Patch Cords for Data Center Applications

A LANscape® Solutions Product

Corning Cable Systems

Applications

General use of patch cords includes the interconnection of the optical fiber cable plant with opto-electronic equipment, and/or the cross-connection between cable plant segments.

Pigtails are used to splice terminated fibers as an alternative to using field-installable connectors.

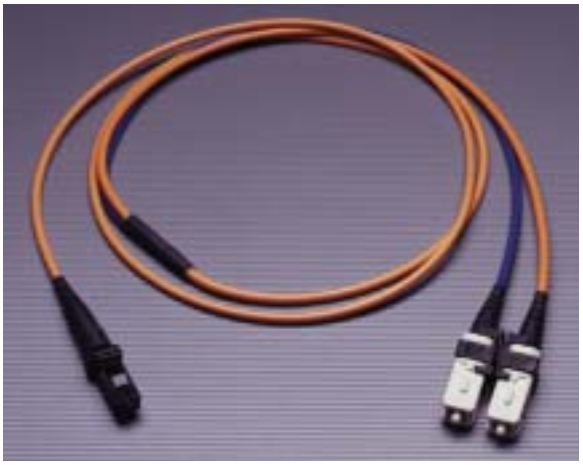
Description

Optical fiber cable can have connectors installed on one or both ends. If connectors are attached to only one end of a cable, it is known as a pigtail. If connectors are attached to both ends, it is known as a jumper or patch cord.

Features / Benefits

- 100 percent optically tested
- Wide variety of connector options available
- Insertion loss and reflectance measured on every connector
- Ultra PC and Angled PC connector performance available
- All assemblies shipped with individual cleaning and handling instructions
- Factory termination results in superior performance
- Advanced assembly and polishing techniques
- Available with single-mode, 50/125 µm and 62.5/125 µm fiber
- Assemblies available in a wide variety of fiber counts and cable constructions, both indoor and outdoor

Duplex SC-to-SC Patch Cord | Photo LAN374



Duplex SC-to-MT-RJ Hybrid Patch Cord | Photo CCA150

Connector Options

SC Connector

- Square, push-pull latching mechanism
- Keyed, molded housing provides optimum protection
- 2.5 mm ferrule, pull-proof design
- Available as a duplex connector (568SC) compliant to requirements of TIA/EIA-568-B.3 and Fibre Channel standard
- Ultra PC and Angled PC polish available for single-mode
- Standard angled 8° end-face
- Compliant to TIA/EIA-604-3A, FOCIS 3 for SC connectors
- Composite ferrule available for multimode

SC Connector | Photo LAN687

ST® Compatible Connector

- Familiar twist-lock bayonet coupling
- 2.5 mm keyed ferrule assembly meets durability and repeatability requirements
- For long-haul and local area network applications
- Ultra PC connector polish available for single-mode
- Composite ferrule available for multimode
- Compliant to TIA/EIA/604-2, FOCIS 2 for ST compatible connectors

ST Compatible Connector | Photo LAN704

FC Connector

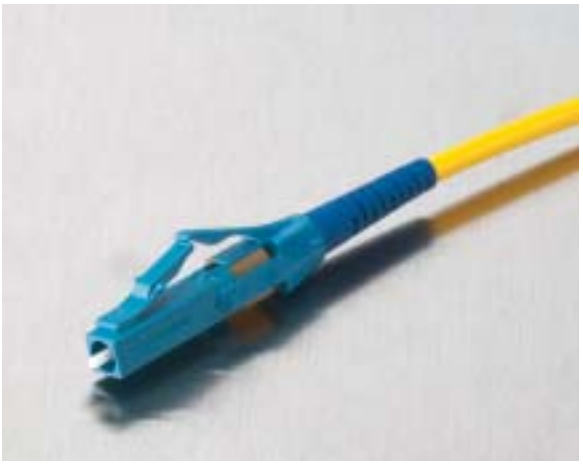
- Cylindrical metal coupling nut with keyed inner shroud
- 2.5 mm ceramic ferrule
- Pull-proof ferrule for durability
- For long-haul and local network applications
- Manufactured to Japan Industrial Standard (JIS) C 5970 specifications
- Ultra PC and Angled PC connector polish available for single-mode
- Standard angled 8° end-face
- Compliant to TIA/EIA-604-4, FOCIS 4 for FC connectors

FC Connector | Photo LAN615

Connector Options *(continued)*

LC Connector

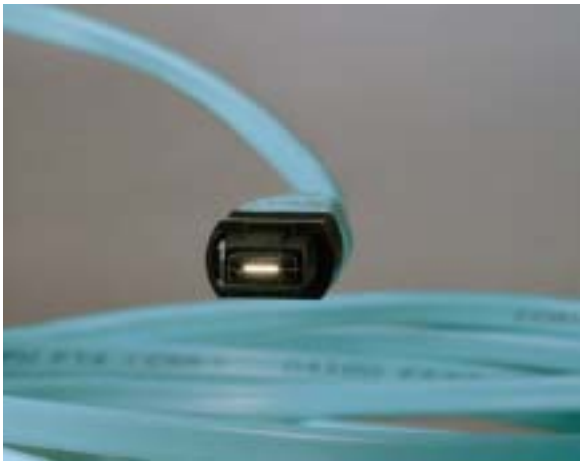
- RJ-style latching mechanism
- 1.25 mm ferrule
- Available simplex or duplex; can be duplexed in the field
- Half the footprint of a conventional SC connector
- Compliant to TIA/EIA/604-10, FOCIS 10 for LC type connectors
- 900 µm, 2.0 mm and 1.6 mm single-fiber and zipcord available
- Ultra PC and Angled PC connector polish available for single-mode
- Standard angled 8° end-face



LC Connector | Photo LAN625

MTP® Connector

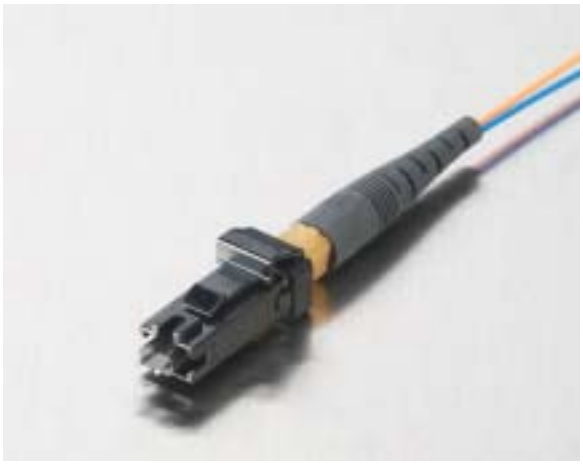
- Multifiber connector (8, 12)
- High-density interconnect and OEM applications
- Single-mode and multimode designs
- Compliant to TIA/EIA-604-5, FOCIS 5 for MTP Connectors



MTP Connector | Photo LAN691

MT-RJ Connector

- 2-fiber, dual connect, single-ferrule design
- RJ-style snag-free latch
- Multimode and single-mode performance to TIA specifications
- High-density interconnect compatible with MT-RJ small-form-factor transceivers



MT-RJ Connector | Photo LAN624

Cable Options

Patch cords and pigtails are available with multimode and single-mode fiber in the following cable designs.

900 µm Buffered Fiber (Non-jacketed Cable)

The 900 µm buffered fiber cable is used for splicing and routing fiber in the backplane of the hardware where available space is limited.

Single-Fiber Cable (Jacketed Cable)

Single-fiber cable is used for splicing and routing cable on the front or rear of the hardware. The dielectric strength member and the outer jacket provide extra protection to withstand additional handling. The cable is available in OFNR (riser) or OFNP (plenum) ratings.

Zipcord Cable

Constructed with two single-fiber cables joined in the middle, zipcord cable allows two single-fiber units to be separated in the middle for connectorization without furcation and routed to different terminals. This cable is ideal for use as a work-area, equipment or cross-connect patch cord for 2-fiber applications. The cable is available in OFNR (riser) or OFNP (plenum) ratings.

DFX® Cable, Single-mode Only

DFX Cable provides the telecommunications planner with a 2-fiber interconnect or cross-connect product in a 2.5 mm OD package. This cable is designed for high-density applications inside a frame or cabinet. This unique cable assembly increases fiber organization in the distribution frame while reducing cable congestion in the routing troughs. DFX Cable is available in OFNR (riser) rating.

Specifications

Multimode Connectors

Type	Code	Insertion Loss (dB) Typical 50/125 µm and 62.5/125 µm	Durability	Construction Ferrule	Housing
FC PC	17	0.35	0.2	Ceramic	Nickel, Brass
SC PC	39	0.35	0.2	Ceramic	Composite
568SC Duplex	57	0.35	0.2	Ceramic	Composite
ST® Compatible PC Ceramic	50	0.35	0.2	Ceramic	
MTP® (no pins)	69	0.5	0.2	Composite	Composite
MT-RJ (no pins)	97	0.3	0.2	Composite	Composite
LC	03	0.35	0.2	Ceramic	Composite
LC Duplex	05	0.35	0.2	Ceramic	Composite

Single-mode Connectors

Type	Code	Insertion Loss (dB) Typical	Durability	Reflectance (dB) Typical	Construction Ferrule	Housing
FC Ultra PC	54	0.15	0.2	≤ -59	Ceramic	Nickel, Brass
FC Angled PC	21	0.15	0.2	≤ -75	Ceramic	Nickel, Brass
SC Ultra PC	58	0.15	0.2	≤ -58	Ceramic	Composite
SC Angled PC	65	0.15	0.2	≤ -75	Ceramic	Composite
ST Compatible Ultra PC	61	0.15	0.2	≤ -58	Ceramic	Composite
MTP (no pins)	90	0.5	0.2	≤ -65	Composite	Composite
MT-RJ (no pins)	98	0.3	0.3	≤ -53	Composite	Composite
LC	02	0.1	0.2	≤ -58	Ceramic	Composite
LC Duplex	04	0.1	0.2	≤ -58	Ceramic	Composite
MU	85	0.3	0.2	≤ -58	Ceramic	Composite
SC Ultra PC Duplex	72	0.15		≤ -59	Ceramic	Composite
LC Angled	10	0.3		≤ -75	Ceramic	Composite
LC 90° Boot Clip	12	0.1		≤ -58	Ceramic	Composite
LC Duplex with 90° Boot Clip	23	0.1		≤ -58	Ceramic	Composite
D4 UPC	62	0.3		≤ -58	Ceramic	Composite

Ordering Information

Single-Fiber Connectors

Corning Cable Systems patch cords and pigtails are ordered using three easy steps. The steps involve the selection of connector(s), cable and length. The format and steps are listed below.

1st Connector	2nd Connector	Cable	Length	Unit of Measure
☐☐	☐☐	☐☐☐☐☐☐☐	☐☐☐	☐
1		2	3	4

For single-fiber connectors, use the following options to construct the part number:

1 Select connector code based on the type of adapter used at the patch panel and the electronic interface connector. The connector and adapter must be compatible for a correct connection. (Always use the lowest connector code first when constructing the part number.)

00= No connectors (use when ordering a pigtail)

Multimode

17 = FC PC
39 = SC PC Ceramic
57 = 568SC, Duplex, Ceramic
50 = ST® Compatible PC Ceramic
03 = LC PC*
05 = LC PC Duplex*

Single-mode

54 = FC Ultra PC
58 = SC Ultra PC
72 = SC Ultra PC Duplex
10 = LC Angled PC*
61 = ST Compatible Ultra PC
02 = LC Compatible Ultra PC Simplex*
04 = LC Compatible Ultra PC Duplex*

**Available on 1.6 mm, 2.0 mm and 900 µm cable types only.*

2 Select cable code based on construction and fiber type.

Cable Type	*Fiber Type* *62.5 µm*	*50 µm/150 m*	*50 µm/300 m*	*Single-mode*
Cable Listing: No Listing Required				
900 µm	01K4141	01C4131	01S4180	01R4131
Cable Listing: Riser – OFNR				
Single-Fiber Cable (2.9 mm)	01K3141	01C3131	01S3180	01R3131
Single-Fiber Cable (2.0 mm)	01K2141	01C2131	01S2180	01R2131
Single-Fiber Cable (1.6 mm)	01K3116	01C3116	01S3116	01R3116
Zipcord Cable (2.9 mm)	02K5141	02C5131		02R5131
Zipcord Cable (2.0 mm)	02K5120	02C5120		02R5120
Zipcord Cable (1.6 mm)	02K5116	02C5116		02R5116
DFX® Cable (2.9 mm)				02R9131
DFX Cable (2.0 mm)				02R9120
Cable Listing: Plenum – OFNP				
Single-Fiber Cable (2.9 mm)	01K3841	01C3831		01R3831
Single-Fiber Cable (2.0 mm)	01K2841	01C2831		01R2831
Single-Fiber Cable (1.6 mm)	01K3816	01C3816		01R3816
Zipcord Cable (2.9 mm)	02K5841	02C5831	02S5880	02R5831
Zipcord Cable (2.0 mm)	02K5120	02C5120		02R5120
Zipcord Cable (1.6 mm)	02K5116	02C5116		02R5116
DFX Cable	N/A	N/A		N/A
Cable Performance				
Attenuation (dB/km)	3.75/1.5	3.5/1.5	3.5/1.5	1.0/0.75
Bandwidth – LED (MHz • km)	160/500	400/400	1500/500	N/A

3 Select cable assembly length.

001 through 999

Note: For lengths greater than 999, contact Corning Cable Systems Customer Service.

4 Select unit of measure.

F = Feet
M = Meters

Ordering Information *(continued)*

2-Fiber Connectors

1st Connector	2nd Connector		Cable	Assembly Length	Unit of Measure
□ □	□ □	0 2	□ □ □ □ □	□ □ □	□
1			2	3	4

For 2-fiber connectors, use the following options to construct the part number:

1 Select connector code based on the type of adapter used at the patch panel and the electronic interface connector. The connector and adapter must be compatible for a correct connection. (Always use the lowest connector code first when constructing the part number.)

Multimode
97 = MT-RJ (no pins)

Single-mode
98 = MT-RJ (no pins)

Note: MT-RJ patch cords are typically sold without pins. For pinned versions, contact Corning Cable Systems Customer Service.

For single-fiber connectors, use the following options to construct the part number:

Select connector code based on the type of adapter used at the patch panel and the electronic interface connector. The connector and adapter must be compatible for a correct connection. (Always use the lowest connector code first when constructing the part number.)

00= No connectors (use when ordering a pigtail)

Multimode
17 = FC PC
39 = SC PC Ceramic
57 = 568SC, Duplex, Ceramic
50 = ST® Compatible PC Ceramic
03 = LC PC*
05 = LC PC Duplex*

Single-mode
54 = FC Ultra PC
58 = SC Ultra PC
72 = SC Ultra PC Duplex
10 = LC Angled PC*
61 = ST Compatible Ultra PC
02 = LC Compatible Ultra PC Simplex*
04 = LC Compatible Ultra PC Duplex*

2 Select cable code based on construction and fiber type.

Cable Type	*Fiber Type* *62.5 µm*	*50 µm/150 m*	*50 µm/300 m*	*Single-mode*
Cable Listing: Riser – OFNR				
Ribbon Interconnect	KJ140	CJ131	SJ180	RJ131
Cable Listing: Plenum – OFNP				
Ribbon Interconnect	KJ840	CJ831	SJ880	RJ831

Note: For hybrid jumpers, standard leg length for single-fiber connector end is 10 in, 2.9 mm legs. For LC, standard leg is 2.0 mm.

3 Select cable assembly length.
001 through 999
Note: For lengths greater than 999, contact Corning Cable Systems Customer Service.

4 Select unit of measure.
F = Feet
M = Meters

**LC available with 2.0 mm legs only.*

Ordering Information *(continued)*

Accessories

Part Number	Description
TKT-011	Connector Cleaning Kit for FC, FC PC and ST® compatible connectors and adapters
TKT-CCK	Connector Cleaning Kit for single-fiber ST compatible SC, FC and LC compatible connectors, 2-fiber connectors and 12-fiber connectors; accommodates pinned and non-pinned versions
95-400-02-BP	90° Boot Cover used as a clip-on attachment for 3 mm single-fiber cable that guides cable through a 90° bend
BOOTCLIP-BP100	90° Boot Clip as an attachment for 3 mm single-fiber cable that positions the boot/cable in a 90° bend; used with SC, ST compatible, FC connectors
2104359-01	Connector Cleaning Cassette for pinned and non-pinned connectors with ferrules
ADAPTERS	Adapters are available for all Corning Cable Systems connectors

Product Ordering Examples

Jumper with Single-Fiber Connectors

Jumper with SC PC ceramic and ST® compatible PC connectors, 2.9 mm single-fiber cable, 10 feet. When specifying connectors, always use the lowest connector code first when entering the selection.

39 50	01K3141	010	F
1	2	3	4

1. 39 = SC PC ceramic – 1st end
   50 = ST compatible PC connector – 2nd end
2. 01K4131 = Single-fiber cable (2.9 mm)
3. 010 = Assembly length of 10
4. F = Unit of measure is feet

Jumper with 2-Fiber MT-RJ Connectors

Jumper with 568SC Duplex, Ceramic and MT-RJ (no pins) connectors, ribbon interconnect cable, 5 meters. When specifying connectors, always use the lowest connector code first when entering the selection.

57 97	02	KJ140	005	M
1		2	3	4

1. 57 = 586SC duplex, ceramic – 1st end
   97 = MT-RJ (no pins) – 2nd end
2. KJ140 = Ribbon interconnect cable
3. 005 = Assembly length of 5
4. M = Unit of measure is meters

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