



MODE CONDITIONING PATCH CORDS



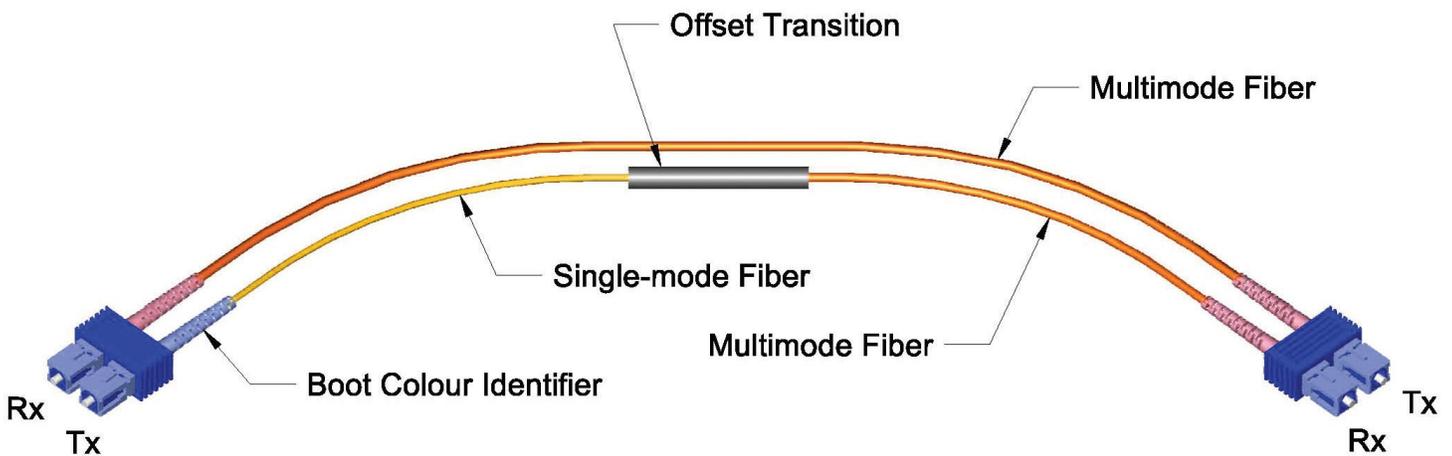
Help avoid DMD effects with mode conditioning patch cords!

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.

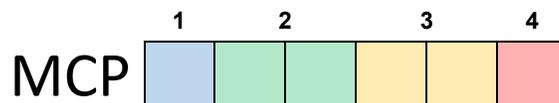
Our mode conditioning patch cords are custom made with any combination of ST, SC, LC, or MTRJ connectors at each end. A 9/125-singlemode fiber is offset to a multimode fiber on one leg while the other leg consists of a standard multimode fiber. The single mode/multimode side is plugged directly into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

- <0.5 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 zip cord, 3.0mm 2-fiber ribbon (MTRJ only)

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 patch cord 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.



ORDERING INFORMATION



| 1 | Core Size | 2 | Connector A | 3 | Connector B | 4 | Length in Meters |
|---|----------------|----|----------------|----|----------------|-----------|------------------|
| 1 | 62.5/125 μ | SC | SCpc | SC | SCpc | [Red bar] | |
| 2 | 50/125 μ | ST | STpc | ST | STpc | | |
| | | LC | LCpc | LC | LCpc | | |
| | | MJ | MTRJ (no pins) | MJ | MTRJ (no pins) | | |
| | | MP | MTRJ (w/pins) | MP | MTRJ (w/pins) | | |

TECHNICAL SPECIFICATIONS

| 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 | 62.5/125um (850/1300nm) | 50/125um (850/1300nm) | 50/125um (850/1300nm) | 50/125um (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 Over Filled 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 |