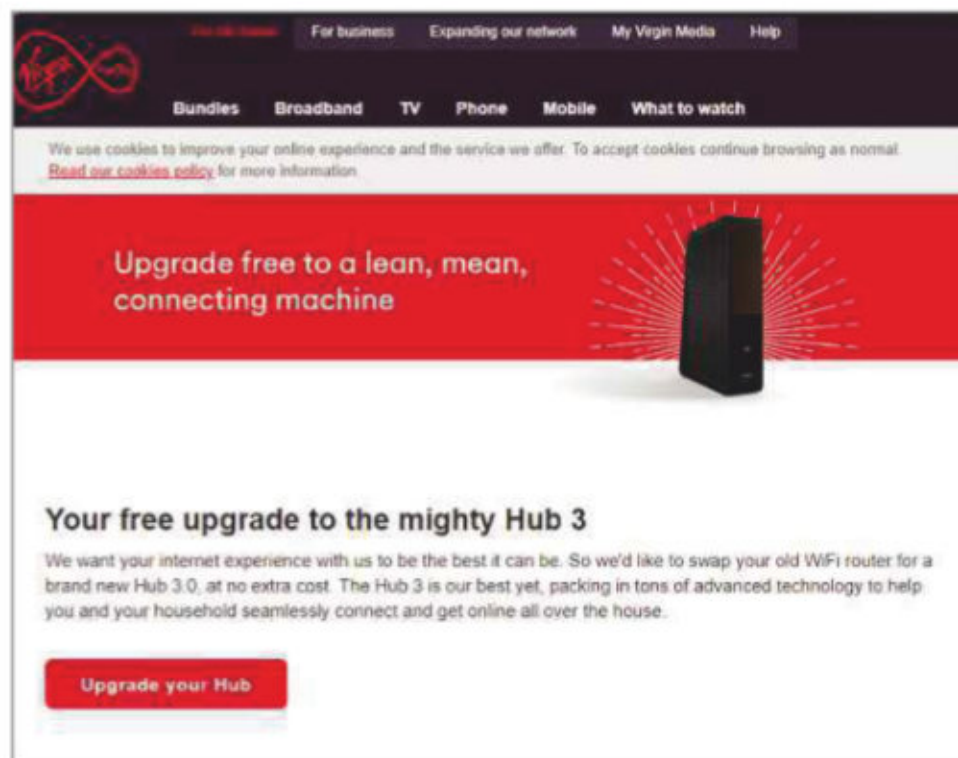
HOW TO GET A FREE ROUTER FROM YOUR ISP

Sometimes, getting a free router upgrade is straightforward. Just over a year ago, Virgin Media ran a free upgrade offer (no longer available) for its then brand new Hub 3.0 – existing customers simply had to click a link and claim their prize (see screenshot right).

In most cases, however, you need to put in a bit of legwork. Before contacting your ISP, jot down why you think you're due a free router, such as your current model is out of date (see more on page 52), and any specific problems you're having with your current router, such as poor coverage. Next, prepare to be passed from one department to another, repeating your personal details and being told you're not eligible for a free router upgrade.

As we found when we made enquiries (see page 53), your ISP may insist you have to pay for any upgrade. In our experience, you're more likely to be successful if you can get through to your ISP's 'retentions' department. Its job is to retain customers who have expressed an intention to terminate their contracts. One of the weapons in their armoury will be to offer you a free router upgrade to keep you as a customer.

Alternatively, speaking to your ISP's faults team can also help. Even if they fail to detect a fault with your current router,



This Virgin Media router offer from last year shows ISPs do occasionally offer free upgrades

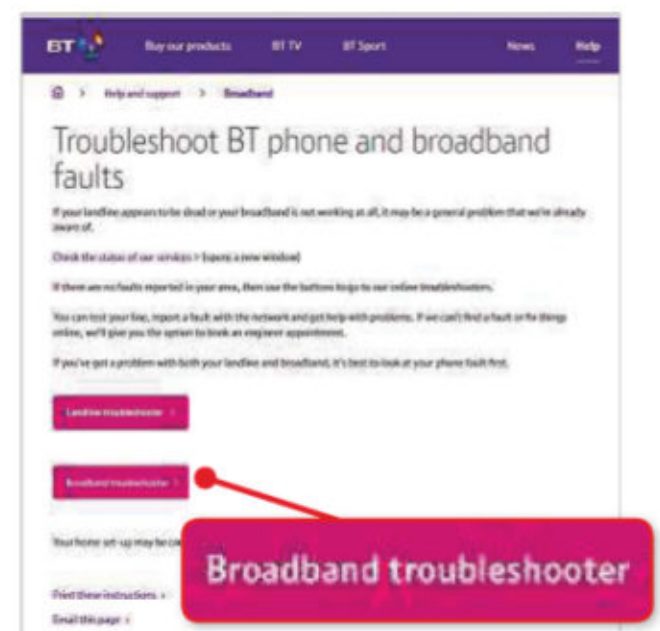
they will log your complaints of slow performance or poor coverage as a type of fault, which will increase your chances of getting a new router.

If your router isn't working properly, providing evidence of the problem will help your cause. Check your router's logs (your ISP's support website should explain how to do this) and look for any error reports or codes, such as your router frequently disconnecting, which you can then pass on to your ISP. Your ISP may also offer an online troubleshooter that helps detect faults, such as BT's at www.snipca.com/30604 (see screenshot below).

www.snipca.com/30604 (see screenshot below).

If you're not getting anywhere after multiple attempts, saying you're going to switch to a rival ISP can focus your ISP's mind. Even if you're in a long-term contract, you may still be able to leave without paying exit fees (see box left). We've also seen reports of people giving their ISP notice, only to receive a callback offering a better deal (including a new router). One Sky Broadband customer (albeit in 2013) said that they got a call 20 minutes after serving notice to leave and was offered not only a free router, but also three months free broadband and six months free Sky Movies (see www.snipca.com/30721).

The worst that can happen is that your ISP calls your bluff. If this is the case and you want to remain with your ISP, you still have until the end of your notice period (usually 30 days) to reverse your decision.



Check for faults on your router and broadband connection using your ISP's troubleshooter

Cancel your contract without fees

If you've reached the end of your contract's minimum term (or gone beyond it), you only have to give the standard notice period (usually 30 days). But if you're only part-way through, your ISP is likely to charge a cancellation fee. There are ways to avoid this...

PRICE RISE

If your ISP informs you they are raising their prices, you can leave your contract without paying an early termination fee within 30 days. Last month, BT announced it wouldn't be increasing its broadband charges until March 2020 at the earliest, but Sky recently announced price increases.

SWITCH ISP

Rival ISPs may be willing to cover any cancellation fees charged by your current ISP. We were offered this by EE

Broadband when we spoke to it about switching from BT (it would have saved us £60) – search online and you'll find reports of other ISPs doing the same (see EE's forum at www.snipca.com/30676). Even if you don't intend to switch, telling your current ISP that you're aware of these offers may convince them to upgrade you to the latest router.

SLOW BROADBAND

If your speeds are consistently slower than what your ISP promised when you signed up, you can leave your contract without charge. Ofcom's improved Voluntary Code of Practice on Broadband Speed (CoP) comes into force from 1 March, which gives ISPs just 30 days to fix your speeds, after which you have the right to cancel, without penalties. Read the details at www.snipca.com/30596.

WHAT ARE YOUR CHANCES OF GETTING A FREE ROUTER?

Ultimately, your individual circumstances will dictate how likely it is your ISP will offer to upgrade your router. Here are four common scenarios...

You recently signed up to a new ISP

If you only recently moved to a new ISP and discover that it released a new router shortly after you joined, you'll have a hard time getting them to replace it so soon into your contract.

If you've been with your ISP for less than two weeks, you have the option of cancelling your contract without charge, as covered by the Distance Selling Regulations. Once again, simply telling your ISP that you're willing to take this action (and explaining why) might nudge it into replacing your router with the new model.

If you weren't given a new router when signing up and are instead using an old one of your own, your ISP may simply have forgotten to send a new router. Check your contract to see if you're entitled to a free router – if so, contact your ISP immediately.

Chance of free upgrade: Low

You're in the middle of your contract

If you're in the middle of your contract, your best chance of getting a free upgrade is if you can prove there's a fault with the router they provided. This might be a technical fault with the router itself, or an inability to spread Wi-Fi to every room in your home. However, because your router is still fairly new, your ISP may simply offer to repair it or send out a like-for-like replacement.

Chance of free upgrade: Fair

Coming to the end of your contract

When you reach the end of your minimum-contract term, you'll usually

go on to a rolling monthly contract. ISPs hate monthly contracts because you can then give notice to leave at any moment without penalties – and so strengthen your hand to request the latest router for free. Bear in mind that if you're out of contract your ISP is very unlikely to give you a free router without you also signing up to a new contract.

If you're happy to stay with your current ISP, first negotiate the best deal you can on the monthly price for your broadband. Once you've secured this, ask for a free upgrade to the latest router to be included before agreeing to your new contract.

Chance of free upgrade: High
(if you sign a new contract)

You've been with same ISP for years

Despite the advantages of switching, as with your bank and energy supplier it's all too easy to stay with the same ISP for years. Don't expect to be rewarded for your loyalty, though. If your ISP deems your existing router to be suitable for your current broadband package, it probably won't willingly offer you a free upgrade.

As we discovered with BT (see page 53), instead of automatically upgrading us to its latest Smart Hub it was happy to leave us using an old Home Hub 5 router, even after we'd just signed up to a new contract. And we're not alone. Online forums are rife with people complaining about being lumbered with old routers. Many Sky Broadband customers have been stuck with its ageing SR102 Hub (pictured above), some of whom have resorted to buying Sky's latest Q Hub from sites such as eBay – see



Ask for a new router when extending your contract or you may be left using the ISP's old model – such as Sky's single-band SR102

www.snipca.com/30673.

If you've been with your ISP for years, take the initiative and use your status as a loyal customer as leverage to request a free router upgrade. Be sure to point out exactly how long you've had your router and say you feel you're being unfairly penalised for being a long-term customer (after all, new customers would receive the ISP's latest router, so why shouldn't you?).

While you're at it, it's also worth trying to negotiate a discount on your current price at the same time – though you will probably need to sign up to a new contract if your monthly price is reduced.

Chance of free upgrade: Very High

Don't want to haggle? Pay for an upgrade instead

If you can't persuade your ISP to upgrade you to its latest router for free – or you simply don't want the stress of arguing your case – there's usually the option to buy an upgrade instead. ISPs such as BT and TalkTalk make their routers available to anyone (not only their broadband customers), but as an existing customer you can get a significant discount.

BT's Smart Hub, for example, is listed as £129 on its website, but existing

customers can buy it for £65. TalkTalk offers a more generous discount to its customers, selling its Wi-Fi hub for just £25 instead of the standard £120.

Sky doesn't make its Q Hub router available to non-customers, but if you do currently use Sky Broadband you can get an upgrade for £69. And for £30, Virgin Media customers can upgrade to the Hub 3.0 – like Sky, Virgin Media doesn't sell the Hub 3.0 to non-customers.

To get one of these upgrades, you'll need to contact your ISP directly (for contact details see page 56). When doing this, make sure you only pay the discounted price we've listed here, not the full price. You won't need to enter into a new contract with your ISP when paying for a router upgrade, but it's worth confirming this with them. Also bear in mind that you may have to pay a delivery charge of up to £10.



HOW I GOT A FREE SMART HUB FROM BT

I recently contacted BT to get a free router upgrade. At no point did I mention that I worked for *Computeractive*, so the advisers I spoke to were under no duress to offer me a free upgrade in the name of good publicity. The process you go through will vary depending on your situation and the ISP you're with, but my experience illustrates the kind of barriers you're likely to face (and how to overcome them).



Always keen to get the best deal, I usually change my broadband provider as soon as my minimum term ends. When I joined BT Broadband in 2016, I was sent its latest router at the time, the Home Hub 5 (little did I know that this was soon to be replaced with the Home Hub 6, better known as the Smart Hub). Although it provided a good signal downstairs (where I positioned it), some upstairs rooms suffered slow speeds and the occasional dropped connection.

Late year, with my 24-month BT contract coming to an end, I started the search for a new ISP. After much haggling, BT offered me a great deal to stay (just £10 per month for its Superfast Fibre package), so I signed up. A few months later I realised I may have missed the opportunity to get myself a free router upgrade. As a first step, I used BT's live chat on its website to speak to an adviser and asked whether I was due an upgrade. Here follows the gist of our exchange:

- **BT:** I can see that you have a BT Hub 5 as of now. This Hub works with Superfast Fibre 1 Unlimited... A new Hub is only sent during contract renewal if the offer includes a Hub...
- **Me:** That's a shame. I signed up to a new contract partly because my HH5 [Home Hub 5] doesn't reach every room in my home. From what I've read, the Smart Hub provides a better signal.
- **BT:** ...I will transfer you to our technical team who will run checks on your present Hub and if they find any fault they will help you with a new Hub...

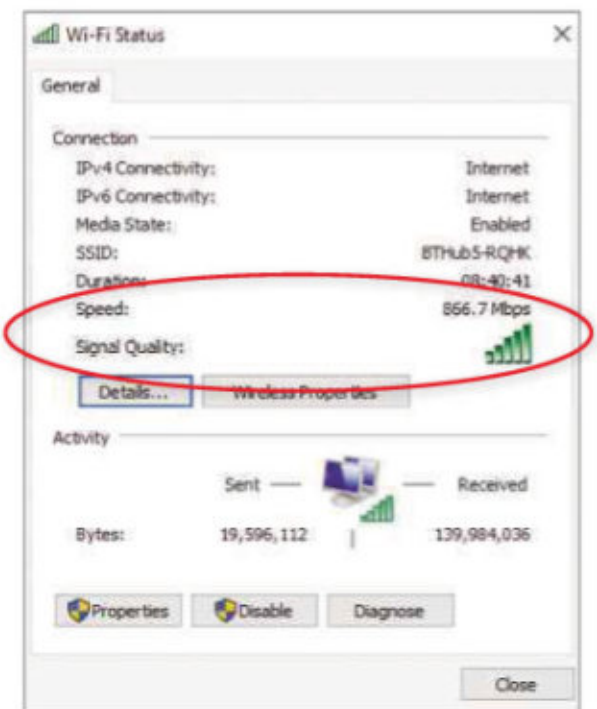
My experience is a prime example of why you shouldn't give up if you hit a brick wall. I was then transferred to another online chat adviser and, after repeating my request, I was asked to call BT's Orders team (0800 800 030). I then had to explain my situation a third time,

Check your new router is fast enough

In most cases, you can simply unplug your old router and plug the same cables into the matching ports on your new one – however, always use the new mains adapter supplied.

Before doing this, it's worth running a few tests on your old router to make sure your new model is all it's cracked up to be. First, connect a laptop to your old router and run Google's speed test. Search for **Speed test** in Google, click Run Speed Tests in the results, then make a note of the download and upload speeds.

Next, test the wireless signal in rooms that are furthest from the router. Click **Start**, type **control panel** press Enter then, in Control Panel, click 'View network status and tasks'. Click your wireless network (it will be listed under 'View your active networks') and make a note of the Speed and Signal Quality ratings (see screenshot) in each room. Now connect your new router and re-run these tests. The results should be better, but if any are worse, contact your ISP and ask if there are any router settings you can

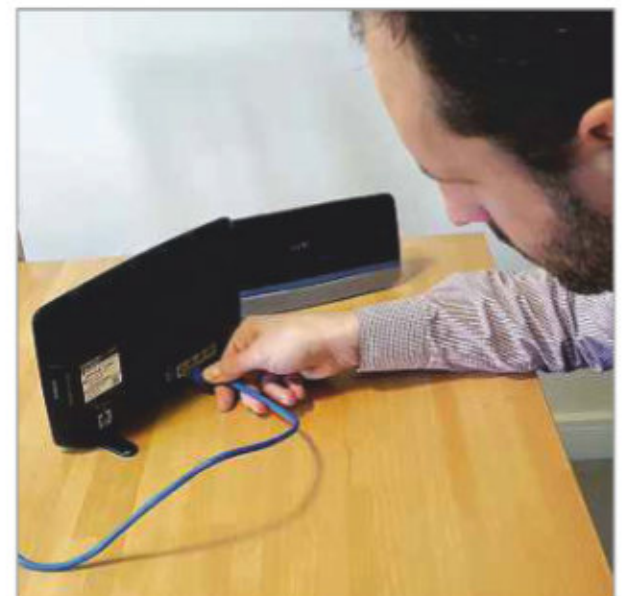


change to fix this.

While your ISP will probably supply a pre-paid label for returning your old router for recycling, we recommend waiting until you're sure you're happy with your new one before sending it back. In most contracts, the router is legally yours, and if so you're under no obligation to return it.



My new BT Smart Hub arrived via next-day delivery (left). I then just had to replace my old Home Hub 5 with it



before eventually being put through to the Faults team, where an adviser ran a test on my BT line and router. No faults were found, but he quickly agreed to send me a new Smart Hub free of charge – via next-day delivery (again, at no cost to me). I didn't have to say anything to persuade him.

The whole process took around two hours and involved being passed around a number of departments and repeating the same information. It was frustrating,

but it paid off. The following day my new router arrived (pictured above), and I'm pleased to report it does indeed reach parts of my house such as my loft that the old Home Hub 5 couldn't reach.

I also received a bag to send back the old Home Hub for recycling, but because my original contract has ended I now legally own the router (see Q&As on page 57) and plan to use it as a Gigabit network switch (or possibly a Wi-Fi extender – see How To, Issue 545, page 35).



FASTER & STRONGER: ISPs' LATEST ROUTERS



BT has two current routers: the Smart Hub (pictured right) and Smart Hub 2.

Launched in 2016 to replace the Home Hub 5, the Smart Hub is BT's standard router offered with its fibre-broadband packages. The Smart Hub 2, which arrived last November, is for BT's Complete Wi-Fi package - a **mesh Wi-Fi** system that includes up to three satellite discs to spread signals around large homes. We're not aware of any customers getting a free upgrade to the Hub 2, so your best bet is to go for the slightly older, but still very capable Smart Hub.

The most significant improvement in the Smart Hub is that it has more wireless aerials (seven in total: three on the 2.4GHz frequency and four on 5GHz), compared with five on the Home Hub 5 (released late 2013), four on the Home Hub 4 (early 2013) and just two on the Home Hub 3 (2011). As with most ISP routers, the aerials are internal so you can't direct the signal manually, but having more boosts coverage. It also allows your devices (PCs, phones and tablets) to connect simultaneously without reducing speeds.

Like the Home Hub 5, the Smart Hub provides the fastest Wi-Fi standard available (**802.11ac**), improving on the Home Hub 4 and earlier, which uses **802.11n** (around three times slower). BT has also improved the layout of its router settings page, which now has larger buttons and a clearer design.

If you're a BT customer and not sure which router you have, take a look at its comparison page (www.snipca.com/30597), which shows images of each model.



The Sky Q Hub (released in 2015, pictured below) improves on previous models in that it's an 802.11ac dual-band router, providing 2.4GHz and 5GHz wireless networks. The SR102 (2013) and SR101 (2012) were both single-band 802.11n routers, and therefore won't get anywhere near the coverage or speed of the Q Hub.



If you also have a Sky Q TV subscription, the Q Hub will use your Q Mini boxes to create a mesh Wi-Fi network



BT's Smart Hub is three years old, but it's still an impressive dual-band router

While it boosts speed and range, the Q Hub (pictured below) halves the number of Ethernet ports to two. If you want to connect multiple devices (such as a **NAS** drive or security camera) using a wired connection, you'll need to buy and connect a separate network **switch** (such as this TP-Link model for £12 from www.snipca.com/30712). On the plus side, the Q Hub's two ports are Gigabit, which provide transfer speeds up to 1 Gbps (1,000Mbps) - 10 times faster than its previous Hubs.

If you're also a Sky TV customer and have Q Mini boxes (small devices that let you watch Sky TV in other rooms), you can use the Q Hub to create a mesh Wi-Fi network. Each Q Mini box repeats your wireless signal, similar to BT's Whole Home Wi-Fi and Complete Wi-Fi services. Sadly, you can't buy Q Mini boxes solely to extend your Wi-Fi - they only come as part of a Sky Q TV subscription.



Launched in 2017, the Hub 3.0 (pictured above right) is Virgin Media's latest router. However, aside from a new design, not much has changed from the Super Hub 2ac, which was released two years earlier and was the first Virgin Media router to support 802.11ac.

The original Super Hub - released in 2011 and still used by many Virgin Media customers - is unusual in that it provides



The Hub 3.0 is Virgin Media's latest router, but it's not been popular with gamers

2.4GHz and 5GHz wireless networks, but not at the same time. So if you have 2.4GHz-only devices, they will lose access to the network if you start using 5GHz kit. This restriction was lifted with the launch of the Super Hub 2 in 2013, which provides simultaneous 2.4GHz and 5GHz bands - as do all subsequent Virgin Media routers.

The Hub 3.0's performance has been criticised by some customers, particularly gamers who complain of stuttering video streams when playing online games. Virgin Media has released a series of **firmware** updates in an effort to resolve this, but some users are still reporting problems. If there are online gamers in your household, you may want to stick with the Super Hub 2ac. If you're using a

Super Hub 2 or earlier, however, we'd definitely recommend pushing Virgin for a free upgrade to the Hub 3.0.

TalkTalk Like Virgin, Talk Talk has removed the 'super' from its hubs. But the new Wi-Fi Hub (pictured below) is more powerful than the previous Super Router, with seven aerials (four 5GHz; three 2.4GHz), allowing more devices than ever to connect without reducing data-transfer speed. This compares with the five aerials of the older Super Router. Both models support 802.11ac wireless.

Before the Super Router came along, TalkTalk customers were lumbered with the Plus Fibre router – a single-band router that was also limited by slower 100Mbps Ethernet ports (the newer routers have 1000Mbps Gigabit ports). If you're still using this router, we strongly advise you get in touch with TalkTalk about a free upgrade.

One feature lacking on the new Wi-Fi Hub is a USB port – something that previous TalkTalk routers offered. With many modern laptops lacking USB ports, the ability to access files stored on a USB stick via your router is incredibly useful.





Talk Talk's new Wi-Fi router has seven internal aerials to provide more range and speed


A TalkTalk spokesperson told us the decision to drop the USB port was made because customers weren't using it on the Super Router, opting instead for free online-storage services, such as Google Drive and Dropbox. This may be true, but we still think removing a useful feature such as this is an odd decision.

Finally, TalkTalk has just announced it's trialling a new service called Plume that boosts your wireless signal using Wi-Fi extenders that plug into power sockets. It costs an extra £9 per month, though, and is currently invitation only (find out more and register your interest at www.snipca.com/30688).

OTHER ISPs

 Like its predecessor, the BrightHub 2, EE's Smart Hub works on 2.4GHz and 5GHz, and supports 802.11ac. However, it also increases the aerial count to seven from two, This will significantly improve wireless coverage and performance if you have multiple devices connecting at the same time.

 The Hub One, launched in 2015, is a rebranded BT Home Hub (no great surprise since Plusnet is owned by BT). This model replaced the single-band 802.11n Hub Zero, which was released earlier the same year. We recommend pushing for a free upgrade if you're still using a Hub Zero.








 Since it entered the UK broadband market in 2015, Vodafone has supplied the HHG2500 as its default free router. It's an 802.11ac dual-band unit, but we've seen complaints from customers about slow speeds (such

Five best things to do with your new router

- Prioritise your connected devices** By creating separate **SSIDs** for your router's **2.4GHz** and 5GHz frequencies, you can ensure devices that need faster connections use the 5GHz frequency.
- Stop guests accessing your entire network** By splitting your networks (as above) you can use the 2.4GHz just for guests. With all your PCs on the 5GHz network, their shared folders won't be available to visitors.
- Enjoy faster wireless** With the latest routers having between five and seven antennas, you can stream HD video to multiple devices without slowing Wi-Fi.
- Transfer files using faster wired connections** Older routers only support 100Mbps wired networking, but newer models have much faster Gigabit ports, meaning a 2GB film takes 18 seconds instead of three minutes to transfer.
- Make it more secure** Your new router may come with easily guessable (and therefore hackable) login details, such as 'admin' and 'password', so change these. Also, ensure it is set to use WPA2 encryption, which is the strongest available.

as on Vodafone's forum at www.snipca.com/30677). We've also heard rumours of a new router launching later this year – most likely the same model Vodafone is using for its Gigafast Broadband service, currently being trialled in Aberdeen, Milton Keynes and Peterborough (see www.snipca.com/30679). But at the moment, there's no upgrade option.

ISP routers & contact details

| |  |  |  |  |  |  |  |
|-------------------------------|---|---|--|--|---|---|---|
| Latest router (launch year) | Smart Hub 2 (2019) | Q Hub (2015) | Hub 3.0 (2017) | Wi-Fi Hub (2018) | Smart Hub (2018) | Hub One (2015) | HHG2500 (2015) |
| Previous router (launch year) | Home Hub 5 (2013) | Hub SR102 (2013) | Super Hub 2ac (2015) | Super Router (2014) | BrightHub 2 (2013) | Hub Zero (2015) | n/a |
| Broadband troubleshooter | www.snipca.com/30625 | www.snipca.com/30626 | www.snipca.com/30627 | www.snipca.com/30628 | n/a | n/a | n/a |
| Website | www.bt.com/broadband | www.sky.com/broadband | www.virginmedia.com/broadband | www.talktalk.co.uk/shop/broadband | www.ee.co.uk/broadband | www.plus.net | www.vodafone.co.uk |
| Customer services | 0800 800150 | 0344 241 4141 | 0345 454 1111 | 0345 172 0088 | 0800 079 8586 | 0800 432 0200 | 08080 034 515 |



FREE ROUTER UPGRADES: FAQ

Q Is my ISP obliged to give me a free router upgrade?

Unless your broadband contract specifically states that you're entitled to free router upgrades (and we're not aware of any that do), your ISP is under no obligation to give you one. Don't let that put you off, though, because you've still every chance of getting a free upgrade if you follow the advice in this feature.

BT's new Complete Wi-Fi service (www.snipca.com/30598), which uses mesh Wi-Fi to improve coverage, is the closest that comes to offering free upgrades - if the wireless signal doesn't reach all the rooms in your home, BT will send out up to three discs to boost the signal. It's not really free, of course, because you're paying for this benefit in your monthly bill.

Q Am I entitled to a free upgrade if my router develops a fault?

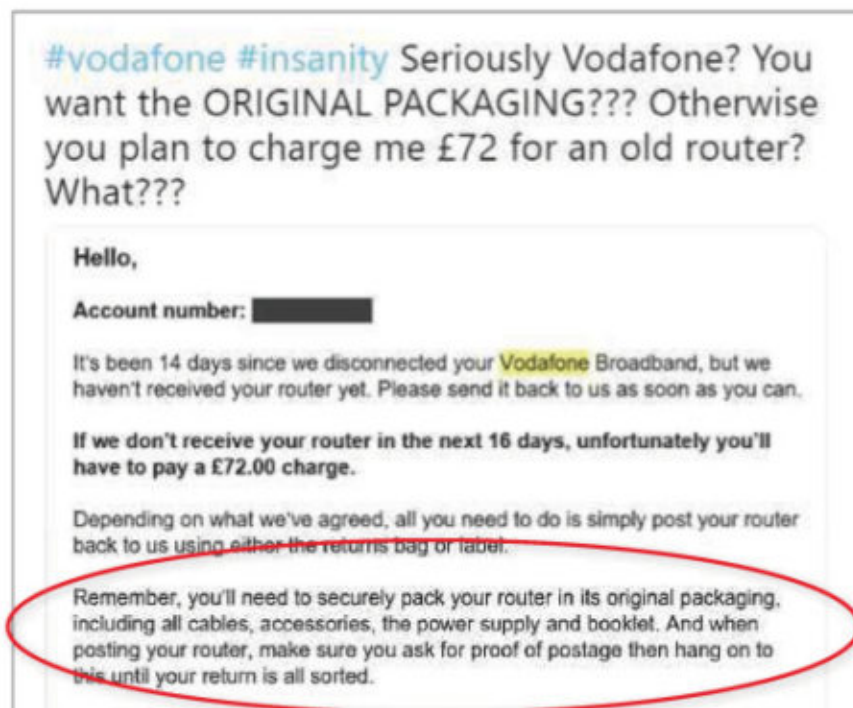
As part of your contract, your ISP is required to provide the necessary equipment to deliver the service - unless you opted to use your own router when signing up. The less time you have left on your contract, the more likely you'll be offered a free upgrade. However, your ISP may simply offer to repair or replace your existing router instead.

Q Will I need to sign up to a new contract to get a free router?

Not necessarily. We've seen numerous reports online of Virgin Media upgrading its Hub for free when called out to fix a fault. If you're nearing the end of your contract, though, don't be surprised if your ISP asks you to sign up for another 12 months or longer. Your ISP won't want to give you a free router, only for you to jump ship weeks later.

Q Can I keep my old router?

When you receive a new router from your ISP, the old one is often yours to keep - although most ISPs, such as BT,



will offer to recycle it for free. Some contracts will state that the router remains the property of the ISP until your contract term expires, at which point ownership transfers to you.

Virgin Media, however, retains ownership of your router, and any other equipment they've sent to you, at all times. If you cancel your contract, the company asks you to return everything. And while Sky lets you keep its old Sky Hub, it will request that you return the latest Sky Q Hub should you cancel. TalkTalk's terms state that the router belongs to the customer, but if the company has to repair or replace it after its one-year warranty expires, ownership reverts to TalkTalk.

Like Virgin Media, Vodafone requires you to send your router back when you receive an upgrade or terminate your contract. However, some Vodafone customers were left bewildered when asked to not only return their router, but also all the original packaging - or face a £72 fine (see screenshot of a tweet from a Vodafone customer above). It seems this was a case of poor wording on Vodafone's part. A spokesperson confirmed to us: "we don't charge customers if they no longer have their original router packaging".

You may have to return your old router, but if you're with Vodafone you can ignore its demand for the original packaging

Q Will a new, faster router speed up my broadband?

If your current broadband speeds are below that promised by your ISP, your router could be the problem. A new router should resolve this and increase speeds when sending files between devices (such as **casting** video from your desktop PC to your TV). However, if your broadband connection is inherently slow (perhaps your home is a long way from the nearest BT exchange or you have poor quality wiring to your home), a new router won't fix this. Speak to your ISP about other possible remedies.

Q Do I need to upgrade my router?

If you're using an ageing router, such as BT's Home Hub 3, we'd recommend upgrading. A newer router will be faster, provide better coverage and benefit from regular updates. Even if your current router is reasonably new, the latest model will add new features (see pages 55-56). That said, if your router is working perfectly well and, after checking out the latest router your ISP has to offer, you see no reason to upgrade, hold fire and keep our advice here to hand for when you do want to upgrade. **ca**

NEXT ISSUE On sale Wednesday 13 March

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Beat the Burglars!

You don't need to spend a fortune to protect your home. **Nik Rawlinson** explains how your existing kit can sit at the heart of a complete home-security system



See who's ringing your doorbell – even when you're out

Video doorbells are nothing new, but motion-detecting video doorbells that stream to your phone are. Amazon-owned Ring is leading the way, streaming not only to iPhone and Android smartphones, but also to the video-enabled Amazon Echo Show and Echo Spot voice assistants (www.snipca.com/30582).

Ring doorbells also enable two-way communication, so if a delivery arrives when you're shopping – or on holiday – you can speak to the driver and tell them which neighbour to try. The cheapest, original Ring Video Doorbell (£89 from www.snipca.com/30562) is arguably the most tempting. Although its resolution is lower than newer versions, it's still better

than some TV broadcasts and the field of view is wide at 180 degrees (see image below), compared with 160 degrees on the Doorbell 2 (£179 from www.snipca.com/30560) and Doorbell Pro (£229, www.snipca.com/30561). However, it lacks the quick-release rechargeable battery pack of the more expensive devices and instead has an integrated battery that lasts up to a year and takes between five and 10 hours to recharge.

Find out if someone is snooping outside your home

Netgear's highly regarded Arlo security camera (www.snipca.com/30563) is simple to set up, withstands the weather and looks great. It's got motion detection and uploads video to online storage, but it

does this via a base station that lives indoors and, at £259 for a two-camera set-up, it's not cheap. A rolling seven days of online video storage is free for up to five cameras, but after Y-cam introduced a £2.99 monthly charge for similar features, bear in mind that Netgear could follow suit at any time. Building your own cameras is a better option because you're not reliant on another company's storage.

In Issue 536's How To feature (page 35) we showed you how to set up a £49 external IP camera with motion detection (www.snipca.com/28923) so that it can upload a snap of whatever's triggered it to a web server, or send it to you by email. It's up to you which address the pictures are sent to, so pick one you use for nothing else (free accounts are available from Outlook.com and Gmail.com), and set your phone to sound an alert when receiving messages to that inbox.

On iPhone, open Settings, Mail, then Notifications. Select the email account receiving the photos, followed by Sounds. Choose a sound from the list of options. On Android, open the Gmail app and tap the three bars in the upper left corner, followed by Settings. Select the account receiving the photos, followed by Manage Notifications. Tap Sound on the next screen, then choose your preferred alert, and tap OK.

Alternatively, if you have an old smartphone gathering dust, you can put it to use as a security camera. Install the Alfred app – iPhone www.snipca.com.



The Ring Video Doorbell includes 180-degree video and motion detection



Use the free Alfred app to convert an old phone into a security camera

[com/30573](http://www.snipca.com/30573); Android www.snipca.com/30574, which lets you set up your phone as either a camera or a viewing device so you can remotely stream your home from anywhere in the world (see screenshot above). It's free to download and, rather neatly, can switch between the front and back camera to give you a 360-degree view of the room in which the transmitting phone is positioned.

In-app purchases let you upgrade the streaming service to include online storage (£3 per month), which lets you retrieve important evidence should someone break in when you're not watching the live feed.

You'll then just need to connect your phone to a power source to and prop it up (or use a clamp, like the £5.99 Ailun Phone Holder, www.snipca.com/30572).

Make it look like you're home when you're not

The simplest way to make it look like someone's home is to leave a few lights on. That used to be easier said than done if you're away for a fortnight and often meant pushing fiddly pins into a



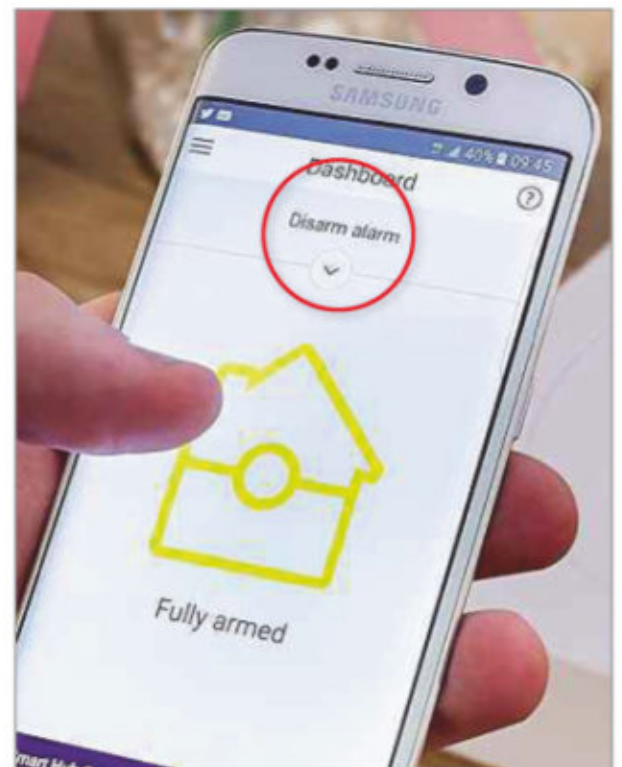
This fake TV simulator fools burglars by mimicking the glow of a switched-on telly

mechanical timer switch. In this age of Wi-Fi connected bulbs (www.snipca.com/30564), however, you can switch lights on and off remotely from your phone.

If you're looking for a kit you can expand over time, go for Philips Hue (www.snipca.com/30565). Its starter kits, consisting of a hub and two bulbs, cost £59 with a screw fitting (www.snipca.com/30566) and £73 with a bayonet fitting (www.snipca.com/30567).

What we really like about Hue isn't only the excellent smartphone app (see screenshot above) or the range of bulbs, lamps and light panels, but also the fact you can add cheaper Hue-compatible bulbs over time. A pair of plain white bulbs from Innr, for example, cost less than £20 (www.snipca.com/30568).

Of course, burglars aren't stupid: they know about timer lights and smart lighting, so don't rely on these alone. For added protection, connect a radio to a timer plug to come on and go off at random times of the day, and invest in a fake TV, such as 1byone's Fake TV Simulator (£13.99 www.snipca.com/30570). This is a light, with a



You can arm and disarm Yale's Wi-Fi-enabled smart alarm system remotely

built-in sensor to switch it on at dusk, that puts out the same kind of glow as a switched-on television, complete with random colour fades to simulate scene changes.

It's not going to fool anyone who's looking directly at it, but if its glow is creeping around the edges of your closed curtains, it could be enough to convince a thief that you're home.

Get alerts if a break-in is detected

It used to be common practice to connect your house alarm to the local police station. That's now a rarity, and web-enabled alarms are stepping in to plug the gap.

Yale's Wi-Fi-enabled smart alarm system (£273, www.snipca.com/30571) comprises keypads, motion detectors and contact sensors that warn you when doors or windows are opened. They can be armed and deactivated using an app on your smartphone (see screenshot above), allowing you to switch them off from the car as you arrive home, rather than struggling to enter a code on a pad when your hands are full of shopping.

Better yet, as well as sounding the alarm locally, they'll alert you to an intrusion through a series of smartphone pop-ups and, if you've bought sensors with built-in cameras (or added them retrospectively), send you photos of the intruders in action. If the photos show that it's actually a spider on the sensor, at least you know you needn't worry, and can disarm the system entirely until someone can pop around with a duster. Your neighbours will thank you if this happens while you're on holiday. **ca**

Are security cameras legal?

In a word, yes. However, you have to be considerate. You can't actively film your neighbours' houses, for example, and you need to make sure that the area you're monitoring isn't unreasonably encroaching on nearby public land. So, if you live beside an alley, you're within your rights to set up a camera that monitors your front door, but shouldn't

also be filming comings and goings in the alley, even if it is a focus of anti-social behaviour.

You'll find the government's official advice at www.snipca.com/28926, which includes recommendations to put up a notice warning that you're using a camera. This is hardly onerous and may well act as a deterrent in itself.



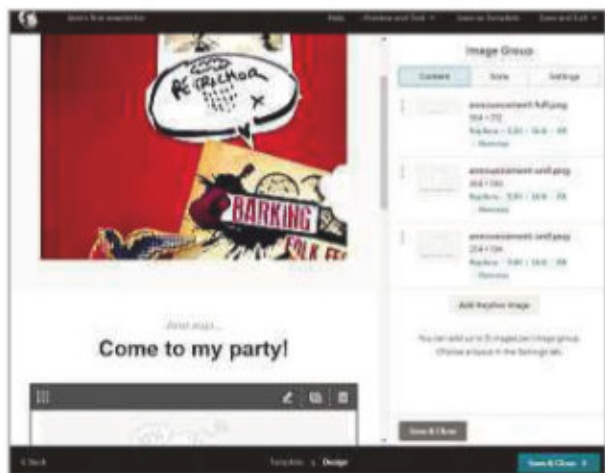
Get Pro Tools For FREE



Professional software costs a fortune – unless you find the hidden ‘personal’ versions instead. **Jane Hoskyn** reveals how to use the best pro tools completely free

Create email newsletters

Like so much professional software, email-newsletter tool MailChimp (<https://mailchimp.com>) tries to alienate normal folk with corporate jargon (‘segmentation’, ‘A/B testing’) and ridiculous prices (\$199 “and up” per month). Don’t be fooled. This superb tool is useful for us all – and needn’t cost a penny.



MailChimp's drag-and-drop tools bring pro email design to your browser for free

MailChimp is basically a website builder for emails. Use templates, drag-and-drop design tools (see screenshot below left) and a built-in photo editor to create newsletters for your club or event, then send up to 12,000 emails to up to 2,000 subscribers each month via an easy-to-manage mailing list. Those limits are the price you pay for the free version; you also get a small MailChimp slogan at the bottom of your emails.

To get MailChimp, click Pricing, Start Now Free, then create your account. Most of the tools in this feature make you create an account in return for your freebie, but none include junk and none are time-limited trials.

Use pro virtualisation tools

There are two big names in the virtual PC world: VirtualBox, which is free, and VMware, which isn't. VMware's £219.95 price is no bar to business users, who cite

its superior tech support and reliability. We love VirtualBox but admit it doesn't always do what you want it to (see page 74), so it's good to know VMware's Workstation Player version (see screenshot below) is free for non-commercial use (www.snipca.com/30599).

VirtualBox beats VMware for Android virtualisation thanks to pro emulator Genymotion, which developers use with VirtualBox to test apps. They find it useful enough to fork out €299 (£265) per year, but you can use the free Personal Edition (www.genymotion.com/fun-zone) in return for creating an account.

NeverWare CloudReady (www.neverware.com/freedownload) lets you run Google's Chrome OS in a virtual machine, effectively creating a Chromebook inside your PC. Its free home version – for “tinkerers (and) other humans ready for a better OS” – is £75 cheaper than the full version, but you do have to create a bootable USB installer to get it.

Get free versions of Pro mapping tools

GIS (geographic information system mapping) software is dazzling stuff. It converts Excel spreadsheets of geographical data (say, your world travels) into rich, interactive, encyclopaedic maps. But with global corporations happy to pay “from \$1,500” for leading GIS tools like ArcGIS Pro, developers have little

incentive to release free versions for us hoi polloi.

So to get free versions you have to look to **open-source** alternatives – notably QGIS (<https://qgis.org>). QGIS is less slick but just as powerful as ArcGIS, and now includes 3D features. And it'll never demand your cash.



VMware is harder to master than VirtualBox, but pro users find it more reliable

Develop your own games and apps

Game-development software Unity (<https://unity3d.com>) is responsible for classic video games, including Temple Run, Rust and the brilliant space simulator Kerbal Space Program. Unity Pro costs \$125 (£97) per month, but Unity Personal is free provided “your revenue does not exceed \$100k per year” (you won’t need to prove this!).

Your zero pence buys you a fully-featured multi-platform creation engine, which is as big as it sounds – you’ll need a few gigabytes for installation and a lot of RAM to run it. You’ll also have to forego multiplayer games, online storage and other Pro features, but Unity Personal is an astonishing tool for free and it offers tutorials for beginners. Get started at www.snipca.com/30611.

Search like a pro

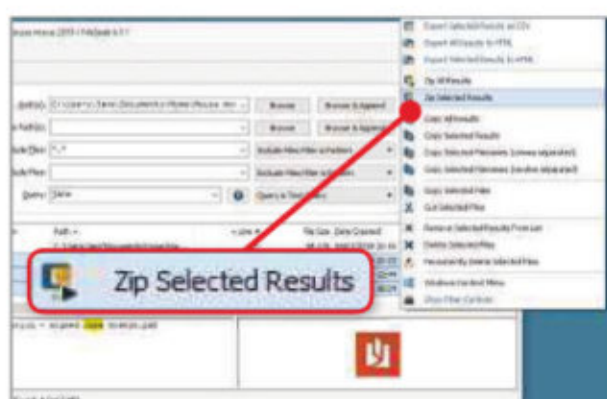
Super-fast search tool FileSeek (www.fileseek.ca) is popular with businesses juggling large databases, but deserves a place on any file-packed PC. The free version saves you \$899 (£700) compared with FileSeek Pro and offers excellent features including the option to select multiple results, then copy, rename and archive them in a ZIP with a right-click (see screenshot below). Locked Pro features, such as CSV export, are highlighted in blue.

You don’t have to register, just click ‘Use Trial Version’ in the installer. You get Pro for 30 days before it reverts automatically to Free and never expires.

Access your PC from your tablet

Splashtop is easier and cheaper than its better-known rivals TeamViewer and LogMeIn – and its Personal version (www.splashtop.com/personal) is free, compared with \$99 (£77) a year for Pro.

There are limitations. You can’t transfer files (Pro only), and its definition of ‘remote’ doesn’t extend much further than your living room. The free Splashtop Streamer program (XP+) and app (Windows,



Use FileSeek Free to speedily scour your PC for files, then ZIP, copy and rename them

Get tomorrow’s pro tools free

Beta software is, of course, still being tested and may not work perfectly. But it’s free. Here’s a few you should consider...

Apple TestFlight

www.snipca.com/30614

Test paid-for iOS apps before they’re released.

Windows Insider

<https://insider.windows.com>

Try future Windows features, including business tools, for free. Also join Office Insider (<https://insider.office.com>) and developers’ playground Microsoft Collaborate (www.snipca.com/30619).

Affinity Publisher Beta

www.snipca.com/30617

Save around £50 on the next version of Serif’s pro desktop publishing tool.

Minecraft Beta

www.snipca.com/30622

Test new versions of the wildly popular block-building game for free.

Kaspersky Beta

www.snipca.com/30618

Most antivirus (AV) companies let you test for free, but tread carefully – a buggy freebie is no substitute for a paid-for stable AV.

Android, iOS and more) only connect over your home Wi-Fi, not the wider internet, unless you fork out for the Anywhere Access Pack (\$16.99/£13.20 per year). Even so, Splashtop Personal is perfect for checking your PC downloads from the comfort of your tablet on the sofa.

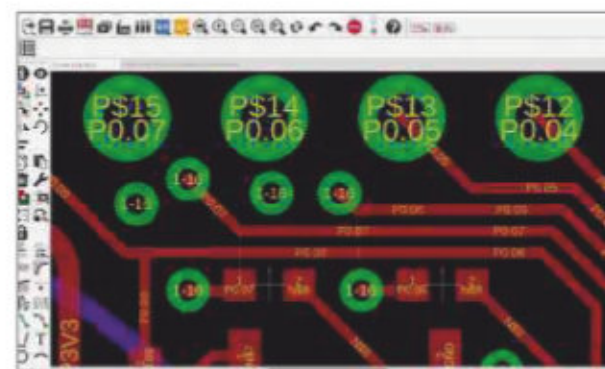
Create 3D models

3D design tool SketchUp is used by everyone from aircraft engineers to landscape gardeners to build virtual models. It costs *them* \$299 (£230) per year, but you can use it online for free. Go to www.snipca.com/30588, click Start Modeling, then create an account to start building your virtual dream shed or yacht. We recommend exploring SketchUp’s tutorials and YouTube channel (www.youtube.com/user/SketchUpVideo) to help get your head around its drawing, editing and viewing tools.

If you find biological building blocks more interesting than actual bricks, you’ll love scientific modelling tool ACD/ChemSketch (www.snipca.com/30607), which helps you turn microscopic structures into 3D models. The full version costs up to \$999 (£772), but if you’re happy to create an account and waive tech support you can download it for free.

Design circuit boards

Ditch the epoxy resin and build circuit boards on your PC using Autodesk Eagle instead. Pros pay up to \$510 (£395) per year for this powerful PCB (printed circuit board) tool, but you can download a free version (www.snipca.com/30606) that limits you to two layers and a 80x80cm board (see screenshot above).




Create and test electronic layouts in Autodesk’s pro emulator Eagle

You get all the design tools though, including a large component library, interactive testing and 3D modelling.

Could the paid-for version of Eagle go free soon? Last year, Autodesk’s pro drawing software SketchBook (<https://sketchbook.com>) stopped charging for features such as unlimited layers. If this happens with Eagle, we’ll let you know.

Animate like Pixar

RenderMan began as an innovative animation technique used by film studio Pixar, then grew into a Hollywood software superstar, responsible for effects in *Titanic*, *Avatar*, *The Lord of the Rings* and umpteen other blockbusters. And here’s the twist: you can use it at home for free.

The ‘Non-Commercial’ version of RenderMan (<https://renderman.pixar.com/store>) is a free trial that lasts forever (you get a renewal notification every 120 days). It’s full-featured and has no limits, not even a watermark. All you need to do is use the “rendered with RenderMan” logo in your credits. Registration is a pain, but they don’t seem to mind what you select from the dropdown menus. 

Problems Solved

Our experts solve all your tech problems

PROBLEM OF THE FORTNIGHT

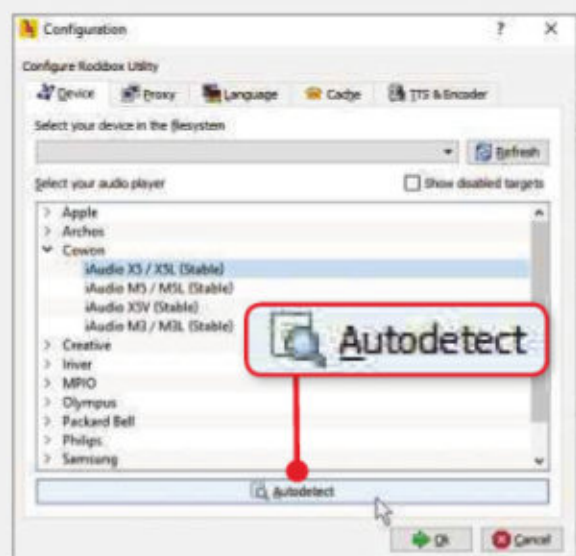
Can I put an SSD in my music player?

Q Prompted by some of your articles on PC SSDs, I was wondering if I could replace my Cowon iAudio X5 music player's 60GB hard drive with an SSD? It's not full but it's beginning to stagger a bit when playing music – tracks will 'hang up' occasionally, requiring a restart. Other than taking the screws off the back, I wouldn't know where to start on this venture. I have learned so much over the years since I first started my subscription to your superb magazine and long may it continue!

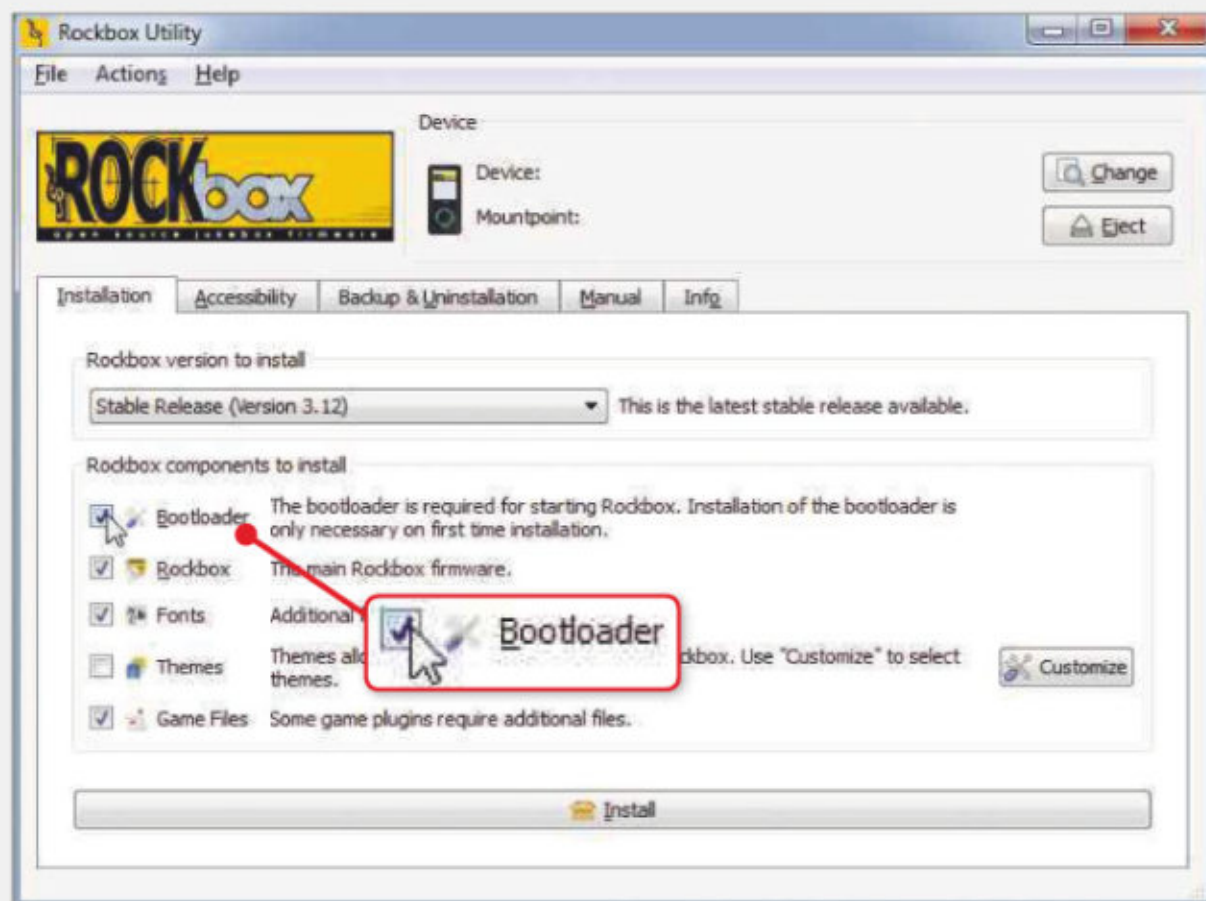
Peter Colven

A This isn't impossible but, for a variety of technical and practical reasons, we'd say it's almost certainly not worth the time or cost. However, we will finish with some advice that might speed up your device, so it's not all bad news.

The key problem is that the hard drive in your player is of a type that wasn't exactly commonplace even back in 2005, when the unit was released. It's a 1.8-inch IDE (also known as PATA) drive with a 50-pin connector, rather than the usual 40-pin interface. These were rare even then, so finding one of these new would be difficult. Finding a compatible SSD variant would be even more difficult.



To install Rockbox firmware, first use Autodetect to find your music player



Once you have found your music player, you can install Rockbox by selecting Bootloader

There are ways around this. You could, for example, buy an adapter that would let you instead use a CompactFlash memory card in place of the hard drive. Such an adapter costs around £12 (www.snipca.com/30378). You'd then need to buy a CompactFlash memory card for storage. This is where the cost kicks in: CompactFlash is itself a format in steep decline, so lower production quantities have pushed up prices massively. A 128GB card costs around £80, for example (www.snipca.com/30379).

If all that doesn't put you off then physically replacing the drive isn't terribly difficult. You'd remove the screws, as you say, and then carefully peel off retaining tapes to free the drive. Then, remove the connecting cable and that's that. Inserting the replacement drive or CompactFlash-and-adapter contraption is just the reverse of that. However, with CompactFlash setup you'd likely need to add some insulated padding around the memory card and adapter to stop them moving around – as they'd be a little

smaller than the hard drive.

Finally, you'd need to install some firmware on the new setup to make everything work again. There's no legitimate source for the original Cowon software. That's not really a problem because there's an open-source alternative called Rockbox that'll work with your device. It's a free download from www.rockbox.org.

However, Rockbox could improve performance without replacing the current drive – so it might be all you need. The process is straightforward and mostly automated. Just install Rockbox, then connect your iAudio X5 to your PC via its USB cable. Now click Autodetect to detect your player (see screenshot left), followed by OK. Then tick Bootloader (see screenshot above) and Rockbox followed by Install and follow the prompts. Before proceeding, though, we'd recommend digesting the full Rockbox guide for your specific model, which you'll find at www.snipca.com/30386.

Should I delete restore points?

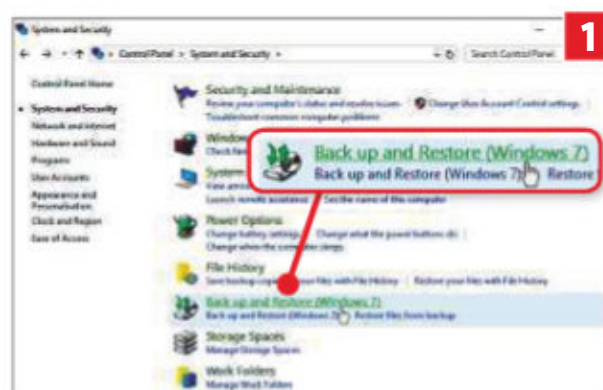
Q Whenever I read in your excellent publication about creating regular system images, I'm never sure whether that means I should delete the previous one and make a new one? Or does the new one overwrite the previous one? Any guidance would be appreciated.

Roy Nicholls

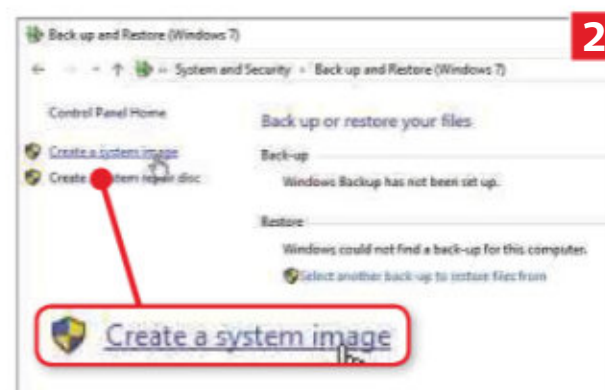
A This a question that, when we stop to think about it, is really quite layered – and it therefore warrants further exploration.

Put simply, if you're using the 'Create a system image' tool in Windows 10 then, generally speaking, your previous image will indeed be overwritten. For readers unaware of this option, it's reached via Control Panel: click 'System and Security' followed by 'Back up and Restore (Windows 7)' (see screenshot 1), and then 'Create a system image' (see screenshot 2).

When doing this, we imagine most people these days will choose either 'On a hard disk' or 'On a network location' as



Find 'Create a system image' in Control Panel, then select 'Back up and Restore (Windows 7)'



The next step is to click the 'Create a system image' option

the destination (because really, who wants to back up to a stack of DVDs?). If you choose the same hard drive or network location each time you use this feature then, yes, your previous image will be overwritten.

But here's the rub: what happens if your PC suffers a catastrophic crash while it's creating this image? Well, your previous image will be useless, as the new one was only partway through while overwriting the old one. Moreover, the new image won't have completed. So, the answer is... disaster.

That's why we said this is a layered question. Because, while the chances of a cataclysmic failure during image-creation are low, they're not zero: anyone who's suffered a power cut during a backup

knows that even backing up can go wrong.

So, if you want to take a boot-and-braces approach to creating system images, then you should use at least two different locations for the process – and alternate between them with each new image. This could, incidentally, be two different **partitions** on the same physical hard drive – because to Windows those would be two different locations.

However, for completeness we should point out that relying on a single physical backup medium offers a false sense of security. You should keep your backup drive at a physically different location to your PC. But, in an ideal world, you'd have at least two backup drives on the go – one kept nearby and one at a separate location – that are regularly rotated.

Why won't Windows remember my folder options?

Q For some reason my PC has never remembered my folder settings. I've been led to believe that one can click the 'Apply to All' folder within Folder Options and then all folders will follow the style of the current one. That seems logical, but I've never had much success with it. What am I doing wrong?

Keith Manning

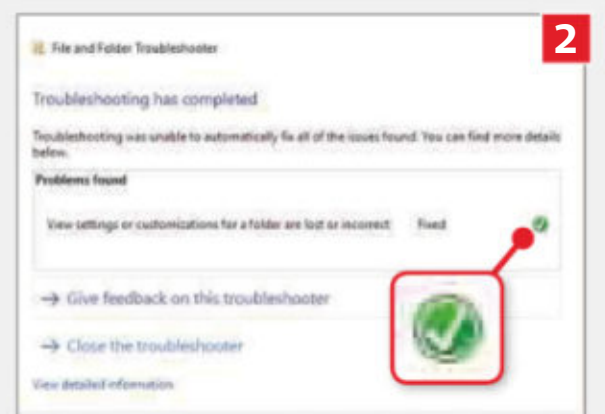
A Almost certainly nothing. This feature has never been terribly reliable. In fact, Windows' handling of folders is so shaky that Microsoft built a troubleshooter that detects and fixes a variety of problems. It's a free download from www.snipca.com/30477 (see screenshot 1).

Double-click the downloaded file and then click Next to begin the



Microsoft's free troubleshooter automatically repairs file problems in Windows

process. On the next page, tick the 'Icon and folder customizations' box and then click Next. The troubleshooter will now ask you if your problem is that icons randomly change. That isn't your frustration, so click No. The tool will now get to work repairing the registry entries that relate to the Folder Options feature.



When problems are found and fixed, the troubleshooter will show a green tick

At the end, it'll display a report – where you should see a green tick (see screenshot 2) to say that your particular problem has been identified and fixed. If you want more insight click 'View detailed information'.

Otherwise, just click Close because the job is now done.

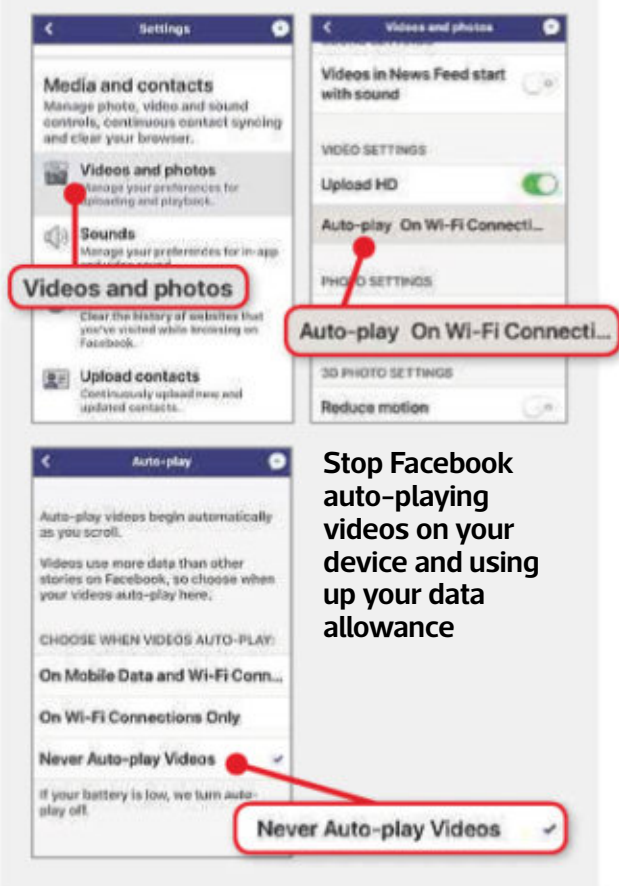
How do I stop Facebook videos autoplaying?

Q Videos that start without my permission annoy me, but on my smartphone I find them infuriating, as my data allowance is regularly gobbled up by some or other friend posting a photo of a dog on a skateboard or whatever. Is it possible to stop them playing automatically, like I do on my PC? I use an iPhone, incidentally.

Nicky Murphy

A Yes, but as with everything related to Facebook the necessary option is hidden in a haystack on the dark side of the Moon, so strap in.

To start your journey, tap the menu button – the three horizontal lines at the bottom right of the app. Now scroll down to the ‘Settings & Privacy’ section and, under that, tap Settings. Now scroll down more, and then some more, and then a bit more to finally reach the ‘Media and contacts’ heading. Under there, tap ‘Videos and photos’. Next, under VIDEO SETTINGS tap ‘Auto-play...’. Lastly, tap to tick ‘Never Auto-play Videos’ (see screenshots).



Stop Facebook auto-playing videos on your device and using up your data allowance

Can I print an A4 poster as A3?

Q Can I use PowerPoint or Word to design a poster across two A4 pages and then print it on my A4 printer? The idea is to mimic an A3 poster when joined together.

Tony Lunney

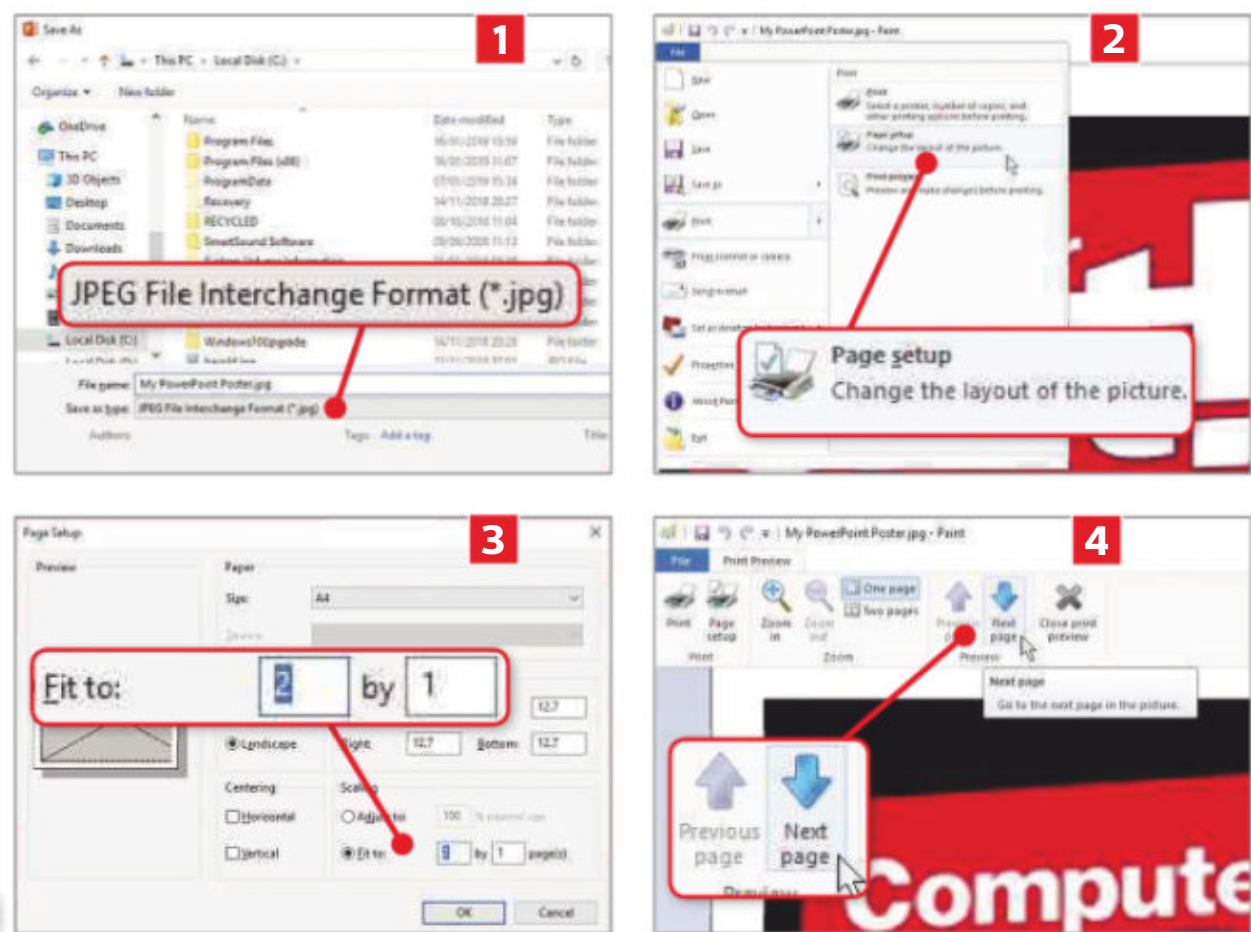
A Neither is well-equipped for doing this. Microsoft Publisher has features for this task, but we don't know if you have it. However, if your needs are as simple as wanting to take an A4 design and print it at A3 size across two sheets of A4, then there's another tool that'll do the job with very little fuss – and that's humble old Microsoft Paint.

First, create your poster in A4 size, in PowerPoint or any program that lets you save it as a JPEG. In PowerPoint, click File followed by Save As and then, next to ‘Save as type’, choose ‘JPEG File Interchange Format (*.jpg)’ (see screenshot 1).

Now fire up Paint, and open your JPEG. Click File, point to Print and then click ‘Page setup’ (see screenshot 2). Here, you can tell Paint that you want your design to be scaled up to more than one A4 page. You might need to experiment a bit but the essential parts are the Orientation and Scaling sections.

If your design is landscape, then under Orientation choose Landscape; and then, in the Scaling section, choose ‘Fit to’ and type 2 followed by 1 (see screenshot 3) for a design that is two landscape-A4 pages wide by one high. If your design is portrait, then instead choose Portrait and then, for the ‘Fit to’ part your dimensions would be 1 by 2.

To check the ‘tiling’, click File, point to Print and then click ‘Print preview’. Use ‘Next page’ (see screenshot 4) and ‘Previous page’ to view the pages. When ready, click Print – and get ready with the Sellotape!



Create your A4-size poster, save it as a JPEG and then in Paint's scaling feature fit it to print out across two A4 pages. These can be joined to create your A3 poster

Q: Can I crack my old passwords?

A: Issue 530, page 68 – find it on our 2018 Back Issue CD

Buy it from
www.snipca.com/30307



Why does my old XP laptop keep resetting?

Q I have an old Windows XP Sony PX105K laptop. I think the problem may have been caused by me inadvertently leaving it switched on for a long time. It makes all the right noises and sometimes very briefly the Windows XP logo shows itself, but it soon reboots. This continues repeatedly. I have tried changing the hard drive but it does the same thing. I would be grateful for any suggestions.

Ivan Brown

A We're pretty sure your laptop model is actually a Vaio PCG-FX105K, as we couldn't find any Sony products called 'PX105K'. The PCG-FX105K is a Windows XP laptop, released in 2001, so it fits the bill. Regardless, it's very unlikely that



A replacement AC adapter could solve the resetting problem, but it's a long shot

leaving your computer on for a long period of time would directly cause the problem you're experiencing.

Initially, we would've suspected a software problem but, as you say you've replaced the hard drive and have presumably reinstalled Windows, this seems unlikely.

So, we have an 18-year-old laptop that reboots at random intervals. We're afraid everything now points to an underlying hardware problem. It might be a loose or dead battery and/or a dodgy power supply – but it could just as easily be a cracked motherboard. With a product this old the latter would almost certainly be unreparable.

Replacement power supplies are available (such as this £33 example from Green Cell, www.snipca.com/30511, pictured), but it's a long shot, and we're not convinced it's worth the punt.

Can I add Bluetooth to my smart TV?

Q A few years ago I bought a supposedly 'smart' Sony TV. Well, I've barely used any of the apps and it turns out it's not that smart after all, because it doesn't even have Bluetooth!

I discovered this only recently when, having purchased a set of Bluetooth headphones so that I could watch TV at night without waking my wife, I found the telly had no menu facility to connect to them. A friend told me that I might be able to update the TV's **firmware** (whatever that is!) to make this work. Could you tell me if this is possible?

Eric Grand

A Firmware is just another name for software, albeit code that's stored in special memory chips. However, the point is that if the TV doesn't have a physical Bluetooth transmitter built in then no firmware update is going to add such a facility.

Fortunately, that's not likely to stop you achieving what you wish for. Almost all modern TVs have a standard 3.5mm headphone jack.

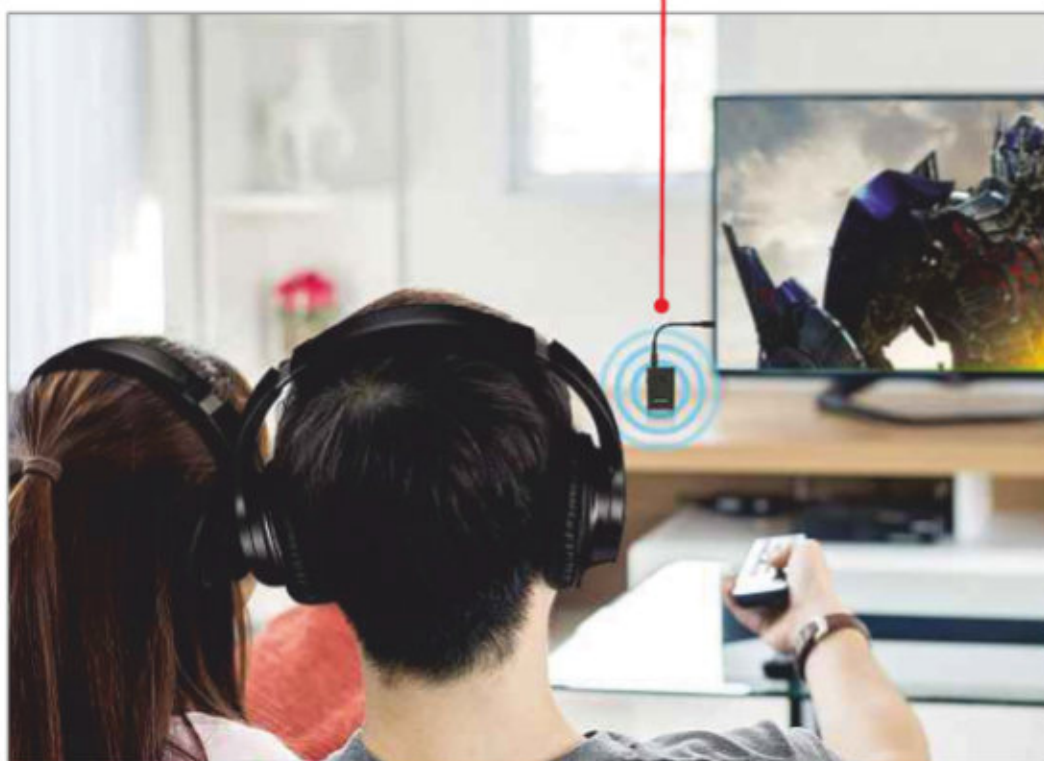
Obviously, you've purchased wireless Bluetooth headphones but if

your TV has a 3.5mm jack then you can also buy a dongle-like adapter to create a Bluetooth 'bridge'.

The pictured Mpow model, for example, costs around £17 (www.snipca.com/30506). Just plug it into your TV's 3.5mm headphone socket, then pair your headphones with the dongle.

The only bind is that these things are battery-powered, so they'll either need to be regularly charged or left plugged into the mains.

If your TV does not have a Bluetooth transmitter built into it, you might be able to use a dongle-like adapter, such as this Mpow device



Problems **Solved**

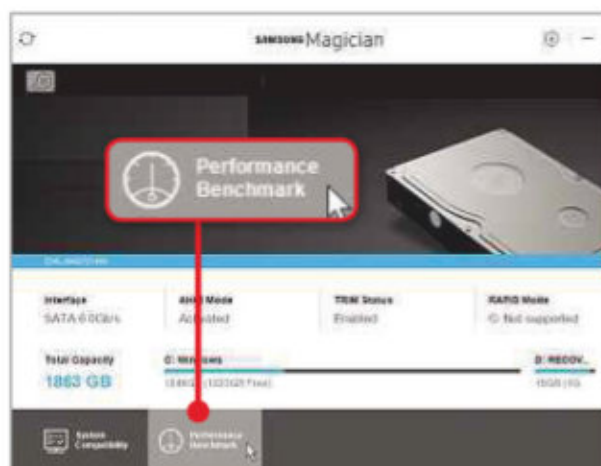
What's causing this PC boot error?

Q I have a PC running Windows 10 Pro, with an Intel Core i5 processor, 16GB of memory and a 256GB Samsung Pro **SSD**. Occasionally, when I switch it on I get a message saying that a disk error has occurred, and to press Control (Ctrl)+Alt+Delete to restart. Do you have any idea what might be causing this, and how to fix it?

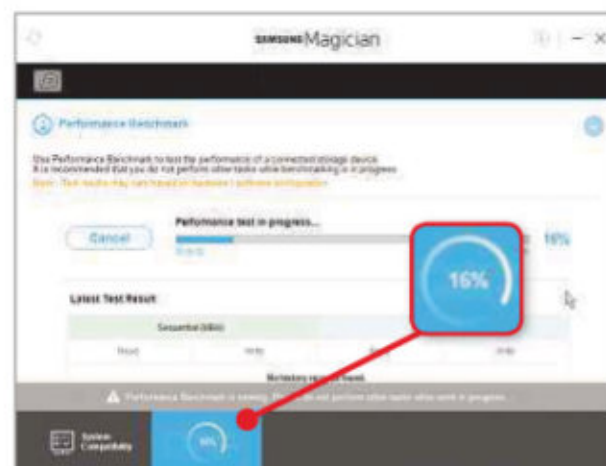
Mario Giove

A If this were a permanent problem then it would point to a fault with the drive's **master boot record** or **partition** table. These are not easy things to fix. However, as the problem is occasional then the cause could be as simple as a loose drive connection.

Touch an earthed object, such as a radiator, then open up your PC. Peer inside to find the SSD. Now check that



Samsung Magician runs a performance test on your SSD and will inform you if errors are found



both power and **SATA** connecting cables are securely attached, applying gentle but firm thumb pressure to each to ensure they're pushed fully home. Do this both at the drive and motherboard ends.

If the problem recurs then try testing the drive for errors. Samsung has its own tool for this purpose, called Samsung Magician – it's a free download, from www.snipca.com/30512. Click

Performance Benchmark (see screenshot above) followed by Start and then sit back for a while. If errors are found during this

test, the software will let you know. You'll then need to contact Samsung or the PC's manufacturer for further guidance.



Do I need to replace my memory cards?

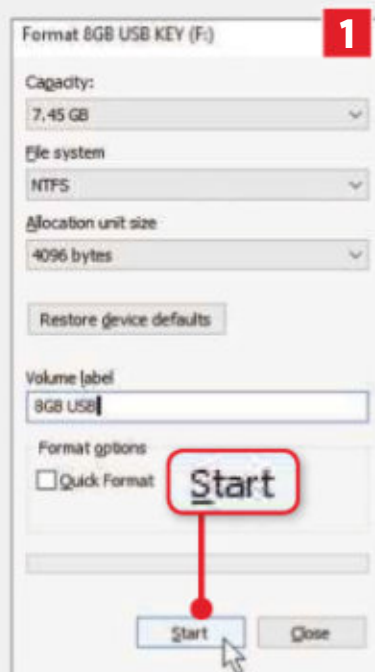
Q I have some **SDHC** cards that need formatting. However, before I do that the capacity shows lower than the target stated by the manufacturer. Ignoring the lost-data scenario, can I reformat to the original spec or am I doomed to be forever replacing **SD cards** for the needed capacity?

George Rayner

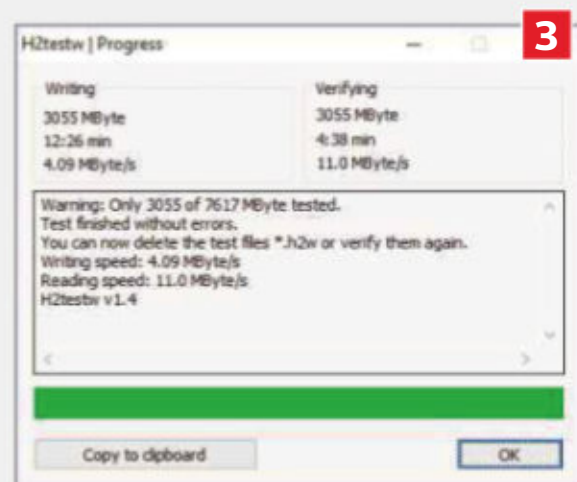
A We sense that you're aware that you might've acquired fake cards. That's to say, cards with an amount of real memory that's lower than the advertised amount. They're sadly rife on the likes of eBay, so you do need to be careful when shopping – being sure to buy direct from manufacturers or from sellers with good, long-term reputations.

You didn't tell us the supposed capacities of the cards but, yes, you can try formatting them. To do that, press Windows key+E to launch File Explorer, then right-click the relevant drive letter and then choose Format. Remove the tick from the 'Quick format' box, then click Start (see screenshot **1**).

If, after you format your SD cards, their capacity is not as you expected, you can use free software **H2testw** to check whether they're fakes



If after a full format the cards' capacities aren't as expected, then they're probably fakes. You can use free software to check. H2testw, which you can download from www.snipca.com/30327, will write data to all parts of the memory card, to check that the reported capacity is real. It doesn't need installing, so just double-click the H2testw.exe file to launch it. Click English to switch the interface from German, then click 'Select target' and choose a memory card. Now



select the 'all available space' option followed by 'Write + Verify' (see screenshot **2**) and then sit back while H2testw goes about its business.

It will give you a report at the end (see screenshot **3**). But the bottom line is that there's no fixing fakes.



WHAT'S THE DIFFERENCE BETWEEN...

Sleep, hibernation and shut down?

Q When I'm done using my Windows 10 PC, I turn it off by pressing its physical power button. But when following tips in your magazine I sometimes click the power icon on the Start menu and then click Restart. There, I also see Sleep, Hibernate and 'Shut down'. I wonder what the difference is between these modes? For example, I have tried 'Shut down' but it seems slower than just hitting my PC's power button.

Max Cooper

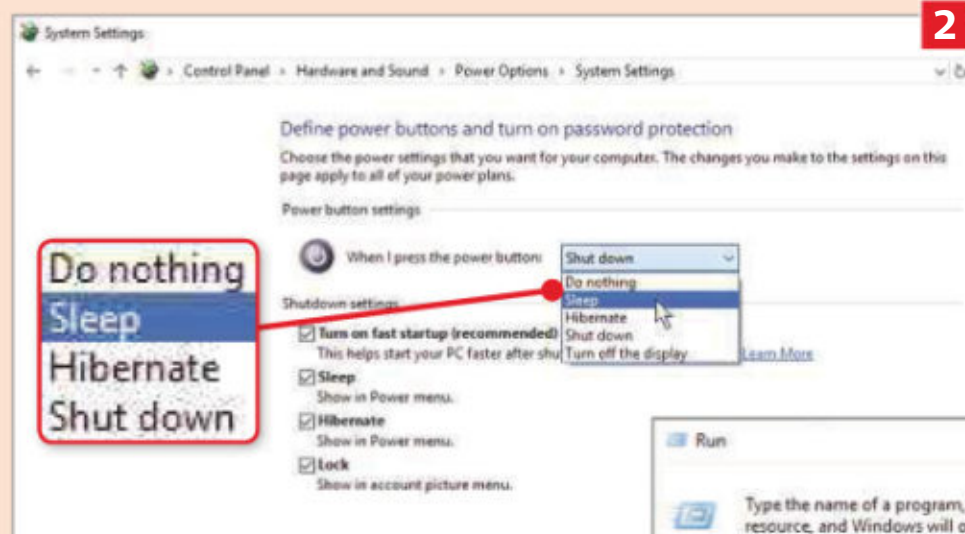
A Let's start with the 'Shut down' option. This is the PC's equivalent of an Off switch. When you click 'Shut down', Windows goes about the business of closing all running programs, and then itself, before turning off your computer's power. In this state, the computer uses no power, meaning no harm will come if you unplug the PC from the mains. When you power up, Windows has to load everything afresh – so it's the slowest option

Sleep is quite different. This puts your PC into a low-power state that means Windows can start up again quickly when you return. If you do this

on a laptop and the battery gets low then Windows would eventually go into hibernation, which we'll explain next. However, if a desktop PC is 'sleeping' and the mains power is cut, it's possible that data could be lost.

Hibernation is a kind of hybrid option. When you choose it, Windows saves a snapshot of the PC's current working state to the hard drive, and turns off the power. It's not necessarily quicker than a full shut down, but it'll save time when you return – everything will be restored as it was when you selected Hibernate.

As a desktop PC attached to mains power, your computer's physical button is probably set to execute Sleep mode. To



2

You can change what the power button does at shutdown



1

check, or to change what it does, first press Windows key+R, then type **powercfg.cpl** (see screenshot 1) and press Enter. Now click 'Choose what the power button does' and then, alongside 'When I press the power button', click to open the dropdown menu (see screenshot 2).

Finally, choose the option you want, then click 'Save changes'.

Want to know the difference between technical terms? Email noproblem@computeractive.co.uk

How do I change iPad folder names?

Q I'm an octogenarian reader, so please be understanding if my question sounds silly. I have an iPad. I've worked out how to organise the apps into folders. However, what I can't do is discover how to change the names of these folders. The iPad seems to choose its own names, and they're not always what I want. Is it possible?

Mary Fosdyke

A Yes. The method isn't obvious, but here's what to do. First tap the folder icon in the normal way, to open it. Now, with the folder displayed, tap and hold your finger on the folder name for a

couple of seconds. Soon, the app icons in the folder will start jiggling. You can now edit the folder name.

Tap the little cross on the right-hand



To change an iPad's folder name, tap and hold the folder, then type a new title into the name field

side to clear the current name, then just tap in the name field before typing your desired name (see screenshot).

Finally, tap the blue Enter or Finished button to conclude.

Next Issue

ON SALE
Weds
13 Mar

- How do I prepare a Linux SSD for Windows 10?
- How do I backup iPhone photos?
- Can I merge Word documents?
- ...And many more

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What went wrong with Macrium?

Q I installed Macrium Reflect Free with a view to making a **system image** of my hard drive.

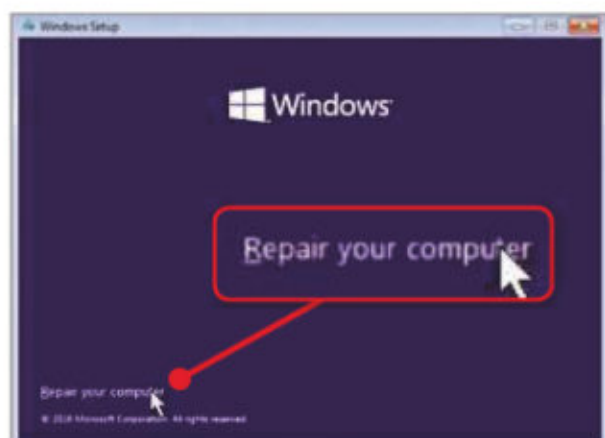
However, something has gone wrong and my laptop now fails to boot. I can access the **BIOS** but I don't know if this is of any use in solving the problem. I have also seen the error code 0xc0000225. Can you advise me what to do to reboot the laptop, which is an Acer Aspire E 17.

David Adam

A It's unlikely that using Macrium to create a system image should cause a problem like this, though it could occur when later using such an image to restore a PC. However, by definition, a working system image would allow you to recover from that situation by restoring from the image – so you'd just need to repeat the process. We think this is an unfortunate coincidence and that something else has caused corruption to your PC's boot configuration data, or BCD.

That can be repaired, but we're not sure what you mean by being able to access the BIOS? If you mean an old-style text interface then that's not much help. If you're somehow accessing the Windows-style 'Advanced startup' menu then click Troubleshoot followed by 'Advanced options' then 'Start-up Repair' – and then follow the prompts.

Otherwise, you could use another PC to download Microsoft's media-creation



Click this option in Microsoft's media-creation tool to reboot a faulty PC

tool, from www.snipca.com/30557. Follow the tool's instructions to create a bootable USB stick or DVD, then start your PC using this. After the first box, instead of clicking Install Now, click the 'Repair your computer' option (see screenshot below left) and follow the prompts.

Why can't I connect to 5GHz Wi-Fi?

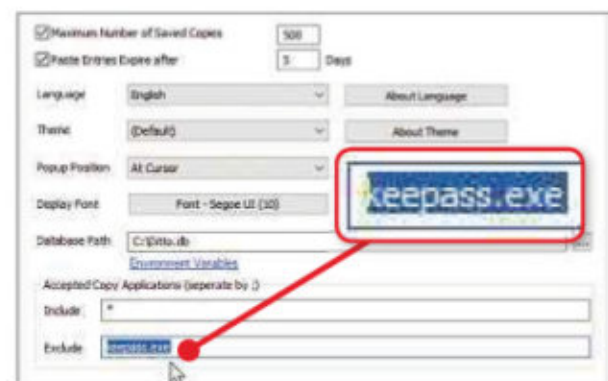
Q I've split my BT Home Hub 5's Wi-Fi into separate 2.4GHz and 5GHz networks, as suggested in Issue 546's 'Secret Free PC Fixes' Cover Feature (pages 56 and 57). However, when I click the Wi-Fi logo all I see is the original network name, beginning with 'BTHub5', and not the new 5GHz one that I have created. Can you help?

John A Llewellyn

A You didn't tell us which device you're using to connect, but you say you're clicking a Wi-Fi logo so it's fair to assume that you're doing that on a Windows desktop PC or laptop. Either way, the problem is almost certainly that your PC lacks a 5GHz Wi-Fi adapter.

While many newer computers have **dual-band** adapters built in, many older ones do not. This is also true for older or cheaper smartphones and tablets, incidentally. These single-band devices can 'see' and therefore connect only to 2.4GHz networks. So, while your router is capable of operating both 2.4GHz and 5GHz networks side by side, only devices with a 5GHz Wi-Fi adapter will see the 5GHz network

The upshot is that if you want or specifically need to connect your computer to the 5GHz network then you'll need to buy a 5GHz adapter, like the dual-band Foktech AC600 (around £13 from www.snipca.com/30552). Otherwise, keep your PC connected to the original 2.4GHz network and use the 5GHz one for other devices, reducing overall congestion on both networks.



Stop conflicts between KeePass by typing this into Ditto's Exclude box

Can I stop Ditto copying passwords?

Q Having read Issue 546's New Tools recommendation for KeePass 2.41 on page 11, I feel I should bring to you and your readers' attention the issue of running KeePass and the clipboard manager Ditto (www.snipca.com/30583) together. You've previously recommended Ditto but, having installed KeePass, I've had to stop using Ditto. This is because even though KeePass automatically deletes the passwords it stores in the Windows Clipboard they remain in Ditto, if Ditto is running.

David Brennan

A This a good example of unforeseen consequences, so we're glad you raised the problem. Fortunately there's a solution that means you can continue using these two tools at the same time, and safely.

First, right-click Ditto's icon in the notification area, at the far right of the taskbar, then click Options. Next, click the General tab. Then, in the Exclude box, in the section headed 'Accepted Copy Applications (separate by ;)', type **keepass.exe** (see screenshot above). This tells Ditto to ignore any copy actions made by KeePass, so your passwords are now safe from Ditto's database. To add further exclusions, return to the Exclude box, type a semi-colon, followed by the name of the relevant program's **executable file** (EXE). Next, click OK.

Jargon Buster

3G/4G/5G Technologies that deliver faster mobile broadband.

802.11ac A standard for wireless networks that allows for much higher transfer speeds than **802.11n**.

Beta A version of software that's being tested. Beta versions are often released so problems can be ironed out.

BIOS Basic Input-Output System. Software built into every PC that connects the vital components.

Bloatware Unwanted software built into a new device.

CMOS Complementary metal-oxide semiconductor. A chip on computer motherboards that stores the date and time.

CompactFlash A type of memory card used in high-end digital cameras and some older models.

Cookie A small text file stored on your computer by a website.

CSV Comma Separated Value. A standard file format, used for storing tabulated information, that can be opened by most spreadsheet applications.

DIMM Dual Inline Memory Module. An older standard for computer memory modules.

Disc image A file that contains all the information from a CD or DVD. Sometimes known as an ISO.

Dual-band router A Wi-Fi router that operates on two bands: 2.4 and 5GHz.

Dual boot To set up a PC with two operating systems, so that one must be chosen each time it starts.

Duplex printing Printing on both sides of a sheet of paper.

EML Emails saved as a file.

Emulator A program that makes one computer act like another, allowing it to run that computer's software.

Executable file A program file designed to run in Windows. Uses the file extension .exe.

Firewall A piece of software or hardware that prevents unauthorised access to a computer over a network, such as the internet.

Firmware Basic software stored on hardware, such as a processor, to control its operation.

GEDCOM Genealogical Data Communication. File format used by genealogy programs to share data.

GHz Gigahertz. A measure of how many instructions a chip can process per second.

Graphics card A component in a computer that produces the image shown on the monitor.

IDE Integrated Drive Electronics. An interface used to connect some hard disks and optical disc drives.

IP address Internet Protocol address. A unique set of numbers used to identify computers and websites on the internet.

IP camera Internet Protocol camera. A digital video camera that receives and sends images via the internet.

ISO file A type of image file that contains all data from a CD or DVD.

LED Light-emitting diode. An electronic device that emits light.

M.2 A standard specification for PC expansion cards and connectors.

Master boot record Data in the first sector of a hard drive that identifies how and where an operating system is located.

Mesh Wi-Fi Wireless network solution that uses multiple, connected routers to stretch Wi-Fi further than a traditional router.

MicroSD card A small type of memory card. Can be converted to SD size using an adapter.

Mobile roaming System that allows you to use your phone to receive data through overseas mobile networks.

NAS Network-attached storage. A hard drive attached to a network that can be shared with other PCs.

NVMe Non-Volatile Memory Express. An interface that lets solid-state drives work faster.

OCR Optical character recognition. The process by which printed text is scanned and converted into digital documents that can be edited.

Open source Software that can be modified by anyone.

Overclock Make a processor work faster to boost performance at the cost of it getting hotter.

Partition A large hard drive can be split into two or more partitions or 'virtual' drives.

PATA Parallel ATA. An interface for connecting hard disks and optical drives to a computer.

PCIe Peripheral Component Interconnect Express. A faster version of PCI - a slot on the motherboard for expansion cards.

Phishing A form of internet fraud that tries to trick you into revealing personal details.

Plug-in A program that adds extra features to programs and browsers.

PNG Portable Network Graphics. A format for images that shrinks file sizes using compression but without discarding any data.

QR code Quick Response code. A barcode that can be read using smartphones and dedicated QR-reading devices.

RAM Random-access memory. The computer's working area.

Ray tracing Provides realistic lighting in an image by recreating how light behaves.

Read speed How long it takes a hard drive to 'read' data, and respond to it.

Refresh rate Measured in Hertz (Hz), the number of times per second that the image on your monitor is redrawn.

Sandbox A virtual container that you can run programs in safely.

SATA Serial ATA. An interface for connecting hard drives to a PC.

SD card Secure Digital card. A popular type of memory card.

SDHC High Capacity SD memory cards, which can store more than 4GB of data.

SSD Solid-state drive. Storage that uses no moving parts.

SSID Service Set Identifier. A name used to identify a wireless network.

Switch Allows more than one PC to be connected to a wired network.

System image A backup of your operating system drivers, PC's settings, programs and files.

System Restore Windows tool that reverts your computer's system files to an earlier point in time.

Temporary file A file created by a browser to store website data.

TIFF Tagged Image File Format. A standard file format used to store graphics images.

USB 2.0/3.0/3.1 Faster successors to USB.

USB Type-C A new connector that's reversible, letting you plug it in upside down.

Virtual PC A Windows tool that enables you to run a second 'virtual' operating system on a PC.

Web apps Programs that aren't stored on your computer, but on a web server instead and run through your web browser.

Wi-Fi Direct A Wi-Fi standard letting devices connect without requiring a wireless access point.

WPA2 Wifi Protected Access. A more secure variant of the security standard for wireless networks.

Write speed How long it takes a hard drive to save data.

ZIP file A file that can contain a number of compressed documents or files.

Easy when you **Know How**

Tired of hidden charges and junk in Windows tools, free software fan **Jane Hoskyn** wonders if it's time to...



Virtually install Linux

Linux users are showered with free and sophisticated programs, everything from video editor Pitivi (www.pitivi.org) to website-builder Silex (www.silex.me). Linux is also safer and **open-source**, so anyone can fix bugs.

So why don't more of us use it? It seems geeky and difficult, I suppose. Installing Linux to **dual-boot** with Windows is indeed an almighty hassle. But there is an easier way: install Linux in a **virtual PC** inside your actual PC, using software such as VirtualBox (www.virtualbox.org).

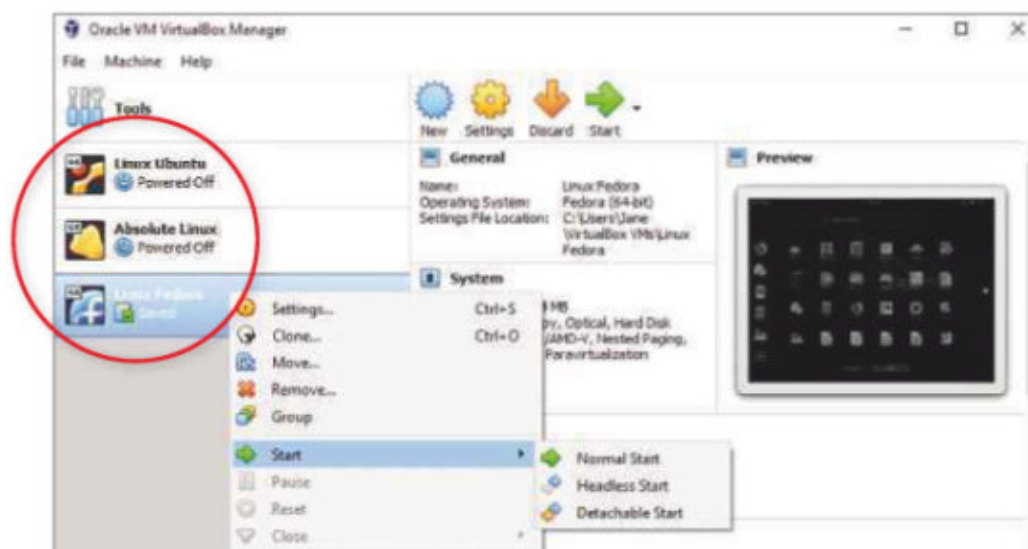
In Issue 547, I balked at using VirtualBox to create a Windows **sandbox** because I'd have to clone my existing system or cough up for a new one. But creating a virtual Linux system is relatively easy. Versions of Linux ('distributions', or 'distros' if you're *really* into it) are free to download all over the place. Ubuntu is perhaps the best known, so I headed for www.ubuntu.com, then went for a half-hour nap while its 1.9GB **ISO file** downloaded.

You have to create a different 'virtual machine' in VirtualBox Manager (VM) for each distro you want to use. The process is easy, albeit unsettling because VM carves out a huge chunk of hard-drive space (about 10GB) to accommodate it, plus a couple of gigabytes of **RAM**. A necessary evil, as virtual systems are fairly slow and need all the RAM they can get.

Installing Ubuntu in the virtual machine was even easier. I selected the ISO file, clicked Install, then waited, and



Hats off to Linux Fedora, the distro that works a dream in VirtualBox



You can run as many Linux distros as you want in different virtual machines, but they may not all be plain sailing

“
A fedora worked for
Indiana Jones, and I'm
overjoyed to report it
worked wonders for
me as well
”

waited. But when my virtual Ubuntu desktop finally appeared, it failed to recognise my input. Click, press, double-click - nothing registered. No dice.

"I see many posts about Ubuntu and a USB keyboard or mouse ceasing to work randomly," reassures an Ask Ubuntu forum member, while another shares that he's "near the nervous crisis lol" (www.snipca.com/30555). VirtualBox forum users suggest the problem is caused by Windows 10's Hyper-V, a virtual-server tool that I don't have.


I gave Ubuntu the elbow and tried a lightweight alternative, Absolute Linux (www.absolutelinux.org). Running its ISO was an unforgiving process that required me to manually create

partitions, even in "auto" mode, so I dumped that one too and moved on to Fedora (<https://getfedora.org>). A fedora worked for Indiana Jones, and I'm overjoyed to report it worked wonders for me as well. The huge ISO installed quickly, and the distro snapped into action faster than Indy's whip. Next time I ran my virtual machine, Fedora launched automatically. Hallelujah! I've got Linux!

Well, sort of. Virtual Linux isn't as powerful as Linux on your hard drive, but it does support Linux software, although in some cases (including Pitivi) you have to use an additional sandbox tool to handle the installation.

Fedora, like most Linux distros, comes packed with the kind of **bloatware** that gives me sweet dreams not nightmares: LibreOffice, Firefox, iTunes-alternative Rhythmbox and a dozen or so more - plus an easy option to 'Install to hard drive'. I'm impressed enough to consider completely replacing Windows.

Quick postscript: When searching for Hyper-V, I came across 'Windows Subsystem for Linux' in Windows 10's Control Panel. This is a new shell where you can install Linux components via the Windows Store. However, it's not quite a virtualisation tool in the manner of VirtualBox, which I now recommend heartily - just stay away from Ubuntu.

 Need help making Linux work on your PC? Let us know: noproblem@computeractive.co.uk