
Get connected – all about broadband connections

Information available at www.broadband.co.uk

There are a number of different types of broadband connection (and of course old fashioned dial-up connection via a phone line).

Which type of connection you choose will mainly depend upon what is available in your area. Go to a website such as www.broadbandchecker.co.uk or phone www.broadband.co.uk on 0800 093 0405 to find out which Internet Service Providers (ISPs) are available at your address.

ADSL

Broadband via a phone line is called ADSL. You need to be within 6 kilometres of a broadband-enabled exchange to receive it. It is the most common form of broadband.

Connection speeds vary, depending on how far you are from the exchange, the type of phone line used and if lots of other people in the area are also using the same lines for broadband at the same time.

Although the phone lines belong to BT, you can register with other companies who will look after your account, such as Sky or Orange.

To receive broadband on your phone line your internet service provider (ISP) will provide you with filters to plug into the phone socket which stop broadband interfering with voice calls. They will also provide an internet modem.

The modem will allow you to connect a device either by an Ethernet cable which plugs into the modem and your computer, or by a wireless signal if your computer is WiFi-enabled (i.e. can receive a wireless broadband signal).

Your ISP will provide information on how to set up your wireless connection and add a password to make it secure.

Cable

Cable broadband is provided through high speed fibre optic cables. These are the same cables used for cable TV, such as Virgin Media, hence the ability to get bundled packages for TV, broadband and phone. You don't need a BT phone line as well as cable as your home phone can be included.

Although the distance from the exchange will not affect download or upload speeds with cable broadband, as with ADSL the number of people using the same line will slow it down.

Cable is not as widely available as ADSL so if you live in a rural area you may only be able to receive broadband via your phone line.

ADSL and cable broadband usually come on a contract basis. The contract could run for 12 or 18 months and will usually include a cost if you end the contract early. Expect to pay between zero (as part of a TV, phone, broadband package deal) to about £28 monthly for broadband alone.

If you have both ADSL and cable available in your area, the one you choose is up to you. Ask your neighbours to see who they use and who they might recommend.

Wireless

In some of the more remote or rural areas of the UK, ADSL and Cable Internet connections may not be available. Increasingly in these areas, smaller Internet providers are providing local coverage using wireless technology.

For a wireless Internet connection, a small antenna is installed on the outside of your house (much like a TV aerial) and this sends signals to a connection point on the inside, which in turn is connected to your computer. No telephone line of any kind is required.

Satellite

Satellite is generally seen as a last resort for people who live in remote areas and cannot receive any other form of broadband Internet. It is available throughout the UK and requires the installation of a special satellite dish. There are two types of satellite connection.

The first type is a **one-way connection**, where you will be able to receive data (view web pages), but can only send data (if for example you want to send an email) by using a dial-up modem through a telephone line.

Two-way services, where data is both sent and received through the satellite dish, are also available, although these tend to be quite expensive to install - typically £800 - with an additional monthly subscription.

Mobile broadband

3G (3rd generation mobile telecommunications) provides wireless voice telephone, mobile internet access, video calls and mobile TV. However, it does not cover the whole of the UK and is particularly patchy in rural and/or hilly areas.

If you live in a rural area where cable broadband is not available and you are more than 6 kilometres from a broadband-enabled phone line exchange, 3G is another way you might be able to receive a broadband connection.

However, those areas mentioned above are often areas that are not likely to get good 3G reception either.

3G is also affected by for example, buildings with thick walls. You may find you can get reception near a window or on one side of the building but not the other.

You can buy a small stick called a dongle that plugs into your computer and receives 3G to connect to mobile broadband. You can also connect using a tablet that is 3G-enabled, or using the vast majority of smartphones.

You will need either a pay-as-you-go or a monthly contract for 3G as it requires a SIM card to receive it, just like running a mobile phone. Your monthly data limit will depend on the price you pay. Expect to pay £10 to £15 a month for a low-to-medium level use contract or £2 per day, £5 per week or £15 per month for pay-as-you-go.

Check the UK's 3G coverage of the main mobile broadband service providers here <http://www.compare3gmobilebroadband.co.uk/3g-coverage-uk.htm> This will help you choose what network to use.

If you have a 3G-enabled device you will be able to connect to mobile broadband anywhere in the UK where it is available, not just at home. **3G is more suitable to light broadband users** – surfing the web, sending emails etc. Slower speeds and a low download limit make it unsuitable for watching films or downloading TV shows.

SDSL - Symmetric Digital Subscriber Line

Some providers also offer SDSL services. An SDSL connection is very similar to an ADSL connection. The difference is that ADSL can *download* data from the Internet faster than it can *upload* data, while SDSL is just as fast at *uploading* as *downloading*.

But since SDSL requires an extra telephone line, separate from the one you use for voice calls, SDSL is not a popular option for the home user. SDSL is really just a specialist option for some businesses that need to send large amounts of data.

LLU - Local Loop Unbundling

LLU is a method by which a service provider can offer an ADSL or SDSL service without using British Telecom's exchange systems. This can allow LLU providers to be more competitive with the prices and features they offer. In all other respects these services are equivalent to the corresponding ADSL or SDSL connections described above.

Broadband speeds

Internet transfer speeds are measured in *kilobits per second* and *megabits per second*, and those are *not* the same as the *kilobytes* and *megabytes* we use when we're talking about hard disks and files.

Let's not worry about the numbers. What matters is how they apply to the kinds of things you'll do on the Internet. Here's a table to make it simple:

Internet Connection Speed	Time to load a typical web page*	Time to download a typical 5-minute song**	Streaming Video Quality
56K dial-up modem	14 sec	12 min 30 sec	
256K broadband	3 sec	3 min	Low Quality
512K broadband	1.6 sec	1 min 30 sec	
1Mb broadband	0.8 sec	41 sec	
2Mb broadband	0.4 sec	20 sec	Medium Quality
4Mb broadband	0.1 sec	5 sec	
6Mb broadband	Instantaneous	3.5 sec	
8Mb broadband	Instantaneous	2.5 sec	TV Quality

Note: all figures are approximate and represent best-case download speeds. Actually speeds will generally be lower.
* Assumes a typical web page is 100 kilobytes of data.
** Assuming a typical song is a 5 megabyte MP3 file.

So you can see that an entry level 512K broadband Internet connection is around ten times faster than a 56K dial-up Internet connection, allowing you to view web pages with barely any noticeable delay, whereas with an 8Mb broadband connection, you could watch TV quality video over the web!

Any of the broadband speeds will be perfectly good for viewing the majority of web pages - having to wait a second or two for a page to load is perfectly acceptable.

The download time for a typical 5-minute pop song - around one and a half minutes with a 512K connection. The time it takes to download is *less than the time it takes the song to play*.

This means that your computer will be able to play the song while it downloads. This is **streaming** - the sound 'streams' to your computer fast enough that it can be played as it arrives.

Streaming also applies to video, and therefore websites such as iPlayer, YouTube and other on-demand catch-up TV websites.

If you want to use your internet connection for gaming, you might want to consider getting the fastest connection you can afford.

More information

The Welsh Government's Rural Broadband Support Service aims to ensure that businesses and homes in Wales have access to affordable, basic broadband. If you cannot get broadband you can register your details on the Broadband Notspot Registration Wales website

<http://wales.gov.uk/topics/businessandconomy/broadbandandict/broadband/?lang=en> You may also qualify for the Broadband Support Scheme through which you can claim up to £1000 towards the cost of getting a broadband solution installed.

Age UK have advice on finding the best broadband, TV or phone deal for someone you know <http://www.ageuk.org.uk/broadband-tv-phone> or phone Simplifydigital on 0800 090 1302

BBC Webwise – getting connected <http://www.bbc.co.uk/webwise/topics/using-the-web/getting-connected/>

Get in touch with Communities 2.0:

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This guide is part of the 'How to...' series from Communities 2.0. See <http://clickconnectdiscover.org/how-to> for more details.

