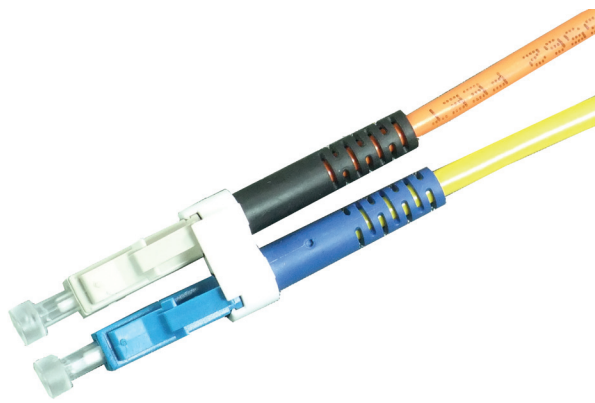


Mode Conditioning Patch Cords

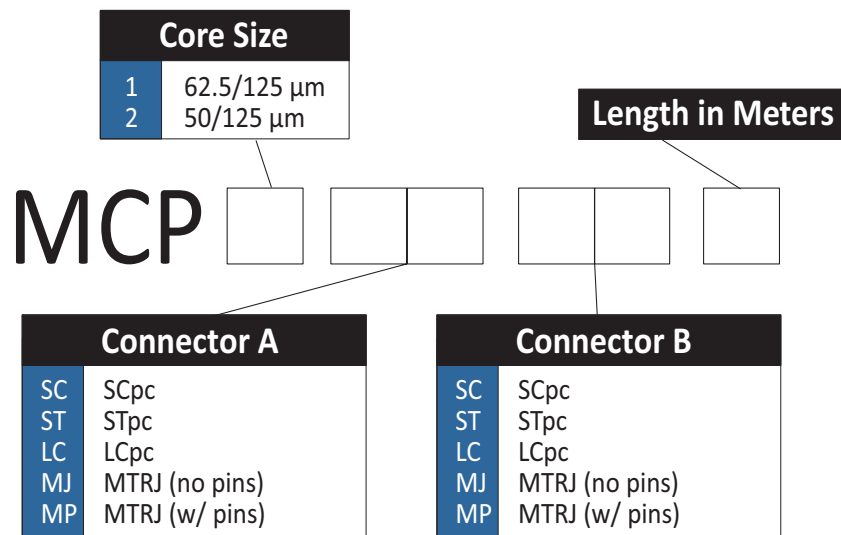
Mode conditioning patch cords are required where Gigabit 1000 Base-LX routers and switches are installed into existing multimode cable plants. These specialized cords help avoid Differential Mode Delay (DMD) effects that can occur when long wave transceiver modules operate at both single-mode and multimode wavelengths. The mode conditioning patch cord causes the single-mode transceiver to create a launch similar to a typical multimode launch.



Our mode conditioning patch cords are custom made with any combination of ST, SC, LC, or MTRJ connectors at each end. A 9/125-singlemode fiber is offset to a multimode fiber on one leg while the other leg consists of a standard multimode fiber. The single mode/multimode side is plugged directly into the equipment. The duplex multimode side of the patch cord is plugged into the cable plant side.

Our mode conditioning patch cords are compatible with 850nm or 1300nm Gigabit Ethernet on standard multimode fiber, and a VCSEL laser source into standard multimode fiber. They are built to the IEEE802.3z application standard.

ORDERING INFORMATION



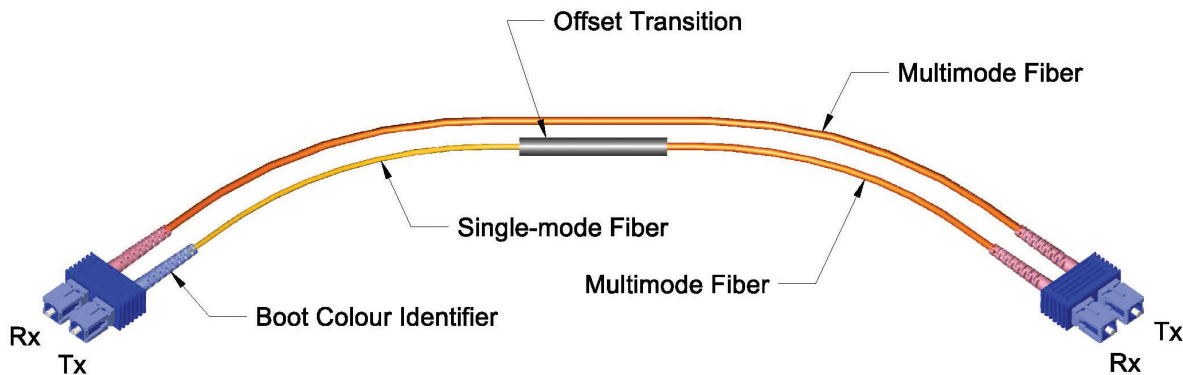


TECHNICAL SPECIFICATIONS

- < 0.05 dB laser transmit leg tested with 1310nm laser
- Multimode receiver leg tested with either 850 or 1300nm LED
- Connector styles: LC, MTRJ, SC and ST
- Cable Styles: 3.0mm or 1.6mm zipcord, 3.0mm 2-fiber ribbon (MTRJ only)

Description: See Diagram Below

The conditioned channel consists of a single-mode (yellow) fiber which has been fusion spliced to a multimode fiber (orange) in an offset manner, with a precise core alignment and angle. The non-conditioned channel consists of one length of (orange) multimode cable. Light is launched on to the multimode fiber of the conditioned channel at a specific angle, giving the patchcord its mode conditioning properties. The fusion splice is protected by a black over-wrap. The other side has both an orange (multimode) and a yellow (single-mode) cable end. This side of the cable connects to the Gigabit transceiver equipment with the yellow (single-mode) leg connecting to the transmit side. The (right) side has two (orange) multimode cable ends connecting to the cable plant.



Connector Type	Non-Conditioned Channel (Multimode)	Conditioned Channel (Single-mode/Multimode)		Ferrule Material	Housing Material
Insertion Loss (dB)					
	Maximum	Multimode Direction	Single-mode Direction		
LC	<0.5	<1.0	>2.0; <22.0	Ceramic	Composite
MTRJ	<0.5	<1.0	>2.0; <22.0	Thermoplastic	Composite
SC	<0.5	<1.0	>2.0; <22.0	Ceramic	Composite
ST	<0.5	<1.0	>2.0; <22.0	Ceramic	Metal



Single-Fiber and 2-Fiber Transmission Performance					
	Multimode				Single-mode
Fiber Type	62.5/125 μ m (850/1300nm)	50/125 μ m (850/1300nm)	50/125 μ m (850/1300nm)	50/125 μ m (850/1300nm)	Single-mode (1310/1383/1550nm)
ISO/IEC name	OM1	OM2	OM3	OM4	OS2
Maximum Attenuation (dB/km)	3.4/1.0	3.0/1.0	3.5/1.5	3.0/1.0	0.65/0.65/0.5
Minimum Over Filled Launch (OFL) Bandwidth (MHx•km)	200/500	700/500	1500/500	1500/500	- / - / -
Minimum Effective Modal Bandwidth (MHx•km)	220 / -	950 / -	2000 / -	5350 / -	- / - / -
Serial 1 Gigabit Ethernet Distance (m)	300/550	750/600	1000/600	1000/600	5000/ - / -
Serial 10 Gigabit Ethernet Distance (m)	33/ -	150/ -	300/ -	600/ -	10000/ - / 40000