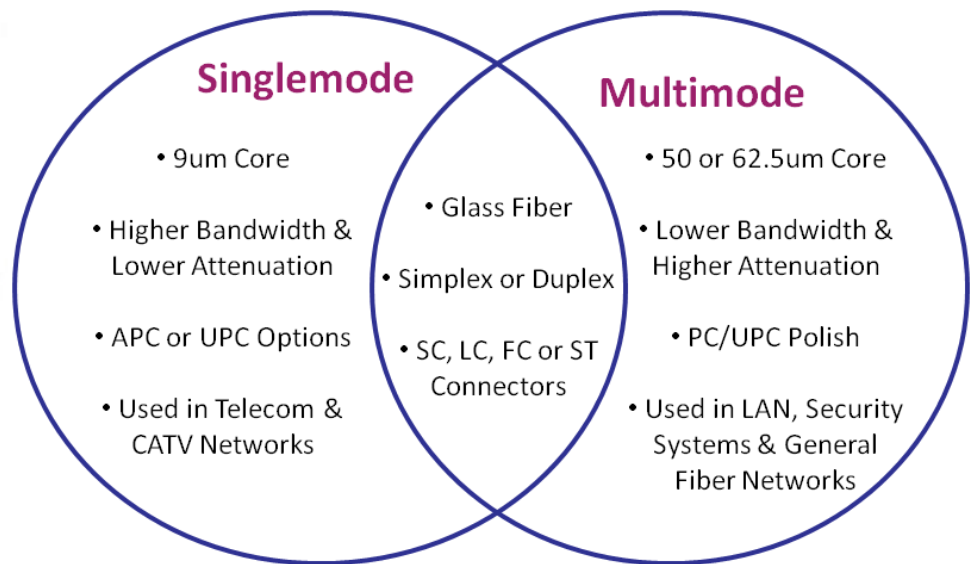


What's the Difference Between Single-Mode & Multimode Fiber Optic Patch Cords?

SUMMARY: An overview of the major differences between single-mode and multimode fiber optic cables including fiber size and general applications.



There are a few differences between single-mode and multimode fiber optic patch cords. To begin, **single-mode** cables are manufactured using a small, 9 micron core fiber. This enables higher bandwidth and lower attenuation. Secondly, single-mode fibers have lower power loss in comparison to multimode fibers, allowing light to travel much longer distances. Finally, these patch cords can be terminated with Angled Physical Contact (APC) or Ultra Physical Contact (UPC) connectors. This combination of characteristics make single-mode cables the ideal choice for long distance telecommunication and CATV networks.

On the other hand, **multimode** cables are developed using larger glass fibers that are measured with either a 50 or 62.5 micron diameter. The larger core diameter allows for less precise tolerances than those found in single-mode fibers and are often used with lower cost light sources such as a LED. The connectors have typically been PC polished, however with higher speed demands UPC polish may yield improved network performance. The lower equipment costs and data speed requirements make multimode more suitable for short-distance applications. Typically, LAN networks, security systems and other low speed fiber applications use multimode fiber optic cables.

Granted, there are some similarities between these two types of cables. For example, both cables contain glass fibers, are available in simplex and duplex forms, and accept SC, LC, FC and ST styled connectors, depending on the user's fiber network. Another quick fact; standard indoor rated single-mode cable generally have a yellow jacket. Multimode is usually orange, except for the 10Gb variety which are aqua.

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