

Member Connection Troubleshooting

First step:

Make sure all the devices are powered on and connected properly.

You may have two power supplies: one to power your home WiFi router and a second to power the POE (Power Over Ethernet) which in turn powers the device(s) on the roof. If you do, be sure the right power supply powers the right device. The POE and router power supplies are not interchangeable. They may be different voltages, and if plugged in to the wrong device they may damage that device.

The POE is a device that powers the devices on the roof through the Ethernet cable. If you have a POE, make sure its LED is lit and that it is connected to the rooftop cable.

Make sure the router is powered and connected to the POE, if you have one, or if not, to the Ethernet cable coming from the roof.

Second step:

Test the connection, eliminating the router and WiFi.

To test without WiFi, connect your computer directly to the router using an ethernet patch cable. Turn WiFi off on your computer to make sure you are using the cable and not WiFi.

To check if the router is the issue, connect directly to the POE, bypassing the router altogether.

If possible, connect your devices with ethernet cables to your router. An Ethernet connection will be faster and more reliable than a WiFi connection.

Third step:

Try power-cycling the equipment.

Start with the router: unplug it from wall power and wait a few seconds for all the lights to go out. Then plug it back in.

If you have a POE you can also try unplugging the POE and replugging after a few seconds. Note that this will disrupt anyone connected to the same equipment.

Other things to try:

Keeping your router's firmware up to date ensures that you benefit from bugfixes or security enhancements.

Your Internet and WiFi Speeds

How much speed do you need?

Several factors can affect your internet performance: WiFi router location, number of users, the hardware and age of your device(s), the device software (called firmware), and any applications running in the background of your computer.

There is a perception that Internet services require a lot of bandwidth (speed). Recommended internet speeds for use of third-party products and services depend on the number of devices you're using. See the following speeds required for these common third-party products and services:

- Streaming HD 10 Mbps
- Skype Call HD 1.5 Mbps
- Video Gaming 3.5 Mbps
- Twitch Gaming 4.5-6 Mbps
- Netflix 5 Mbps
- Amazon Prime HD 15 Mbps

For more information please refer to each service's website, or consult the FCC's [Broadband Speed Guide](#).

WiFi Router Location

If you're connecting to the Internet via WiFi, make sure your router is placed as close to the middle of your home as possible, away from obstructions (such as cabinets), away from other electronic devices, and off the floor. Walls, metal (ductwork or decking), refrigerators, and microwave ovens, reduce signal if not block it totally. Electronic devices (microwaves, TVs, baby monitors, cordless phones, etc.) can create interference. Wi-Fi doesn't do well around lots of water, either, so stay away from aquariums and domestic water heaters.

Wifi band

WiFi routers operate in different frequencies. The 5 GHz wireless frequency provides faster data rates at shorter distances and is typically much less "busy" than the 2.4 GHz wireless frequency. If wireless range is your priority, 2.4 GHz performs better than 5 GHz, but 2.4 GHz is more susceptible to interference. The 5 GHz wireless frequency doesn't penetrate solid objects nearly as well as the 2.4 GHz. A dual-band router (2.4/5 GHz) usually performs better than a mono-band 2.4GHz router, as your device (smartphone, laptop) will choose the better signal, 2.4 or 5 GHz.

Make sure your old or slow devices, e.g., printers, use the 2.4GHz to free up the 5GHz.

- Note 1: WiFi 6 and 6 GHz

WiFi 6 refers to the new standard 802.11ax (or AX WiFi). It works on 2.4, 5, or the newly open band 6 GHz. WiFi 6 ≠ 6 GHz The WiFi 6 improvement will not only affect 5GHz networks, which the industry has largely shifted to, and which provide faster data on shorter distances; it will also make 2.4GHz networks faster, which are typically slower but better at penetrating solid objects like walls.

- Note 2: the 5GHz band has nothing to do with 5G cellular service - two different things. 5G refers to the 5th generation mobile network for cellular phones.

Wifi channels

Wifi operates on different channels (like cars driving on different lanes of a highway). Your neighbor's router may operate on the same channel as your router, creating congestion. Try to change your router's WiFi channel. There are apps that can scan the airwaves and tell you which channels are the least occupied. Channel occupation, just like road traffic, depends on time of day and may change from one day to another, as your neighbors may just do the same, change channel.

Test the performance

It is a good idea to always use the same tool to test to be able to compare. We use [speedtest.net](https://www.speedtest.net) against Pilot Fiber, New York, NY as the server.

In video by Bright Side

<https://www.youtube.com/embed/iBm55SPMS2k>

Revision #6

Created 9 December 2023 04:39:25 by Willard Nilges

Updated 11 June 2024 04:17:36 by Marg Suarez