

## A router is required for a 500 Mbps fiber optic connection



### Overview

The good news is that for most people, any fiber internet speed plan—up to 500 Mbps or 940 Mbps—will provide enough bandwidth.

### Key Takeaways

For a 500 Mbps fiber connection, a Wi-Fi 6 (802.11ax) router with dual-band support, Gigabit Ethernet ports, and strong range is recommended.

**Key Requirements**

**Wi-Fi Standard:** Choose a router that supports Wi-Fi 6 (802.11ax), as it provides higher throughput, better efficiency for multiple devices, and improved real-world speeds compared to Wi-Fi 5 (AC) routers .

**Frequency Bands:** A dual-band router (2.4 GHz + 5 GHz) is essential. The 5 GHz band offers faster speeds and less interference, which is critical for achieving near 500 Mbps performance over Wi-Fi .

**Ethernet Ports:** Ensure the router has Gigabit WAN and LAN ports to handle the full fiber speed for wired connections. Multiple LAN ports allow direct connections for devices like gaming consoles or PCs, reducing Wi-Fi congestion .

**Range and Antennas:** For larger homes or multi-floor setups, select a router with multiple antennas or a mesh Wi-Fi system to maintain strong coverage throughout the house .

**Device Capacity:** If you have many devices, look for routers with OFDMA and MU-MIMO technology, which efficiently manage multiple simultaneous connections .

### Recommended Router Models

- TP-Link Archer AX6000 – Wi-Fi 6, dual-band, 8 Gigabit LAN ports, strong range, suitable for multiple devices .

- ASUS RT-AX88U – Wi-Fi 6, dual-band, 8 LAN ports, excellent for gaming and streaming .
- Netgear Nighthawk AX8 (8-Stream) – Wi-Fi 6, dual-band, high throughput, good for large homes .
- Linksys Max-Stream AX6000 – Wi-Fi 6, dual-band, robust performance for multiple users .
- Reyee AX3200 Mesh Wi-Fi System – Wi-Fi 6, dual-band, mesh coverage up to 6,000 sq. ft., supports 150 devices .

#### Additional Tips

- Avoid older Wi-Fi 5 routers, even if they claim high theoretical speeds, as they often cannot sustain 500 Mbps in real-world conditions .
- For optimal performance, place the router centrally and minimize physical obstructions between the router and devices.
- If you plan to use multiple units for coverage, consider a mesh system to maintain consistent speeds across all areas. By selecting a Wi-Fi 6 router with dual-band support, Gigabit ports, and sufficient range, you can fully utilize your 500 Mbps fiber connection for streaming, gaming, video calls, and multiple devices simultaneously .

## Article Content

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A solid 100 Mbps means that 1) the wireless link is running at much >100 Mbps (so 802.11g 300Mbps or higher), thus not being a

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Fiber Internet: Modem or Router

For fiber optic services, the "modem" function is handled by the ONT, which then connects to a router. The router's role remains

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Finding the right hardware requires matching the router's WAN port speed, Wi-Fi generation, and CPU architecture to your specific

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