Mode-conditioning Patch-Kabel

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Since Gigabit Ethernet Laser Diodes are used as transmitters. LDs transmit a very focused light beam. Multimode fiber - depending on the manufacturing process - might have a center dip at their index profile causing a Differential Mode Delay (DMD) named effect. To avoid this Offset-launch mode-conditioned patch cables are offered. Such mode-conditioned cables are needed only with Gigabit Ethernet transceivers (1000BASE-LX) connected to multimode cables with this center-dip.

A mode-conditioning cable uses one singlemode fiber off-center connected to a multimode fiber to launch the light not directly into the center but next to it such that DMD has no effect. It's important to connect the duplex patch cord in the right way, such that the transmitter is connected to the SMF.

Fibers without center dip are produced with Outside-vapour Deposition OVD and Vapour Axial Deposition VAD. CVD, MCVD and PCVD manufacturing processes might have a center dip.