



Understanding fibre broadband speeds

The Digital Scotland Superfast Broadband programme has rolled out a fibre optic infrastructure across Scotland to complement the existing commercial network. The Digital Scotland Superfast Broadband programme has brought fibre infrastructure to areas that are not covered by commercial plans. Any internet service provider can use this infrastructure to offer faster broadband services to their customers. Thanks to the programme, 95% of homes and businesses across Scotland can now connect to fibre broadband and enjoy faster broadband speeds.

What does the term 'superfast broadband' mean?

In the UK, it is generally accepted that 'superfast' means speeds of over 24 Mbps and this is the benchmark used by almost every Broadband Delivery UK backed programme.

Fibre to the Cabinet (FTTC) offers high-speed wholesale services of up to 80 Mbps. The actual speed achieved is determined by the distance from the green cabinet to the premises and by the type and quality of the cable.

The vast majority of connections delivered by the Digital Scotland Superfast Broadband programme are FTTC alongside FTTP.

Where Fibre to the Premises (FTTP) is deployed, speeds of up to 330 Mbps are possible.

OK, what does 'up to' mean?

As fibre broadband is a competitive market, you will see many adverts with high broadband speeds on offer – all saying they offer 'up to' these speeds. 'What on earth does 'up to' mean? What speed will I actually get?' 'Up to' is used to describe the 'top' speed - the top speed anyone can get with the service package you have bought. However, the speed you

actually get is influenced by a number of factors. When you place the order for your fibre broadband connection, your internet service provider will tell you the speeds you should expect to get on your own connection.

What are the factors that influence the speed I actually get?

Broadly, they fall into three categories – technology constraints, the nature of the service from your internet service provider and your own equipment at your own home or office. Here is some more detail about each of these in turn:

Technology

The type of fibre connection you have: The speed you can get depends on whether your connection is FTTC or FTTP. Take a look at our separate factsheet 'So what is Fibre Optic Broadband?' to find out more detail on these.

Distance: The further your premises are from the cabinet (if you have a FTTC connection) then the more this will affect your speed. The last part of your connection is over copper wires and the further the internet data has to travel over copper, the more the speeds will be affected. This generally means that for lines more than 1.2 km from the green cabinet, a superfast service will not be achieved.

Number of users: The number of users that are connected to the internet service provider's network will also have a direct impact on the speeds you can achieve at any one time.

Service provider offers

Commercial offers: Your service provider may offer a specific level of service that pegs your speed at a certain level, so that you only pay for the level of service you actually need. Also with some low cost packages you may find that speeds drop at certain times of day, because bandwidth is being shared with more customers.

Your own equipment

There are all kinds of things at your own end that can slow things down and affect the actual speeds you get online. Your computer, your internal wiring, distance from your router, age and specification of your router, whether you are connected by wi-fi or direct cable, even the thickness of your walls and proximity to other electrical equipment... the list goes on and on. The good news is that there are some simple actions you can take to overcome many of these factors.

What speeds do I really need?

Most people and businesses find that their internet experience is greatly improved by a fibre connection. Even if you are not able to achieve the top speed, your internet experience is still likely to be much better, both for downloading and uploading. Most people need higher download speeds and the download speeds you can expect to get are around 4 times higher than upload speeds. Take a look at the charts below to get an idea of the time taken to carry out various tasks, compared to a standard broadband connection.

How do I find out what speed I am getting?





It is free and very straightforward to carry out a speed test. As speed may vary at different times of the day, it is best to carry out a few tests on different days and vary the time. OFCOM accredited sites include www.broadbandchoices.co.uk and www.broadband.co.uk. If possible you should connect a cable directly to your router to do the test, or if you only have WiFi do the test right next to it. This will give a truer picture of the actual access speed on your line.

If you are not getting the speeds your internet service provider told you to expect, go back and tell them, so they can help you.





Where can I go for more information?

www.broadband.co.uk
www.ofcom.org.uk
www.thinkbroadband.com
www.scotlandsuperfast.com

Downloading files

 10 Songs (5MB per file)	 200 Photos (1MB per file)	 1 TV Show On Demand (406MB)	 1 Movie On Demand (858MB)
Standard copper broadband Average download speed*			7.4 Mb/s*
54 secs	3 mins 36 secs	7 mins 19 secs	15 mins 28 secs
Superfast fibre broadband Average download speed*			52 Mb/s*
8 secs	31 secs	1 min 2 secs	2 mins 12 secs

Uploading files

 1 Email attachment (10MB)	 10 Product photos (100MB)	 1 Short video (1GB)	 1 Large file to the cloud (2GB)
Standard copper broadband Maximum upload speed*			1 Mb/s*
1 min 20 secs	13 mins 20 secs	2 hours 13 mins	4 hours 26 mins
Superfast fibre broadband Maximum upload speed*			19 Mb/s*
4 secs	42 secs	7 mins 1 sec	14 mins 2 secs

*Speeds and times may vary on location.

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