

Ham 86 - Router wifi internet

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Those that have been around a few months know that these articles are written to explain a question someone has asked. As a result, they are very practical and relevant, more so to some than others.

The co-author commented, “The internet is not working. I looked at all the lights on the router and am no sure what they mean.” So, we did a quick tutorial. This is the printed version, since others obviously have the same questions. You are a ham, so you will likely have the opportunity to play with the router / Ethernet. As you will see, many of the terms and devices have more than one definition or are interconnected.

Internet is the distributed interconnection of hardware devices external to the location. World Wide Web (www) is the software for accessing data from the internet.

Modem is a box which takes a signal from your phone / cable / satellite company. This internet service provider (ISP) supplies one Internet Protocol (IP) address, your internet location. The incoming line may be two-wire phone, coaxial, or fiber-optic cable. The modem converts the signal to Ethernet or phone. Ethernet leaves on a 4-twisted pair cable with RJ-45 male connectors.

Router connects all your multiple devices together through wired Ethernet or wireless Wi-Fi. It gives each connected device its own internal IP address. A router is your first line security with a firewall which determines which signals are allowed to pass. Your Sling, Roku, Samsung, and AllStar node are assigned a port in the router to permit their specific signal to get through.

Wi-Fi is a radio signal broadcast locally, typically by a router, rather than using Ethernet-cable.

Virtual Private Network (VPN) is software to make the Internet perceive your router external address to be a different address and location. Your device logs into a remote server that becomes the reported address.

Ethernet-switch connects to an Ethernet-line, then separates the signal into multiple lines.

Wireless Access Point (WAP) connects to the router and connects to Ethernet-less devices via Wi-Fi. Wi-Fi bounces off various surfaces, which is why devices often have multiple antennas.

Extender is located away from the router. Extenders try to fix limitations of Wi-Fi range or number of Ethernet connections. These take myriad forms and shapes. The hardware includes a switch or wireless access point. The simplest is a small box that connects to the Ethernet, then provides multiple RJ45 outputs. A Wi-Fi extender may connect to the wired Ethernet or receive a signal from the router. It re-broadcasts the Wi-Fi.

Hot-spot is a physical location to obtain Internet access. It usually employs a WAP to connect to a router.

Lights. These are the ones on our router. Green is go. Wi-Fi and Ethernet flash to indicate data transfer. *Power* is the incoming electrical. If the router is not working, the first troubleshoot is to unplug about 15 seconds to allow all the stored energy to dissipate. Then re-plug.

Broadband is the signal from your internet service provider (ISP).

Service theoretically indicates the internal computer is working, but it alternates with no apparent change.

WiFi 2.4 GHz is a wireless signal. 2.4 GHz is lower frequency so will it pass through walls better.

WiFi 5 GHz carries more data and faster, but the signal deteriorates more with walls.

Ethernet 1, 2, 3, 4 are wired sockets to which a cable with RJ45 male connector can join.

Phone 1, 2 are land-line telephones. These are voice-over-internet-protocol (VOIP), just like AllStar.

USB is a serial connection used for programming.

A **separate** article tells how to get in the router to set ports for forwarding. Look in AllStarLink section.

Cellphone is a wireless radio which connects to a cell tower. Besides voice, it performs some of the same functions as a router system. It connects to the Internet and may become a hot-spot for other devices to connect.

Life is good. Enjoy!

