



complete guide to Speeding up your broadband

Welcome to the broadbandchoices.co.uk complete guide to speeding up your broadband. If you are stuck with a frustratingly slow broadband connection it is easy to assume that it's solely down to the performance of your Internet Service Provider (ISP). However, there are a multitude of other factors that can affect your broadband speed.

While the maximum speed of your connection is ultimately limited by the broadband package you have chosen, there are plenty of things you can do to improve your chance of achieving faster speeds. Our guide helps you explore the most effective actions you can take.



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Section 1

Where to start

Test your speed

If you haven't already tried it, use our free online **Speed Tester** to establish the exact speed of your connection.

This works by sending a small file to your computer and recording the time it takes for the data to download. It's worth running the test on a few occasions at different times of the day and night so you can see how much it varies.

You can use this as your starting speed so you can see what difference the following suggestions make:



Talk to your provider

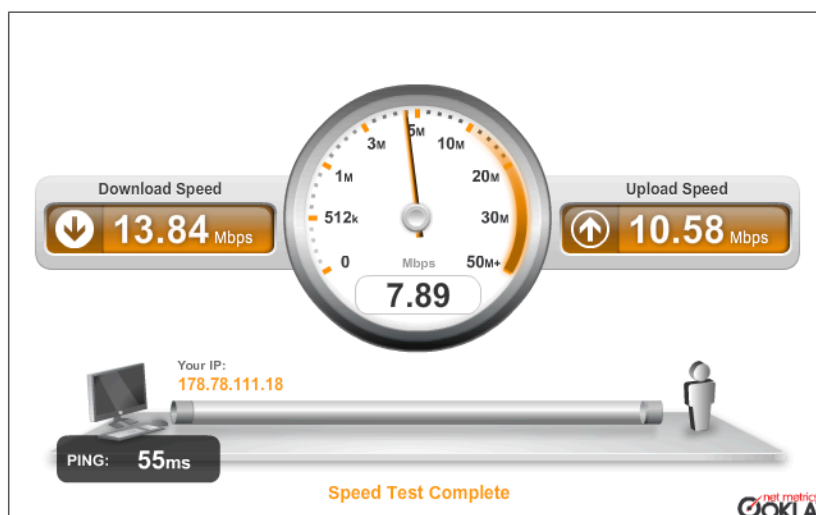


If you are not getting the speed you expected from your ISP, then try giving them a call. There are several factors within their control that may impact on your connection such as ISP enforced traffic management measures.

Ask if there is anything they can do to help - certain providers, such as BT, will fix the issues with your line if the speed you are getting is more than 1Mb either side of the speed it predicted for your line before you signed up.

Broadband technology is evolving rapidly. If you have been on the same package for a long time (more than 12 months), there's a good chance that it is now outdated. Your provider may be able to upgrade you to a faster and better value package without a massive price increase if you are willing to start a new contract.

Your ISP should be able to check what the maximum speed is for your line, and then you can see how close you are to it at present.





Section 2

Routers

Your router can have a massive impact on your broadband speed. We look at how to get the fastest speeds from your router: from finding the best position, to boosting the signal or possibly replacing it altogether.

We also look at the difference in speed between wired and wireless connections and delve into the technology behind Powerline networking.

Replace your router

If you are using the wireless router that you received free from your ISP several years ago, then you may not be getting the fastest speeds available. Routers supplied by ISPs were, and occasionally still are, very basic. The quality of the routers provided by ISPs now is usually significantly better.

If you think that you have a low quality router which is under-performing, you might want to consider swapping it with a more powerful model. A higher spec router will give you a stronger signal and could greatly improve your connection speed as well as offering other benefits, such as a better firewall. If you are a gamer, a multi-port router will allow you to use multiple wired connections and allocate specific ports for gaming.



Replace your antenna

Wireless routers will normally contain an in-built omnidirectional antenna. An omnidirectional antenna will transmit your Wi-Fi signal equally in all directions. However, if you want a stronger signal, and thus a better connection, you might consider replacing this antenna. There are two options:



1 Buy an external omnidirectional antenna - This will be significantly stronger than the router's in-built antenna and should increase network performance as well as allowing further locations to be better reached. However, strong omnidirectional signals can raise security issues as they are more likely to extend beyond your property boundaries and thus make your connection more susceptible to piggy-backing neighbours, so make sure that you have adequate Wi-Fi security set up.

2 Buy a hi-gain directional antenna - Rather than transmitting your wireless signal in all directions, a hi-gain antenna allows you to control and focus the direction of the signal, letting you literally aim it towards the area of your house where the wireless devices are located. This can improve the quality and strength of your wireless connection.

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Reposition your router

The position of your router can have a significant effect on the quality of your wireless connection. Positioning your router wisely can increase the range of the wireless signal and improve the speed and reliability of your connection.

Basically, the closer your router is to your PC or laptop, the stronger the signal will be. However there are other aspects to consider and you need to position your router in a location where the signal will be affected by as few obstructions and as little interference as possible. Finding the best place for your wireless router can be a process of trial and error as you move your router around the house - admittedly it's not the most scientific process, but it's very effective nevertheless, and following these top tips should help:

1

Establish a central location

Generally the closer your computer or laptop is to the wireless router, the stronger the signal will be. If there are multiple devices utilising the wireless network in your home, you should try to place the router somewhere central between them so they can all get a decent connection. For example, if you have several computers in bedrooms upstairs you could position your router on the landing.

2

Avoid physical obstructions

Any barriers between the router and your computer will reduce the strength of your wireless signal. Walls and doors have the biggest impact, but any large obstructions, such as bookcases, furniture, and particularly metal objects, can also have a negative effect.

3

Get some elevation

Because many obstructions walls and doors aside are located close to floor level, you may find that locating your router higher up can improve signal coverage. Shelves and upper levels on bookcases are popular locations.

4

Prevent frequency wars

Appliances such as cordless telephones, baby monitors and some microwaves often emit wireless signals in the same frequency range as some routers (2.4GHz - this is usually marked on the appliance or in the user manual). Position your router at least a metre away from appliances which may interfere with and weaken your signal.

5

Mind the electrics

Other electrical equipment can also interfere with and degrade your router signal. Avoid locations vnear to fridges, electric fans, fluorescent lighting and other electrical equipment as much as possible.

6

Avoid reflections

Some wireless signals will bounce off windows, mirrors and metal surfaces reflecting the signal away from your device. This will reduce your network range and performance, so vanity may come at a price when it comes to your broadband connection - relocate your mirrors!

Check what wireless network you are using

Wi-Fi technology, including routers, conforms to a number of wireless standards or rules, which have been improved and updated over time. These standards all start: 802.11 and the different updates are given a letter to

**1**

802.11b is the older wireless standard. It only supports bandwidth up to 11Mb and uses a single frequency to transmit a signal. B routers can suffer interference from microwave ovens, cordless phones, and other appliances using the same 2.4GHz range, though this can be avoided by installing your equipment a reasonable distance from such appliances.

2

The g model is more recent. It supports bandwidth up to 54Mb, and also uses the 2.4GHz frequency. It is faster than the b model but may still suffer interference from other appliances.

3

N-routers are the latest standard and are offered with most new broadband contracts. They can be faster than the b and g models because they use multiple wireless signals and antennas. N connections support a bandwidth of over 100Mb, and have a better signal range.

You can usually check which network your router supports by referring to the manual, looking at the manufacturer's website or Googling the router brand and model.

Some of the routers currently offered by providers, such as BT's Home Hub, are of a much higher spec, designed to detect and avoid Wi-Fi interference, and to automatically switch channels if there is too much interference in the chosen wireless channel.

In order to use your own router, you will need to obtain your ISP's broadband network username and password. Something this is accessible from your old router, using your IP address, but you may need to contact your ISP to get it.



Sky Broadband will not give you access to this username and password and it will not provide any technical support unless you are using the Sky router provided. If you do opt to use your own router you will be in breach of the terms and conditions of your contract and in theory could have your service suspended.

Maximise your signal

To give your wireless signal a real kick, invest in a wireless repeater. These can be quite expensive, costing from around £30 to over £100, but they promise to increase the coverage of your wireless signal.

Wireless repeaters, sometimes called “range expanders,” are stand alone units which provide an easy way to increase the coverage of your wireless network without having to fit any extra wiring.

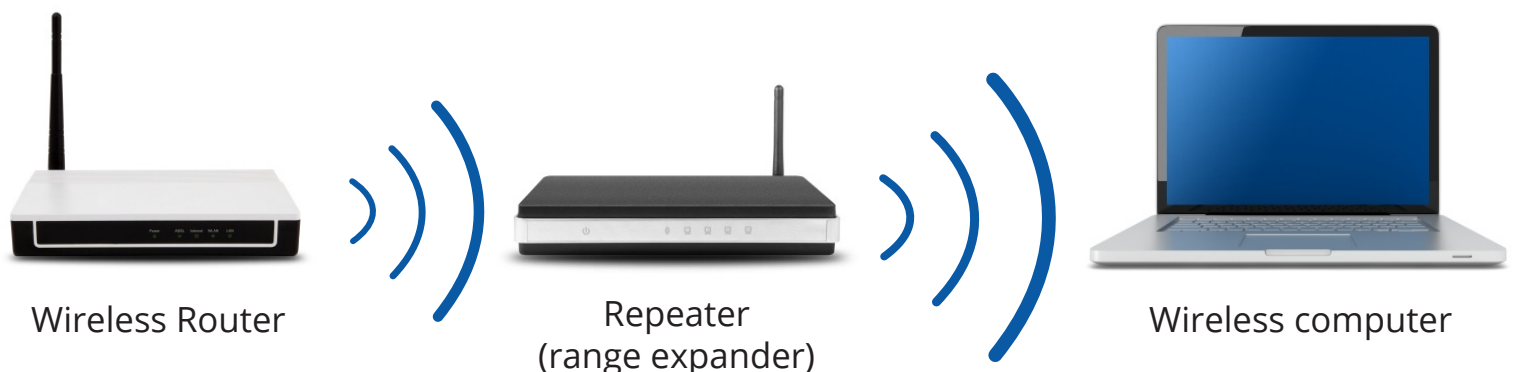


They work by bouncing signals from your router to remote wireless devices. They preserve signals which may not otherwise have had the power to reach the destination device, and extend the distance over which data can safely travel.

For example, if your router is downstairs and your study is upstairs, you could place a repeater on your landing. Simply placing a wireless repeater halfway between your wireless router and your computer will send your signal further.

However, while a wireless repeater will extend the reach of your signal, it won't be able to increase the actual speed you receive from your broadband connection.

! BONUS BOOST : There are many ways to tweak and adjust your router or modem settings, which can increase speeds. These tweaks will likely be manufacturer specific so have a good read of your router's manual.



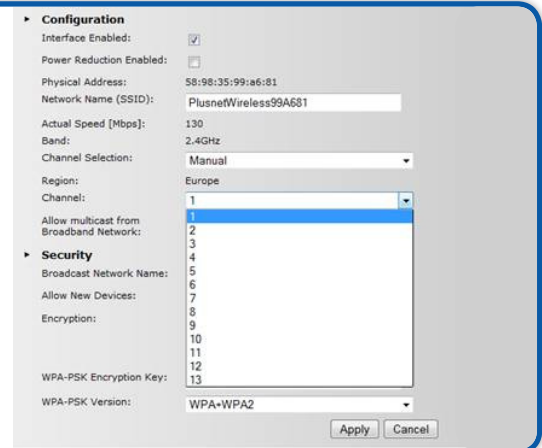
Change your channel

Changing the wireless channel, through which your router transmits data, can improve speeds and make your connection more reliable.

A wireless router can select from one of 13 different radio channels to use, but many people don't change theirs from the default. This means your wireless network is likely on the same channel as your neighbours, which could be interfering with, and slowing down your network,


To change the channel used by your router, you will need to

1. Log into the router settings through your web browser
2. Find wireless options and there should be a drop down box with a list of available channels.
3. Simply testing other channels using trial and error may help you find a better one.



Accessing your router settings

To access your router settings, you need to use the IP address listed in your router's manual. This is likely to be four sets of numbers separated by a dot e.g. 192.168.0.213. Enter this number into your web browser to access your router settings and make any necessary changes.

 **BONUS BOOST :** To analyse the wireless signals present around you, download Netstumbler from stumbler.net. This will show you which channels are currently in use by you and your neighbours and help you find a channel that is clear.

Get up close and personal

For optimum quality and speed, position your modem or router as close as possible to your master socket, or faceplate. This is the broadband entry point in your home, the main “white box on the wall” usually, as opposed to other telephone extension points.

Use the shortest cables that you can to connect the modem or router to the faceplate. If you’re still on an ADSL connection up to 8Mb, then simply moving your modem closer to the faceplate could increase your internet speed.



For optimum quality and speed, position your modem or router as close as possible to your master socket, or faceplate - the broadband entry point in your home.

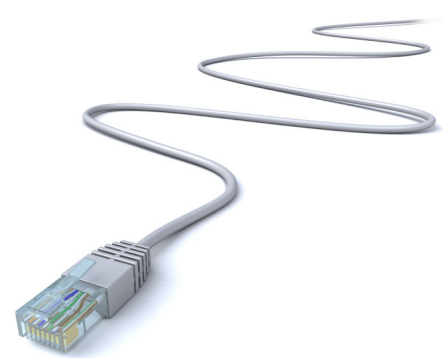
Get wired

Whether you connect wirelessly or via a cable will make a difference to your connection speed. If you have a generally reliable and fast connection then connecting wirelessly shouldn’t be a big issue. However, if you are suffering from frustratingly slow speeds and have been using a wireless router then it’s worth trying your connection using an ethernet cable.

1. Using a wired connection rather than a wireless connection will boost your internet speeds because data packets travel faster through wires than air. Plus, a wired connection will be faster as there is no need for advanced encryption and security measures.
2. For optimum speeds, connect to your router via a good quality ethernet cable rather than a USB cable. Most computers contain an ethernet card which has its own CPU (memory) to manage the internet connection. Accessing this by using an ethernet cable will result in faster speeds than using a USB cable, which uses the main CPU of the computer.
3. Use the shortest cables you can, as the further your broadband has to travel, the more likely it is to deteriorate and lose quality.



USB cable



Ethernet cable

Powerline networking

If wireless isn't working for you, but it is impractical to connect your computers or laptops to your router using wired connections, then you might want to try Powerline networking. This is actually a lot easier than it sounds.

This works because although electrical power is distributed around your house at 50Hz, the wires are actually capable of carrying a range of other frequencies.

Basically you just:

1. Plug a Powerline device into a normal plug socket
2. Use an ethernet cable to connect it to your router or modem
3. It will now send data signals down the power line
4. You can then plug in other Powerline devices at any electrical outlet in your house to receive the signal and thus create a network



Powerline networking, or Powerline communication, is the technology that allows you to use the existing electrical wiring in your home to create a computer network. It involves using special equipment which will send your network signals around your house via your household plug cables.

Costing around £90 for two adapters, it's not cheap, but this method has seen a surge of popularity in recent years. For the best speeds look for the latest HomePlug AV Standard, which supports theoretical speeds of up to 85Mb. Bear in mind that performance can suffer if not all sockets are on the same ring main or are linked via different fuse boxes.



Section 3

Software & Applications

Often, it's actually your PC rather than your broadband connection that's slowing you down.

In this section we explore the benefits of upgrading your browser and cleaning your cache as well as looking at how keeping a close eye on your applications, especially P2P programs, can really pay off in terms of speed.

Upgrade your browser

If you are unhappy with the browsing speed of your connection then you should definitely look at upgrading to a newer web browser.

Using the latest version of Internet Explorer, or using an alternative browser, such as Mozilla's Firefox or Google Chrome, could reduce the time it takes your computer to download a web page.

You can check **Download.com** for free downloads of the latest browsers, but should be careful when making any changes to the settings on your computer.



BONUS BOOST: Switching off conflicting firewalls and unnecessary anti-virus software should improve your connection speed as they constantly scan everything, but you should be very wary of doing this.

WARNING - Disabling any kind of software that is designed to protect your computer, could leave you at risk of viruses and at the mercy of hackers.

Spring clean your cache

Every time you visit a web page, your web browser will store or "cache" it. This can make web browsing faster as your computer can call up some or all elements of a previously visited web page from your computer's local memory, thus taking less time to display the page.

However, all the items stored in your cache will take up space and over time it can get very full. Periodically cleaning out your browser's cache will enable it to function more effectively and will free up space on your computer. Here's how to clear your cache:



Internet Explorer 8 From the Tools menu in a web page, select "Safety", then "Delete Browsing History", tick "Temporary files", "Cookies" and "History".



Firefox From the Tools menu select "Clear private data" and then choose "Cache".



Safari
From the Safari menu, select "Empty Cache" then, when prompted, click "Empty".



Chrome From the "Customised and control Google Chrome" button (the spanner icon), select "Tools", then "Clear browsing data", tick "Clear download history", "Empty the cache" and "Delete cookies and other site and plug-in data". In the drop-down box choose "the beginning of time" to clear the lot.

Monitor your applications

Although you may not be able to see them, there are many applications that may discretely start running when you log in to or turn on your computer, such as:

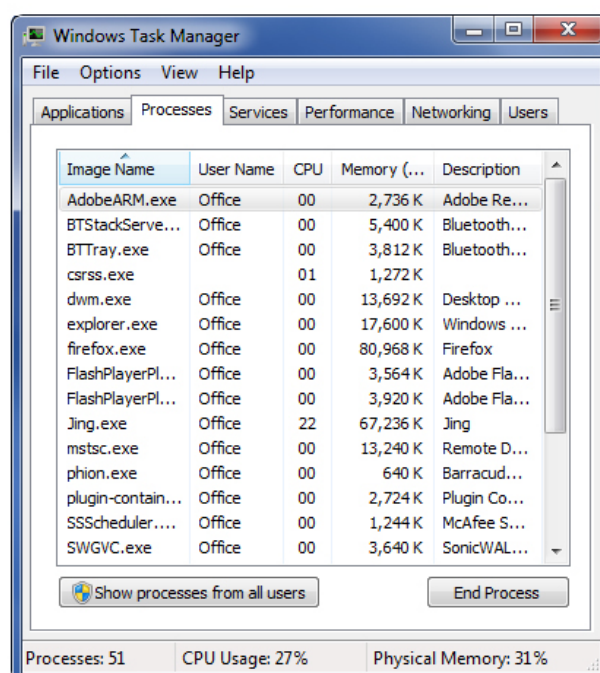
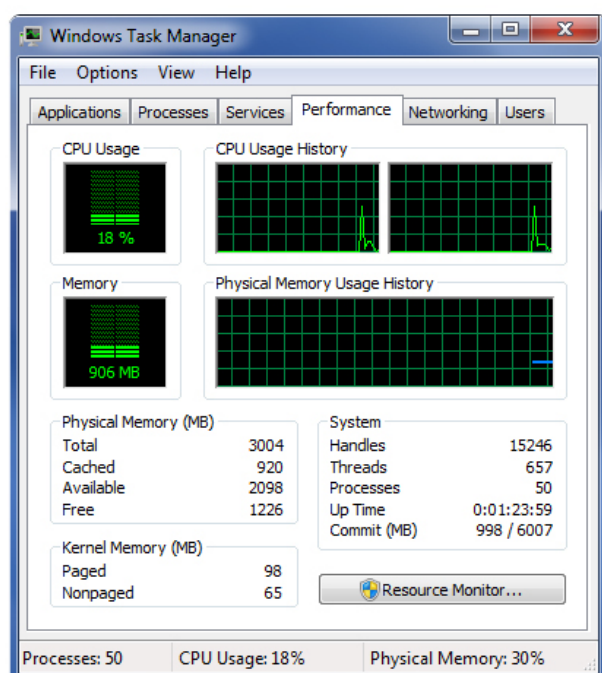
- Windows updates
- Real Player pop-ups
- Security suite updates

Whenever you log on to your computer, these can start running in the background and slow your computer down.

Almost all of these can be set so that they don't start up automatically, which will reduce your bandwidth overhead and should make a noticeable difference to your connection speed.

! To find out which applications are running on your PC, right click on the "Task bar" and go to your "Task Manager". You can see what's running in the "Applications" tab, and also see if anything is running secretly by clicking on the "Processes" tab.

You should always choose to "give permission" before an application runs, or ensure that applications are set up to run at times when they won't affect your web browsing – for example, only downloading podcasts at night.



Disable P2P software

While free video and voice call applications are great for helping us keep in touch, for free, with distance family and friends, they are not always so good for your connection speed.

Because they continually upload and download data, they can slow you down and use up your download allowance.



Applications like this can slow down your connection dramatically because they continue to run in the background, continually uploading and downloading data using a legal peer-to-peer system, even after you think you've turned them off.

To avoid this, check the settings and make sure that peer to peer is disabled, so the program won't run when you are not using it. To do this, simply click on "Settings", and where it says "Allow P2P Access", or something similar, check the box marked "No".

Also, make sure that you quit the program fully when you close it.

You can make sure you have done this by checking your Task Manager, which is also accessible by pressing CTRL, ALT and Delete simultaneously.

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Because they continually upload and download data, P2P applications will not only slow you down but can also use up your download allowance



Section 4

Technical Tricks

Let's get technical. In this section we look at how to check your microfilters are fitted correctly and explore the different options available to optimise your faceplate.

If you want a fast and reliable connection, you need to ensure that you have correctly fitted microfilters. A microfilter has two sockets, one for your broadband hardware and one for an optional telephone, and functions to stop your voice service and your broadband signal interfering with each other.

If you are having trouble with low speeds, an unreliable connection or you can hear a high-pitched noise on your telephone, you should definitely check your microfilters are connected correctly and on every extension.

If you are using ones that you got free from your ISP and are having problems, you may want to invest in some that are better quality. You can pick up cheap microfilters for a couple of pounds, but better quality ones may cost you nearer to £10.



Microfilter

Another way to speed up your broadband connection is to remove the 'ring wire' on your landline faceplate, which is inside the white box at the landline entry point to your home.

The ring wire was added to UK phone lines to send the bell tone the old "ring ring" - around the home to extension phones, however most modern phones do not require this extra wire. Now that it's not needed, it often just acts as a conductor for electrical interference.

1 A simple way to eradicate the effects of the ring wire and reduce this electrical interference is to purchase a BT Broadband Accelerator, or iPlate (Interstitial Plate). The iPlate is quick and easy to install, as it just sits between the existing master socket frontplate and backplate without any need to rewire.

BT has claimed that the device typically improves home ADSL broadband speeds by 1.5Mb. BT offers its own branded iPlate, the Broadband Accelerator, free to qualifying customers (with a small delivery charge), and TalkTalk also offers its Plus package customers one as part of its Tune Up Kit.

2 You can also remove the ring wire yourself, which normally involves disconnecting it at "terminal 3" in the face plate, but you should only try this if you are completely confident and competent in what you are doing. If you are unsure, seek professional advice and assistance as you are fully responsible for anything you do to your phone line or wiring.



BONUS BOOST: If you are having problems with noise on your telephone line, you might want to try using two microfilters together. Many people have found this helps.





Section 5

Connection

Securing your wireless network is essential to ensure the best performance from your connection. In this section we look at using WEP and WPA passwords and finding the best time of day for downloading.

If you have wireless broadband, the first and most important thing you should do is to secure your wireless network. Your wireless signal does not stop at the boundaries of your property meaning it is potentially accessible to other people in the vicinity.

If you are unwittingly sharing your connection with unauthorised users then they will be using up valuable bandwidth. This means that the speed of your connection could really be suffering, not to mention the security threat this poses.



To check whether your wireless network is secure, go to “My network places” or the “Network and Sharing Centre” and click “Scan for wireless networks”. Your own network should appear in the list, which will usually be identified by a name and number (for example, 12Sa4abcdR).

If you are unsure which network is yours, look for a label on your router or contact your ISP. If your network is secure, there will be a padlock next to its name on the screen. If there is no padlock, you need to take action.

At the very least you should have a Wired Equivalent Privacy (WEP) password, and if your hardware is compatible you should set up a more secure Wi-Fi Protected Access (WPA) encryption. A WPA encryption is stronger and harder to crack, but it is not compatible with all networks.

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The WEP or WPA you use is simply the passkey used to access your network, which encrypts data before transmission. Most people create a simple password, usually one that is easy to remember, and keep it for months if not years. However, using a more complex WEP or WPA key and changing it more frequently, will make it much harder for hackers to access your network.

To change your WEP or WPA, you need to

1. Go into your router settings (as explained earlier)
2. Look for wireless options, and then security options
3. When you have found the password option, simply type or copy and paste your new chosen access key into it.



Once you have changed the access key, you will need to make sure you enter it on each machine on your network, to give them access to the network and keep a note of it in case you want to connect other devices in the future.

Time your surfing

The time of day at which you surf can affect your connection speed. This is because when lots of people are attempting to access the internet at the same time, not only will there be more traffic on the physical phone lines, there will also be more traffic on each website's servers. Hence you'll find you experience a slower connection during peak periods.

Heaviest traffic is usually in the evenings, so to benefit from the fastest speeds you should try to surf when internet traffic is low, generally in the daytime or very late at night. Obviously this is no good if you are streaming live content or prefer not to play your computer games in the middle of the night, but if you have heavy downloading to do, you will get the fastest download speeds during off-peak periods so you may want to set your computer to download large files overnight.



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Another issue to bear in mind when timing your surfing is the limits that your ISP places on downloading.

1. Some ISPs, as part of their “traffic management”, will throttle your connection if you are downloading large files during peak hours, slowing you down.

For example, **Virgin Media** sets daytime (10am-3pm) and evening (4pm-9pm) downstream and upstream usage limits for its packages. If users exceed these limits they could have their connection speeds reduced by up to 75% for five hours.

2. To avoid having your connection throttled, make sure you know what restrictions your ISP applies - if any - and stay within the limits.
3. To achieve the fastest broadband speeds, make sure that you switch off any other devices that may be using your wireless connection while you're surfing.



BONUS BOOST: As a general rule, the more wireless devices that are connected to your network, the slower your connection speeds will be.



Section 6

Packages

At the end of the day, if your current package can't deliver the speed you want, then it may be time to switch to another provider that can better support your needs. In this section we explore your options.

Switch

If you are currently on a low speed package then you are restricted in what speed you will ultimately be able to achieve. Telecoms regulator Ofcom found that more than four in 10 broadband consumers remain on packages with speeds of 10Mb or less.

- **Advertised speed**

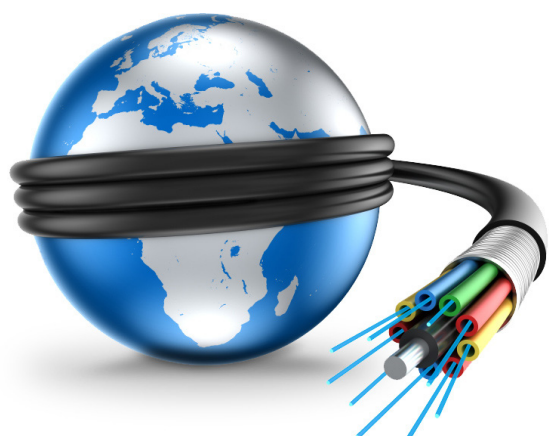
However even customers on packages with significantly higher headline speeds can find themselves disappointed with the reality of the speeds they receive.

Despite many of us having signed up to superfast broadband packages offering speeds of up to 30Mb-100Mb, average speeds across the UK were just 7.6Mb in November 2011 - much less than the majority of headline speeds that providers advertise.

- **ADSL vs. Fibre**

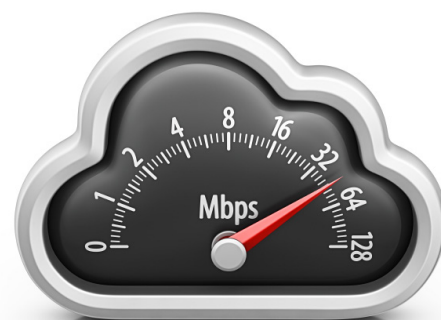
The speed you will be able to achieve does depend on some factors which are out of your control, such as your distance from the telephone exchange. The further away you are the more your service will deteriorate, regardless of who your provider is.

The exception to this is fibre optic broadband. The technology used for fibre broadband means your broadband connection will not suffer the same degree of speed loss over distance as ADSL technology - so fibre broadband providers like BT Infinity and Virgin Media can deliver consistent speeds almost as fast as those they advertise. While fibre network coverage isn't yet as extensive as its ADSL predecessor, it is catching up fast and by 2014 at least two-thirds of the UK population will be able to receive a fibre connection.



It's important to evaluate the time and money needed to improve on your current connection. Only you can decide whether adjusting your settings and equipment will make enough of an improvement to your connection speed. If not, you will need to consider upgrading with the same provider or to switching to a new provider altogether.

Use our Broadband Comparison Service at **broadbandchoices.co.uk** to compare broadband deals and to find a more suitable package for yourself.



Downgrading

If you are paying for a high advertised high speed that you simply can't achieve from your location, you can ask to downgrade. Ofcom has a voluntary code of practice that allows customers with slow speeds to switch to a cheaper package with their current supplier at no extra cost.

The fastest providers

- » **BT** is investing heavily in the roll-out of its fibre optic broadband network, and by the end of 2014, it will be available to over two-thirds of UK households by either fibre-to-the-cabinet (FTTC) or fibre-to-the-home (FTTH). Fibre packages offer up to 38Mb, 76Mb or 100Mb - and the technology is capable of up to 300Mb in the future.
- » Virgin Media's fibre network currently covers just over half of the UK offering speeds of up to 30Mb, 60Mb and 100Mb.
- » Several other providers, such as Sky and **Plusnet** are now offering fibre packages too.
- » Of the ADSL providers, **O2**, **BE**, Plusnet and BT all performed well in Ofcom speed tests carried out in 2011.

To find out whether superfast broadband is available in your area, type your postcode into our Broadband Calculator at **broadbandchoices.co.uk**.



Summary table

A lot of these tips are free to do. Below is an estimate of the time, cost and difficulty of each task:

Task	Time	Cost	Difficulty
Test your speed	10 mins or less	Free	1
Call your provider	30 mins or less	Free	1
Secure your wireless network	30 mins or less	Free	2
Switch off other devices	10 mins or less	Free	1
Time your surfing	N/A	Free	1
Upgrade your router	1 hour or less	More than £25	2
Reposition your router	1 hour or less	Free	2
Upgrade your antenna	1 hour or less	More than £25	2
Add a wireless repeater	1 hour or less	More than £25	2
Switch to a wired connection	30 mins or less	Less than £25	2
Secure your wireless network	30 mins or less	Free	2
Try powerline networking	1 hour or less	More than £25	2
Upgrade your browser	30 mins or less	Free	1
Monitor your applications	1 hour or less	More than £25	1
Disable P2P software	10 mins or less	Free	1
Clean your cache	1 hour or less	More than £25	1
Change your wireless channel	30 mins or less	Free	1
Upgrade your microfilters	1 hour or less	More than £25	1
Remove the ring wire from your faceplate	1 hour or less	Free	3
Install a BT iPlate	1 hour or less	More than £25	2
Compare ISPs	1 hour or less	Free	1

Please bear in mind that this is only a guide. Some people do things faster than others and you can spend more or less on upgrading items, depending on where you buy your equipment.

Difficulty

1. Simple, you should have no problems doing this.
2. More attention required but should be fairly straight forward.
3. Technical expertise required, consider consulting a professional.

ADSL (Asymmetric Digital Subscriber Line) - The technology that converts standard copper telephone wires, enabling them to support high-speed internet.

ADSL2 and ADSL2+ - Next generation broadband technology that can provide download speeds of between 8Mb-24Mb.

Anti-virus software - Software that detects and removes, or repairs, virus-infected files on a computer.

Bandwidth - The data transfer capabilities of your broadband connection.

Bandwidth overhead - Data that is not part of your user data, but that is stored or transmitted with it, for example encryption data. Although essential, it reduces the amount of user data that can be stored or transmitted.

Broadband - High-speed digital internet.

Browser - A program, such as Internet Explorer or Firefox, which is used to view websites.

Cable - A method of obtaining broadband via fibre optic cables.

Cache - Temporary memory on your computer, used in various ways, but on the internet it's used to speed up your connection to sites you've already visited.

Connection speed - The speed at which data is transferred from the internet to your computer, usually measured in Mb.

Downloading - Transferring files from the internet directly onto your computer.

Download limits - The limits that some ISPs impose on downloads, restricting the amount of content you can download from the internet, usually on a monthly basis.

Encryption - The scrambling of data so that it can only be read by the sender and authorised recipient.

Ethernet - A type of computer network cable that allows a number of PCs to be linked together.

Faceplate - The point at which your broadband enters your home.

Firewall - Either as hardware in your router or software in your computer, it guards against hackers and other unauthorised access to your computer via the internet.

Headline speed / Advertised speed - The "up to" maximum speed that ISPs use to describe their broadband packages. Very few people ever reach this advertised speed.

Hi-gain directional antenna - An antenna which allows you to control and focus the direction of your wireless signal.

iPlate (Interstitial Plate) - A device that sits between the existing master socket frontplate and backplate which eradicates the effects of the ring wire, also known as a Broadband Accelerator.

IP (Internet Protocol) address - The identifying number of a computer attached to a network.

ISP (Internet Service Provider) - The company that provides your internet connection.

Mb (Megabits per second) - A measure of the speed at which data is transferred, used to represent the speed of your broadband connection.

MB (Megabytes) and GB (Gigabytes) - Measures of data size, such as your download limit.

Microfilter - A channel filter used to alleviate noise interference from the ADSL line on phone and fax extensions.

Modem - A device that connects a computer to the internet by transferring data between the two.

Network adapter - Also known as a network interface card, this allows networked computers access to another device, such as a printer.

Ofcom - The independent regulator and competition authority for the UK communications industries, including broadband providers.

Omnidirectional antenna - An antenna which transmits your wireless signal equally in all directions.

Powerline communication - The technology that allows you to use the existing electrical wiring in your home to create a computer network.

Ring wire - Wiring in your faceplate that was originally used to send the bell tone around the home but now often just acts as a conductor for electrical interference.

Router - Hardware used to connect more than one computer or device to the internet.

Task Manager - A program that gives you advanced control over the programs that are running on your computer. You can access it by right-clicking on the Task Bar, or by pressing Ctrl, Alt and Delete simultaneously.

Traffic management - Also known as traffic shaping, this describes the way in which your ISP controls computer network traffic. It can include throttling your connection if you download excessively during peak hours.

WEP (Wired Equivalent Privacy) - Wireless encryption providing security against hackers and protecting data sent over wireless networks.

WPA (Wi-Fi Protected Access) - Newer, more advanced method of encryption for wireless networks. Provides more security than WEP.

Wireless (Wi-Fi) - The use of radio signals to connect computers to modems without cables, so that they can connect to the internet without wires, anywhere within the reach of the signal.

Wireless repeater - A stand-alone unit which increases the coverage of your wireless network.

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BT (www.bt.com) - the UK's biggest broadband provider - is investing heavily in its broadband infrastructure. Upgrades to its ADSL2+ network will mean that by Spring 2013, around 90% of households will be able to access BT's up to 16Mb broadband connection.

However, it is BT Infinity's fibre network that is seeing the most significant expansion - with BT delivering one of the fastest fibre network roll-outs in the world.

By 2014, two-thirds of the UK will be able to access a superfast fibre connection via BT's network using either fibre-to-the-cabinet (FTTC) or fibre-to-the-premises (FTTP) technology. This technology delivers broadband speeds of up to 38Mb, 76Mb and 100Mb downstream - with up to 300Mb capabilities (on FTTP) - and impressive up to 15Mb upload speeds.

BT also offers a range of added extras including free and unlimited BT Wi-fi in over four thousand hotspots in the UK, free internet security, online backup and storage.