

Options for extending your WiFi connectivity

WiFi performance can differ wildly from devices that are connected to the Gigaclear router via a good quality Cat5e or Cat6 Ethernet cable.

If you suspect you are experiencing issues relating to throughput speed, first, before contacting Gigaclear Customer Support, perform a correct speed test by following these instructions:

Verifying the speed of your new service

As a new Gigaclear connected community comes online, the first thing a lot of customers want to do is verify the speed of their connection. Speeds are a notoriously difficult subject and conducting a valid test does require certain rules to be followed. Of course the same guidelines can be used to get the optimum from your service and devices in your home later on.

What result are you expecting?

Gigaclear services are currently divided into three groups, H,B and E followed by a number. The number quoted afterwards is always the maximum speed in megabits/per second. H, B and E will not go above that value for any more than a couple of seconds at a time.

Bear in mind when downloading and accessing the Internet more generally you are connecting to other networks in the Internet and we cannot control the performance of those public or private networks.

Checking your equipment

Firstly ensure the equipment you are using is capable of the speeds you wish to achieve.

Realistic WiFi performance is in the range 30-50Mbps and therefore we do not recommend speed tests via wireless.

Desktop and laptops with wired connections will typically have either 100Mbps or 1000Mbps (1G) connections. A good relatively new device will probably be 1000, but still a lot of devices are sold with 100, older devices may even be as low as 10.

Some 'Cloud Based' services you may be commonly connecting to are not capable of operating at the speeds of the Gigaclear Network and so you may believe your network speed is lower than it is in reality as the 'far end' cannot process quickly enough. This will improve over time as companies upgrade their infrastructure.

Performing a speed test

To perform the most valid speed test we recommend the following:-

- Connect your device to the router using a wired connection.
- Use a good quality cable, minimum 'Cat5e', ideally 'Cat6'. This ident is often printed on the cable.
- Be sure of the speed of connection to the router, this can be checked in your device network properties, and it can be verified through the 'Home Network' feature of the Gigaclear customer portal.
- Reboot your device to ensure it is running the minimum software and do not open any applications other than a web browser. We recommend using the latest versions of Chrome, Internet Explorer or Firefox. Please ensure only one browser window is open.
- Ensure that no anti-virus scanner is active as this can significantly increase the load on your computer.
- Ensure you are not running any 'VPN' (virtual private network) type of application at the time of speed testing as this can severely hamper the results.
- Please ensure no wireless devices such as tablets or mobile phones etc are online.
- Connect to 'www.gigaclear.com/speedtest' and type your postcode.
- Click begin test.



Users who have taken the higher speed services such as H1G may wish to consider switching off IPv6 in your network properties and forcing the network connection to 1000Mbps rather than 'autonegotiate'.

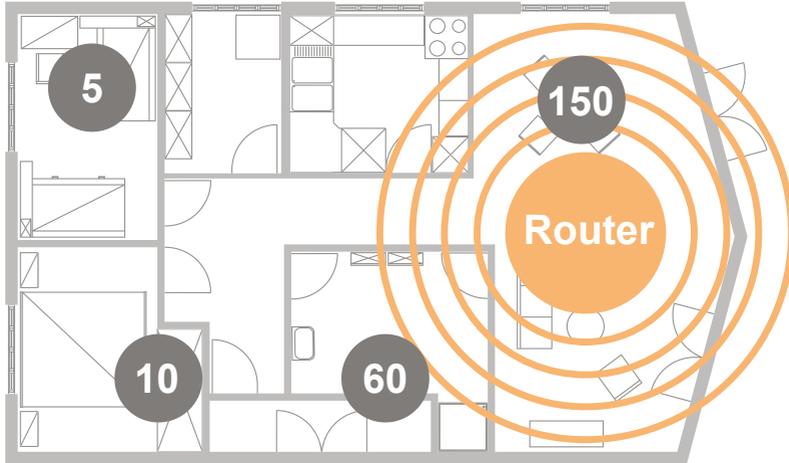
Please note down your speed test results for both up and down speeds and compare them with the expected speeds for the service you are taking.

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WiFi and your home

Why does my WiFi seem worse than before I switched to Gigaclear? In many cases this is because the difference in the connection speed reduces sharply with distance, and is more noticeable with a higher speed service:

Ultrafast WiFi coverage



● Uploads/Downloads Max

As WiFi performance is affected by many factors that are particular to individual homes, it is very difficult to determine the cause of WiFi connectivity issues. However, there are some basic principles that can make things better:

Reduce the impact of obstacles & interference

Your wireless signal is strongest when you're in line-of-sight of your Gigaclear router. Large dense obstacles like brick walls or fish tanks reduce its strength, and sources of electrical interference like cordless phones or baby monitors can cause interference.

Obviously, it won't always be practical to keep your Gigaclear router in line-of-sight, however, for its wireless signal to be distributed effectively, make sure it isn't crowded by other items or devices. It might be easier to reposition easily movable obstacles.

Try to keep the Gigaclear Router as far as you can from:

- Large or dense objects – avoid items containing metal or water.
- Reflective or shiny surfaces – the signal can bounce off windows, mirrors and tiles.
- Electrical equipment – particularly TVs, cordless phones, baby monitors and other equipment that sends out radio signals.
- Walls – especially thick ones made of concrete or brick.

Other things to think about:

- Give it space – the more space immediately around your Gigaclear Router, the better its signal can spread.
- Keep the front clear – your Gigaclear Router broadcasts from its front panel, so try not to hide it away on a bookshelf or behind the TV.

Check Your Wireless Channel

A prime cause of wireless slow-down is interference from other wireless networks in your area. Your Gigaclear Router sends its wireless signal on a set frequency, or channel. So if someone in your area is using the same channel, the signals may interfere with one another and could reduce your wireless performance.

You can check if you are using the same wireless channel as other devices in your area by downloading a WiFi scanner to your computer or smartphone.

There are a number of scanners available and Gigaclear cannot recommend one over another, but some of our customers have used:

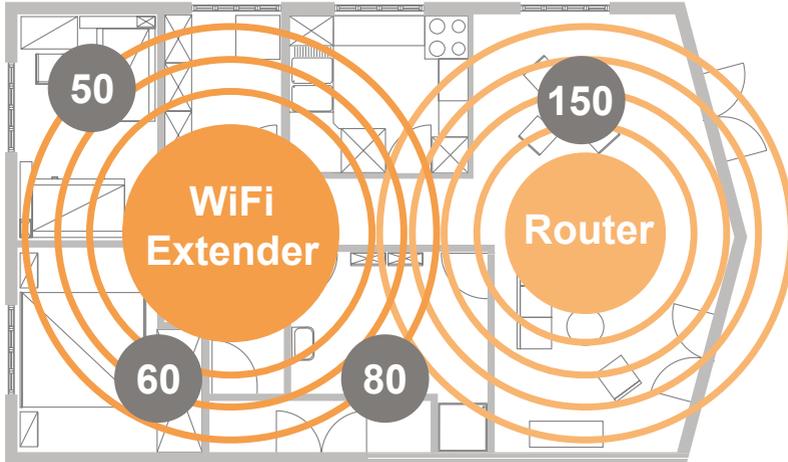
- Windows equipment: inSSIDer
- Apple Mac equipment: KisMAC
- Android equipment: farproc WiFi analyzer

After running a scan, should you suspect your wireless channel is experiencing interference, please contact Gigaclear Customer Care for assistance in changing the WiFi channel.

Options for extending your WiFi connectivity

It is possible to improve the coverage of WiFi throughout your home by introducing some excellent devices to help extend the coverage.

Ultrafast WiFi coverage with an extender



● Uploads/Downloads Max

These are basically 3 types of devices:

- **Powerline adaptors.** These use your mains electricity wires in your house to provide connectivity to your Gigaclear router. Some of these also have WiFi extenders in them so allow both WiFi and directly connected (via Ethernet) devices. There are many different brands and Gigaclear cannot recommend a particular device over another as new models are often introduced. However, many of our customers have successfully used TP-Link AV 500 powerline adaptors. These units have the added benefits of having both wireless and directly connected (Ethernet) capability in each unit.
- **WiFi range extenders.** These merely boost the WiFi signal from the Gigaclear router and can sometimes be a convenient way to improve WiFi to some degree. Obviously, there are limitations in boosting an already weak signal.
- **WiFi Access points.** These have been used very successfully by our customers and are a favoured solution in many cases. There are many different brands and Gigaclear cannot recommend a particular device over another as new models are often introduced. However, many of our customers have successfully used Apple Airport Extreme and the Archer TPLink C2.

- Please remember whichever path you choose, you need enough units to give you excellent coverage everywhere you need it.

Gigaclear has a range of trusted and experienced service partners who are able to advise and rectify 'in home' connectivity issues. For details of these partners, please telephone Gigaclear customer service on 01865 591131 or email at info@gigaclear.com

The Gigaclear Team