

SURVIVE THE LANDLINE SWITCH-OFF

BT will axe its copper phone network in 2025, leaving many of you anxious about the impact on your daily lives. **Nik Rawlinson** answers all your questions to help you feel fully prepared



Salisbury made history in December 2020 when BT stopped selling its copper-based broadband there – making it the first UK town to lose the service. Covid was still rife at the time so the public had its mind on other matters, but the move was a significant milestone in the journey towards the copper switch-off and the demise of the landline.

More than two years on and awareness of the switch-off has grown – but so

have concerns about its impact. Many people remain unsure of what they need to do to prepare before BT cuts the final copper cable at the end of 2025. Search online and you'll find some sites offering advice, but they're often contradictory and leave many details untouched. And we've yet to see newspapers and TV give the issue the attention it deserves.

So we'll aim to fill the gap in this Cover Feature. We're basing it on the

hundreds of emails you've sent over the past few months. As always you've asked some excellent questions that we wish the experts had thought of when devising the switch-off schedule.

We'll start by explaining why the upgrade has to happen – despite the disruption it'll cause – before moving on to the differences it will make to your home. How drastically you'll be affected depends on what kind of broadband and phone setup you currently have.

We'll talk you through the equipment you'll need to get (most of it for free) and reveal the biggest drawbacks of the new network (think power cuts and telecare). And if you want to switch to **VoIP** now, read our advice on the best deals. By the end you should hopefully feel as prepared as the most diligent boy scout.

QUESTIONS WE ANSWER

- Why is the switch-off happening?
- Will you need a new phone?
- Will you need faster broadband?
- What happens if there's a power cut?
- Will your telecare alarms still work?
- Can you keep your number if you switch to VoIP?
- Can you opt out of the switch-off?



WHY THE LANDLINE SWITCH-OFF IS HAPPENING

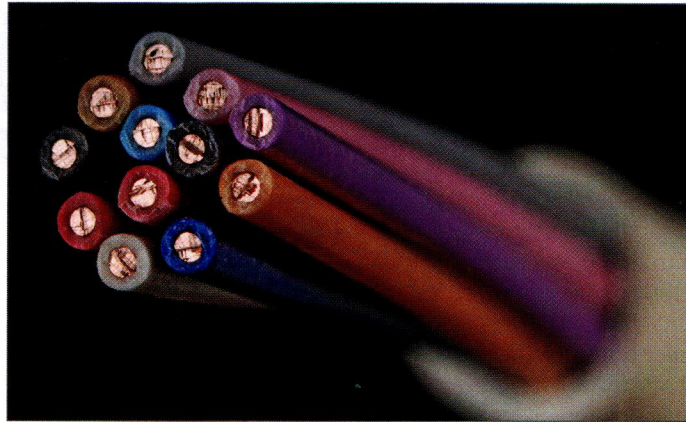
Your landline is on its last legs. That's because the UK's phone network is well over 100 years old and is struggling to cope with the demands of the modern world. Over that time the network has been constantly upgraded. If it hadn't, we wouldn't now be able to enjoy the convenience of broadband, TV streaming or video calls – and even ageing technologies like fax and telex would never have seen the light of day.

The upgrades carried out have been hugely successful, and have extended the useful life of the copper cables that run to our homes. The problem is that you can only go so far with the existing technology. We're fast running out of capacity for the massive increase in home working, the surge in demand for video streaming, and the sheer number of downloads and games these copper cables (pictured above right) must support.

What's more, BT is finding it harder to source the components it needs to keep its copper network running, as many manufacturers have simply stopped producing them. Something fundamental has to change.

From PSTN to VoIP

Until now, most of us have been using the public switched telephone network (PSTN), but this is on its way out. BT has pledged to switch it off by 2025, and from that point on our telephone system will operate online (in the 'cloud'). This means that, rather than being routed through a series of circuits and wires from your phone to its destination, any



The UK's copper phone network is over 100 years old and can't cope with the demands of modern communications

call you make will instead go to the nearest server, which will then alert your contact's device, allowing them to pick up.

We say 'device', because while they may well be using a landline phone, they needn't be. They could, in theory, route their number to their mobile phone when they're out of the house, and answer you when queuing at the bank. Alternatively, they might pick up your call on their work PC or via their tablet while sunning themselves on holiday (as pictured below).

Telephone handsets will be just one device among many through which we'll be able to place and receive traditional calls – just as we already can when using Voice over Internet Protocol (VoIP).

It's not the first time we've undergone a technological revolution on this scale. In March 1931, Guernsey was connected to the mainland telephone network, linking St Peter Port to Peterborough,

Peterloo and Portishead, by way of an exchange at Porthcurno. This was only possible because the single telegraph cable that previously linked the island to the mainland had been repurposed so it could handle voice traffic.

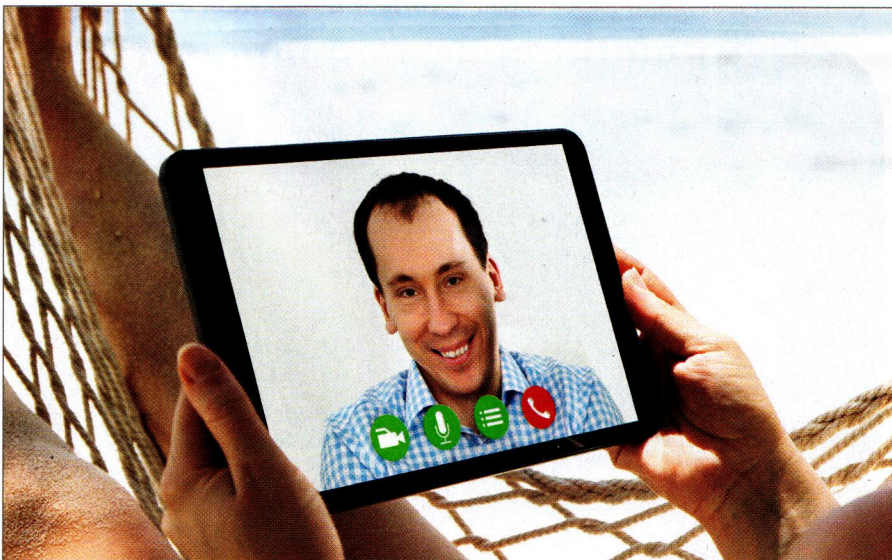
No doubt there would have been complaints from those who were familiar with the telegraph, just as there are many phone users today with understandable concerns about the end of PSTN. But who would want to reverse that change today?

Eight years to make the change

The UK telecoms industry announced its intention to switch off the existing network in 2017, and gave itself eight years to complete the task. Why so long? There are several reasons, including the scarcity of necessary materials, but also because there are simply so many landlines still in use – around 14 million.

The UK isn't the only country switching off PSTN – nor is it the first. Estonia and the Netherlands have already flicked the switch, while Germany, Sweden and Japan are making the change as we speak. So, the process and the technology are tried and tested, and while there are certain things you need to do to prepare – as we'll explain – we'll all ultimately benefit from a more powerful, flexible and resilient network.

The new system will also be in a better position to adapt to whatever technological opportunities the future may hold. That's because new tech will rely less on physical infrastructure, and more on lines of code that can be changed to update VoIP services. These will run on the same kind of powerful servers that already host websites, send answers to a smart speaker, or stream video calls and internet radio stations.



Switching from PSTN to VoIP means you could route your landline number so you could answer calls from anywhere, including the beach

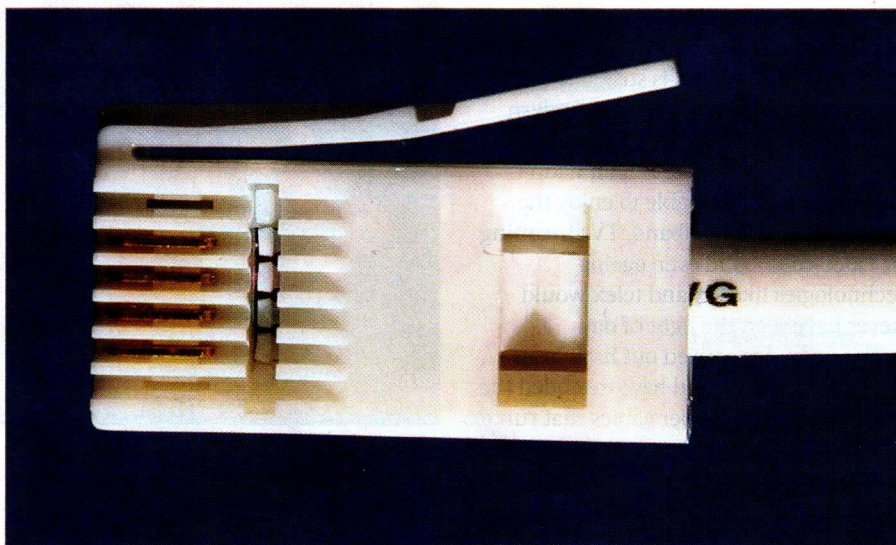
HOME EQUIPMENT AND INSTALLATION

Will you need a new phone?

As long as you have a reasonably modern phone, you should be fine. Ofcom cites “very old” phones with “an older style plug where it connects to the wall” as the kind of phone that’s unlikely to continue working. How old is very old? Well, the ‘plug and socket’ form for phones (pictured right) was introduced way back in November 1981 – so any phone you’ve bought since then should be fine.

If you’re a BT customer you can request a free Digital Home Phone (pictured below) when you switch to the company’s Digital Voice service. To do this, phone BT Customer Service on 0800 800 150.

You can also call that number to ask BT for free adapters (pictured bottom of the page). You’ll need these if you have a number of normal phones (ie not Digital Voice phones) to get them all online. BT was previously letting you request adapters and phones by typing your



The UK’s current ‘plug and socket’ form for phones was introduced back in 1981

landline number into www.snipca.com/46112, but this doesn’t seem to be working now.

What hardware will you need to install?

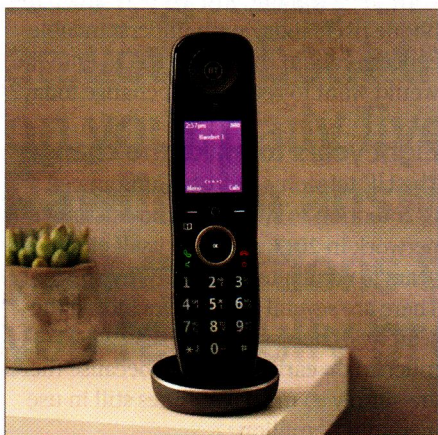
Very little should change in this respect. All the technological improvements are taking place at the network level, and the only notable differences in your home might be a new wall socket, or a new router that has a phone socket.

Even these may not be necessary: your router may already have a phone socket, and unless your line is being upgraded to full fibre (ie, fibre-to-the-premises or **FTTP**), the broadband signal will still complete the last few metres of its journey to your house using existing

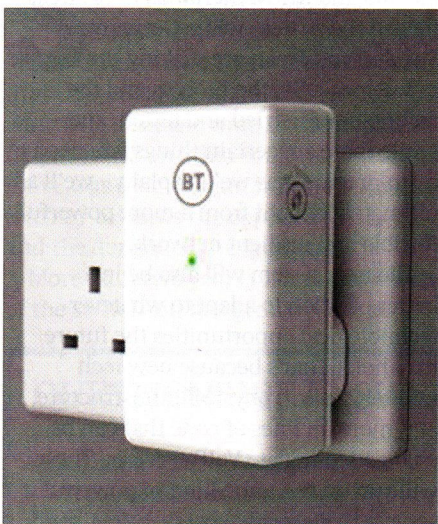
copper wiring. All you’ll need to do is wait for your supplier to notify you of a switch date and – on that day – reconnect the phone to a different socket. Once connected, you’ll be able to call anyone in the world, even if their line uses a different technology to yours.

Openreach says it will be able to connect just over half of properties using existing telegraph poles. In other cases it will run a fibre-optic cable underground to an external wall of your property. It will use tools to burrow underneath a driveway or garden in order to minimise disruption.

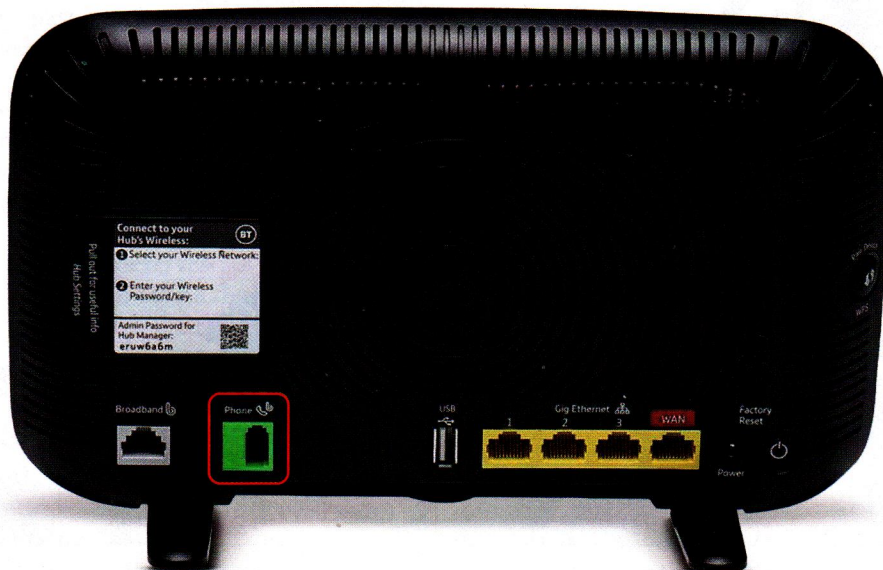
If your current router doesn’t have a telephone socket, it will probably need to be replaced. In that case, your phone or broadband provider will contact you to organise delivery of a replacement.



BT customers can request a free Digital Home Phone to use with its Digital Voice service



Ask BT for a free adapter if you have several non-Digital Voice phones



Check whether your router has a phone socket – as BT’s Smart Hub 2 does



BT broadband customers who have a Smart Hub 2 already have everything they need to use the company's Digital Voice phones. In the photo below left you'll see the green phone socket on the left, next to the Ethernet port. For BT customers the process is so straightforward that the company can explain it all in a two-and-a-half-minute video: www.snipca.com/46142.

Our older Plusnet router (pictured right) doesn't have a phone socket, so we'll ask the company for a new one soon.

Virgin Media is upgrading customers to a fibre phone service, and aims to have switched everyone – other than those without mobile coverage – by 2025, which is the same deadline as the projected switch-off date for PSTN.

As part of the process, Virgin is also asking affected customers to order an adapter so it can plug it into your router. It plans to send customers details by email or text when it's their turn. Other providers such as Plusnet, Sky and TalkTalk will do likewise over the next few years.

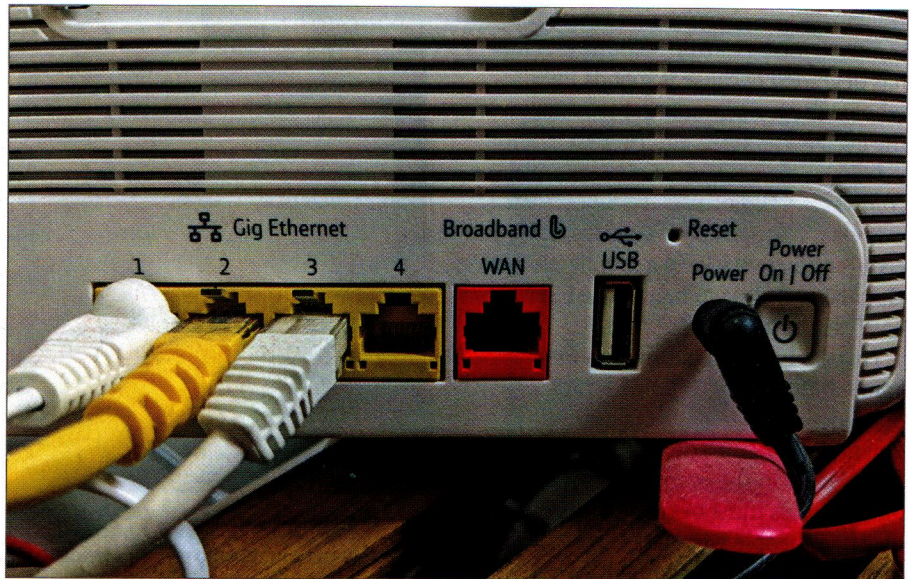
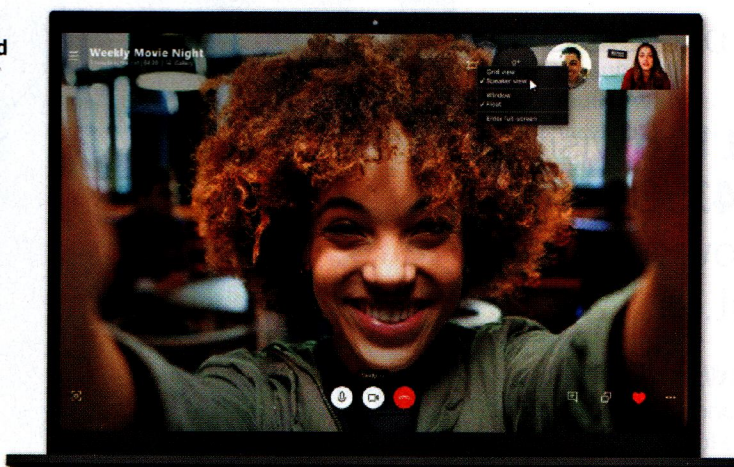
You should also be able to keep your phone number throughout the process. However, the fact that your new phone service lives online – making area codes largely irrelevant – doesn't necessarily mean you'll be able to carry on using that number if you later move house.

If you want to set up a single phone number that you can use for life, however many times you move – possibly even if you move overseas – sign up with a VoIP service that lets you rent a number in any geographical code area, even if you don't live there (see page 55).

Will you need faster broadband?

In most cases, this shouldn't be necessary because existing broadband connections already have sufficient capacity to carry a voice signal. An HD call on Skype, for

You only need a broadband speed of 1.2Mbps to make an HD call on Skype



Our Plusnet router lacks a phone socket, so we'll have to request a new router before 2025

example, requires just 1.2Mbps (see www.snipca.com/46156). However, if you use additional data services, like music downloads, streaming TV or online gaming, a basic broadband service (10Mbps, say) may not be enough to cope with your overall data consumption.

It's worth repeating that you'll need to be connected to the internet after 2025 to make phone calls through VoIP. Roughly 1.3 million people in the UK don't have internet access, but they'll be able to buy a cheap 'line only' broadband connection to replace their current landline. This shouldn't cost any more than standard line rental and isn't designed to be used for browsing the web.

Can you choose where to position new equipment?

Your router should be connected to the master socket within your home. Any devices that must be directly attached, such as the primary base station for a DECT phone system, a wired fax machine, or a base station for a personal-assistance

alarm, may likewise need to be situated close to that point.

However, you may also be able to connect these devices via an adapter. BT's Digital Voice Adapter (pictured on page 52) for use with its Smart Hub 2, for example, connects to a power socket anywhere in your home and provides a remote phone socket for plugging in your phone-based device. It converts the device's activity into a data signal for transmission back to the Smart Hub 2. This gets around the problem of having to link remote phones back to a base station connected to the hub. Instead, the adapter transmits the signal itself, effectively giving you a remote socket.

What happens when there's a power cut?

In short, your phone line will go down. The existing network doesn't have this problem because it supplies a low-voltage power feed not only to maintain the system, but also to power basic wired phones. Its digital replacement won't supply an equivalent charge to keep your router alive.

However, many of us already use independently powered phones, rather than the charge from the exchange. Whether these work in a power cut will often depend on their age and the quality of their batteries. The older they are and the more often they've been charged, the less able their batteries will become at holding a full charge. That's why keeping your wireless home phone off its base station for too long can result in it running flat and you being unable to make any calls until it's been docked again and recharged.

Likewise, any base station without a built-in battery, or in which the battery has degraded because it spends its whole life plugged in, is liable to fail in the event of a power cut. In this case, you'll be no worse off once the switchover completes.

It would be sensible, therefore, to ensure you always keep a mobile phone charged and close to hand once PSTN has been switched off.

That said, Ofcom has told phone companies to offer customers "at least one solution that enables access to emergency organisations for a minimum of one hour in the event of a power outage". This must be offered free of charge to people who "are at risk [because] they are dependent on their landline".

You may fall into this category if you don't have a mobile phone or there's no mobile coverage in your area. In that instance, you could be entitled to a battery backup to cope with power outages, supplied by the network operator at no cost to yourself.

BT, for example, is providing vulnerable customers with a free battery – like the



BT is offering battery backups for free to vulnerable customers who rely on a landline

CyberPower unit it sells for £85 at www.snipca.com/46163 (pictured above). The only BT router it works with is the Smart Hub 2, providing about one hour of power. Ring BT customer service (0800 800 150) to request this.

If you're not considered a vulnerable customer, we would normally recommend Amazon's Basics range of uninterruptible power supplies (UPS).



PowerWalker's 1200W UPS should last just over two hours

These offer great value, but they're all currently out of stock on the site. Hopefully they'll be available again soon, so keep checking.

If you don't have any luck, consider instead PowerWalker's 1200W UPS (£136 from www.snipca.com/46166, pictured above), which should last just over two hours. This might be long enough to see you through if you're careful.

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PERSONAL TELECARE ALARMS AND SENSORS

It's not only your phone that requires an active phone connection: many telecare devices also require a reliable means of phoning home, downloading information and sending alerts. Such equipment includes fall alarms, and sensors that detect movement or smoke – all of which must be taken into account as part of your line's transition.

Will all telecare devices still work?

No, because some rely specifically on characteristics of the PSTN system that aren't in the digital replacement.

Unfortunately, with so many telecare devices in active use, it's impossible to say whether yours will be among these. Our advice is to talk to the manufacturer, supplier or leasing company. Generally, if a device has 'digital' in its name then it should continue to work.

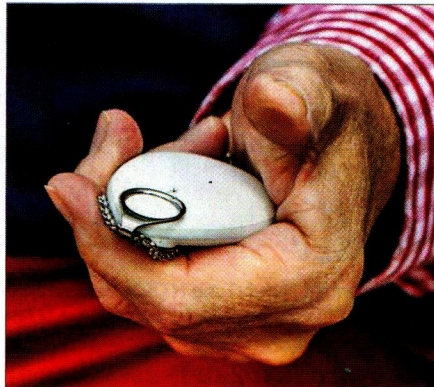
Some companies including Taking Care (<https://taking.care>) have been working with BT to test whether their products will work with Digital Voice. You can see a complete list of these at www.snipca.com/44413. Taking Care itself has already clarified which products will work after the switch-off (www.snipca.com/46178), including its Anywhere pendant (pictured above right), which is a GPS tracker alarm and fall detector.

Another device that will keep working is LifeConnect24's SmartLife Personal Alarm (www.snipca.com/46179, pictured below), which plugs in anywhere around your home and provides **end-to-end encryption** on all alarm calls.

You'll need to replace any devices that will stop working after the 2025 switch-off. If you own a device outright, rather than leasing it from a care provider, the cost of replacement will almost certainly be your responsibility, so this is the perfect time to look at alternatives – particularly if cheaper but more advanced options have come on to the market. If you receive pension credit or some other benefits,



You won't need a landline to continue using LifeConnect24's SmartLife Personal Alarm



Taking Care's Anywhere pendant will continue to work after the landline switch-off

you may be eligible for a reduction in the cost of the replacement device. Ask your adult social services department whether you qualify.

If you buy a new device before the switch-off, don't start using it straight away. Anything designed for use with the digital network may not be compatible with PSTN, so continue using your existing device until changeover day.

If you use a textphone, switch to BT's free Relay UK app (pictured above right), which is available for iPhone, Android, tablets, Windows PCs and Macs. You'll find more information and links at www.relayuk.bt.com.

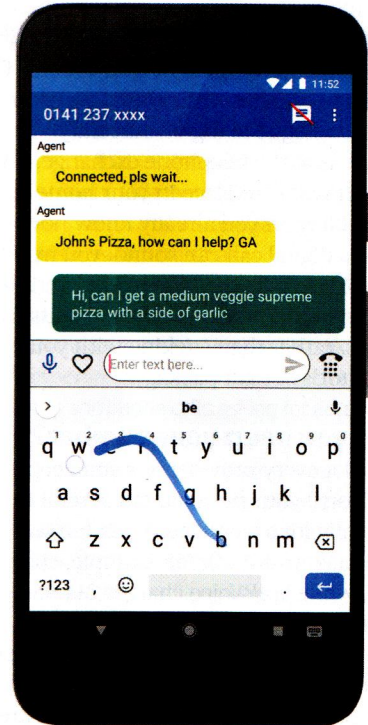
Will digital telecare devices work during power cuts?

No, because your router – through which they're connected to the network – will fail when the power goes off. It's a similar situation to the one we explained on page 54. Ofcom says that telecare operators must provide some way for customers to contact emergency services for at least an hour in the event of a power cut.

The most logical solution for these companies, other than asking customers to use a mobile phone, is to supply a backup battery for their router. With this installed, any telecare device that has its own sustained power supply should continue working for as long as the router's battery holds out. Talk to your network operator to find out what they can do for you.

Should you contact your local authority or telecare company?

As each device is different, and there may even be differences between generations of the same device, the only reliable



If you currently use a textphone to communicate, switch to BT's free Relay app

source of information is the manufacturer, supplier or any company with which you have a contract for rental or ongoing maintenance. The latter category may indeed include your local authority if you were issued the telecare device following a care-needs assessment.

Ensure you contact them as soon as you're told when you'll be going digital – if not before – to give them time to check the compatibility of your existing equipment and, if appropriate, send you a replacement.

What should you do with your old telecare device?

If you owned it outright, you may be able to trade it in against replacements. If you can't do that, don't throw them out, as many can be recycled by specialist organisations like Red Alert, which works across four London boroughs, plus Thurrock Borough Council areas in Essex (www.snipca.com/46149).

Search online for 'telecare device recycling' if you want to try to find a recycling service yourself, or contact your local authority waste and recycling helpline. These are often best placed to advise on the responsible recycling options, and many authorities maintain lists of sites where you can drop off specific device types.

SWITCH TO VOIP TODAY

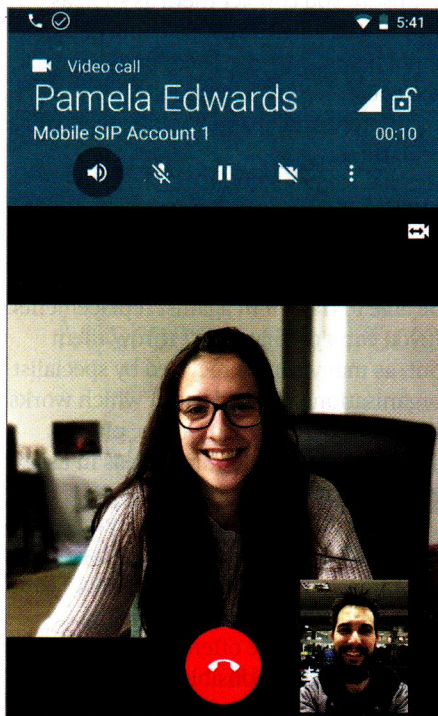
You may not realise it, but you're already using the kind of VoIP technology upon which the new digital network relies. The difference is that while the conversion from analogue to digital currently happens at the telephone exchange, after 2025 it will take place in your home.

So, because you already know how good a digital call can sound, you may be tempted to take the plunge now and sign up for a VoIP service that really suits your needs, rather than sticking with your operator's default package.

Can you keep your number?

Yes. Not every provider lets you keep (or 'port') your number, but several do, typically for a small fee. Xinux (www.snipca.com/46164), for example, charges £10, while VoIPVoice charges £14.95 (www.snipca.com/46165).

However, one benefit of picking a new number is that you can choose what it is. You can rent a number in your own area code, or pick one from somewhere else. Likewise, if you're moving home and you've used VoIP for a while, you can take your number with you, because online phone services don't use area codes to route calls to exchanges. It doesn't make any difference if you're moving to a mansion down the road, or downsizing to a cottage in the next county – or, come to that, a different country.



Zoiper lets you use your VoIP number on your mobile phone



Grandstream's HandyTone HT801 VoIP adapter has two ports on the back – one for Ethernet (blue), one for your phone (green)

Can you still make emergency calls?

That depends on your provider. Because your number isn't tied to a physical address (as your billing address may be different to where the line is located) some VoIP providers can't route calls to the fire, police and ambulance service.

Others, like Vonage, require you to register your address in your online account, from which it is forwarded to emergency services. That could be a lifesaver if you call the fire brigade in the middle of the night – as long as you're at home. But, if you dial 112 for an ambulance while you're on holiday in Spain via a VoIP app on your mobile, you'll reach the UK emergency services.

Can you keep your phone?

Yes. While it is possible to get a dedicated VoIP phone that connects to your network directly, you can also use an adapter for your existing phone, if you prefer. We recommend Grandstream's HandyTone HT801 VoIP adapter, currently £45 (www.snipca.com/46157), which is a compact box with two ports on the back (pictured above): one for an Ethernet cable, and one for your phone. The phone port is a US-style socket, so you'll also need an RJ11-to-BT Adapter Plug (such as the £4.39 model from www.snipca.com/46159, pictured above right) to connect a UK phone.

Once you've connected the box to your network, you can log in through the browser and enter your VoIP account details. It will both route outgoing calls over the internet, and listen for incoming calls.

Alternatively, you can use a VoIP app on your mobile phone. The Zoiper softphone for Android (www.snipca.com/46160, pictured left) and iOS (www.snipca.com/46161) lets you carry your VoIP landline in your pocket, alongside your mobile number (see box right).



The HandyTone has a US-style socket so you'll need to use a RJ11-to-BT Adapter Plug

Is it expensive?

It needn't be. Localphone (www.localphone.com) is about as cheap as it gets, charging a one-off 90p to set up an incoming UK landline number, plus 90p-a-month line rental. Calls to UK numbers cost 0.6p a minute for landlines and 1.8p a minute to mobile phones – although, depending on how much you use it, you can make savings by opting for a call package. If you have friends and family overseas, you can make savings there, too. Calls to most US landlines and mobiles cost 0.5p a minute; to Australia it's 1.1p a minute for landlines and 2.9p a minute to mobiles; to India it's 1.8p to both mobiles and landlines. To see the full list of prices visit www.localphone.com/prices.

What's a softphone?

A softphone uses software to recreate the design and functionality of a physical phone on your device's screen. They usually have on-screen buttons for dialling and features such as call forwarding, call waiting, voicemail and caller ID. You can also switch between audio and video during a call, and speak via a headset. Softphones are now common in businesses, though they're also becoming popular with individuals who want the freedom to make calls on any device, wherever they are.



OTHER THINGS YOU SHOULD KNOW

It's not only phones and telecare systems that rely on the PSTN network. We live in an interconnected world underpinned by the phone system and related technologies. Every part of it will need to be tested and, in places, upgraded in time for the switch off if it's not to come crashing down.

Will your home alarm still work?

Standalone alarm systems will be unaffected. However, if your home alarm has a phone connection to alert a monitoring station to break-ins, fire or flood, check with the company now that it will continue working once PSTN has been switched off.

If not, the company should be able to suggest a fix – and it will probably be relatively simple, requiring you to connect



App-based systems like Yale Smart Home Alarm use Wi-Fi to send alerts, so should continue to work

an adapter to the alarm. Bear in mind, though, what we've said elsewhere about loss of service in the event of a power failure. If this happens, your alarm won't be able to contact the monitoring service unless you have a battery backup for your router.

If you have an app-based alarm system, like the Yale Smart Home Alarm (www.snipca.com),

(pictured above), it will instead use your Wi-Fi network to send notifications to your mobile phone. Alarms of this type should continue working throughout and beyond the transition.

How about card readers in shops?

Modern card readers generally connect via Wi-Fi or over an in-store wired network as part of a larger EPoS (Electronic Point of Sale) system. We don't foresee any

problems in this area. Similarly, handheld readers from the likes of Square and SumUp, which are commonly used in coffee shops and on market stalls, connect via Wi-Fi or a mobile phone, so for them the changeover is an irrelevance. Only stores using very old technology that still triggers each connection over the PSTN are likely to be disrupted.

Are cash machines affected?

Cash machines may face more problems. Those attached directly to a bank are commonly run through its network and should be fine. But smaller in-store machines, such as those in a corner shop or supermarket, tend to use dial-up or a leased phone line. If they can connect to the new digital system using a telephone adapter, they will continue working. If not, they'll need to be replaced or updated. This will inevitably cost money so we wouldn't be surprised to see many of them disappear.

Will you have to get rid of your fax machine?

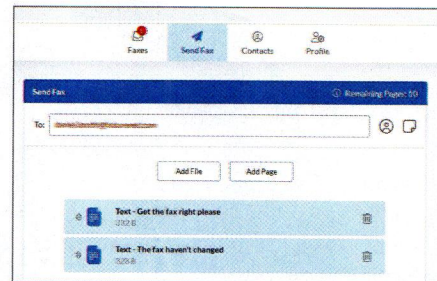
The new digital voice network supports fax machines, although BT warns that it's not 100-per-cent guaranteed (www.snipca.com/46188). It recommends scanning documents and sending them as email attachments instead if you can. If that's not an option, you can connect your fax machine to the phone socket on the back of your router. BT advises not to send more than 10 pages at a time.

The switch-off might be an opportunity to get rid of your fax machine and switch to an online fax service such as Fax.Plus (www.fax.plus). It lets you send and receive faxes via phones, tablets, your Windows desktop, your email and your browser (via an extension – pictured above right).

The Basic plan (£6.99) lets you send 200 pages a month, and 10p per page if you exceed that limit. It also has a free service, letting you send five faxes a day

Watch out for scams

As the switch-off approaches we expect criminals to unleash a barrage of scams that exploit public uncertainty. One inevitable tactic will be the promise of a state payment to help you switch (this has worked well for scammers in the past six months to coincide with the Government's cost-of-living payments). They're also likely to impersonate BT and Openreach in emails and phone calls asking for access to your computer to help you prepare for the switch-off. And look out too for fake 'advice' adverts online linking to malicious sites that try to steal your details. We'll do our best to expose scams as the deadline nears.



Fax.Plus lets you send five faxes a day for free

(each fax can be a maximum of three pages plus a cover page containing Fax.Plus's logo). Visit www.fax.plus/pricing to see the other payment options.

Is there any way you can stick with the copper phone line?

You can keep the copper line in your home, but it doesn't mean you'll be able to make calls on it. This is a national switch and with every home that transfers maintaining PSTN for those that remain would become more expensive. There's little chance of a network operator maintaining the service for just a handful of users. **ca**

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