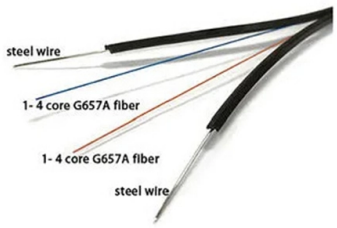
Gigabit fiber optic cable plugged into a 100Mbps switch



Overview

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

Key Takeaways

A gigabit fiber optic cable can be connected to a 100Mbps switch, but the connection will operate at 100Mbps, not gigabit speeds.Compatibility and Speed

Gigabit fiber optic cables are fully compatible with 100Mbps network devices, including switches and media converters, because Ethernet standards are backward compatible . However, the maximum speed of the link will be limited to the slowest device, in this case, the 100Mbps switch . This means that even though the fiber cable supports 1Gbps, the actual throughput will be capped at 100Mbps.

Using SFP Modules and Media Converters

To connect fiber to a 100Mbps switch, you typically use a 100BASE-FX SFP transceiver or a media converter that supports both 100Mbps and gigabit speeds . These devices convert electrical signals from the switch into optical signals for the fiber link. Some modern media converters, like the Perle S-1110, can automatically detect the speed of the connected device and adjust the fiber link accordingly, ensuring proper communication between gigabit fiber and a 100Mbps switch .

Practical Considerations
• Full-duplex operation: Ensure the SFP or media converter supports full-duplex 100Mbps to maximize performance over the fiber link .

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• Cable type: Multimode fiber is commonly used for 100Mbps links up to 2 km, while single-mode fiber can extend much further .

• Network planning: When connecting multiple switches, the overall network speed will be constrained by the slowest link. Using a gigabit switch on one end and a 100Mbps switch on the other will not increase speed beyond 100Mbps .

• Future upgrades: Using gigabit-capable fiber now allows for easier upgrades to gigabit switches later without replacing the fiber cabling .
Summary

Connecting a gigabit fiber optic cable to a 100Mbps switch is technically feasible, but the link will operate at 100Mbps. Using compatible SFP modules or media converters ensures proper signal conversion and network stability. While the fiber cable can support higher speeds, the switch's limitation dictates the actual throughput, so planning for future upgrades can help maximize the investment in fiber infrastructure .

Article Content

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Wondering if a gigabit switch works with a 100Mbps network cable? Learn the differences between Cat5E

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