Should the fiber optic cable be separated from the router



Overview

The fiber optic cable does not plug directly into a standard home router because the signal type must be translated.

Key Takeaways

Yes, the fiber optic cable should connect to an Optical Network Terminal (ONT) first, and the router should be connected to the ONT via Ethernet, not directly to the fiber.

How Fiber Optic Connections Work

Fiber optic cables transmit data as light pulses, which cannot be directly interpreted by standard home routers. The fiber line terminates at an ONT, a device provided by your internet service provider that converts the optical signal into electrical signals compatible with routers and other network devices.

The ON

T acts as a bridge between the provider's optical network and your home network.

Router Placement and Connection

Once the ONT converts the signal, a standard Ethernet cable runs from the ONT's LAN or Ethernet port to the router's WAN or Internet port. This setup allows the router to distribute the internet connection via Wi-Fi or wired LAN to your devices. The router does not need to be physically next to the ONT, but it should be within reach of an Ethernet cable, ideally using CAT6 or higher for optimal speeds.

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Practical Considerations

Distance: Ethernet cables can reliably transmit data up to 100 meters (328 feet) without significant signal loss, so the router can be placed elsewhere in the home if needed. Environment: Both the ONT and router should be in a dry, well-ventilated area, away from moisture, extreme temperatures, or sources of interference. Power: Both devices require continuous power, so they should be near electrical outlets, preferably with surge protection.

Fiber Handling: Fiber connectors are delicate; handle only by the plastic housing and avoid bending the cable beyond the recommended radius to prevent signal degradation.

Summary

The fiber optic cable should never connect directly to a standard router. It must first go to the ONT, which converts the light signal into electrical data. The router then receives this data via Ethernet, allowing flexible placement within your home while maintaining optimal performance and signal integrity.

Article Content

How to Connect a Fiber Optic Cable to a Router

The fiber optic cable does not plug directly into a standard home router because the signal type must be translated. The fiber line terminates at the Optical Network Terminal (ONT),

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Whats maximum distance "Outside Box" to internal ONT box?

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For a fiber optic connection, you need an optical network terminal (ONT), a router, and appropriate Ethernet connections for wired devices. Your service provider typically supplies the ONT,

Location of ONT and router

With CAT 5e Ethernet cable you can connect the router anywhere within 100m of the ONT, so the location of the router is irrelevant unless you live in a stately home.

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How To: Install Fiber Optic Cable for Success –

Figure 2. An orange flexible innerduct protects the fiber patch cords in the vertical cable manager on the right. The flexible duct does a good job of

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