

## Applications

- Data Center LAN/SAN
- Enterprise Building Backbone
- Fiber-to-the-Desk

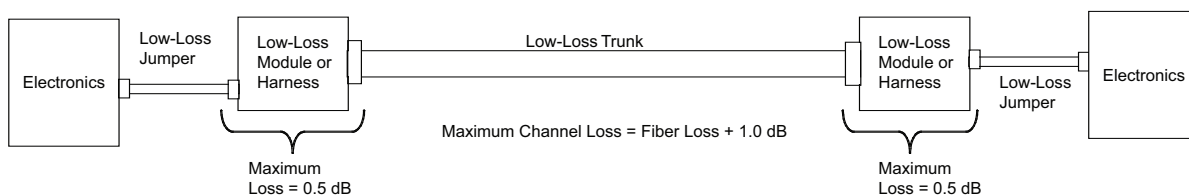
## Description

Corning Cable Systems Plug & Play™ Universal Low-Loss Systems are preterminated optical fiber cabling systems designed to dramatically improve performance for the increasing demand for high speeds in data center applications. This innovative, value added system significantly reduces installation time and cost by streamlining the process of deploying an optical networking infrastructure in the premises environment, particularly in data center applications.

Corning Cable Systems Plug & Play Universal Low-Loss Systems consist of low-loss modules, low-loss trunks and extender trunks, low-loss harnesses and low-loss jumpers. In order to guarantee a low-loss system as depicted in the illustration below, all components must be from the Plug & Play Universal Low-Loss Systems family.

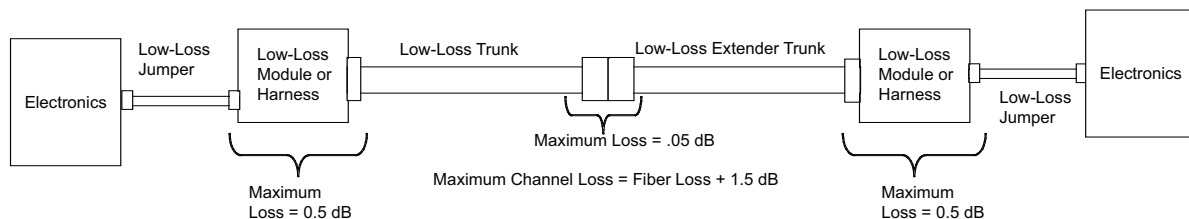
### Plug & Play Universal Low-Loss Systems Specifications

Trunk with Low-Loss Modules/Harnesses and Low-Loss Jumpers on Each End



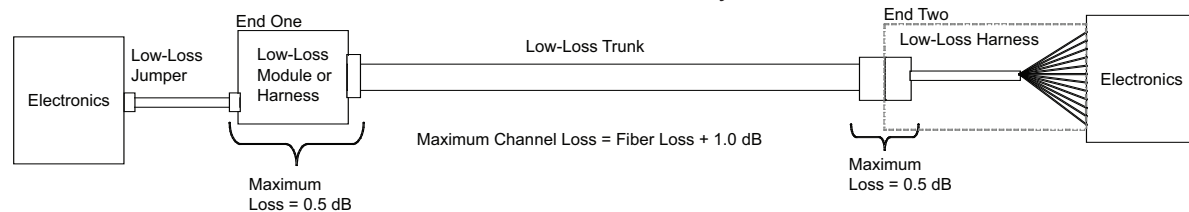
\*\*Scenario assumes discrete connectors on harnesses are installed into patch panels and low-loss jumpers are used to mate into electronics.

Low-Loss Trunk and Extender Trunk with Low-Loss Modules/Harnesses and Low-Loss Jumpers on Each End



\*\*Scenario assumes discrete connectors on harnesses are installed into patch panels and low-loss jumpers are used to mate into electronics.

Low-Loss Trunk with Low-Loss Module/Harness and Low-Loss Jumpers on End 1; Low-Loss Harness on End 2 Installed Directly into Electronics



\*\*Scenario assumes discrete connectors on harness are installed into patch panel and low-loss jumpers are used to mate into electronics on End 1; discrete connectors at End 2 are installed directly into electronics.

# Plug & Play™ Universal Low-Loss Systems

A LANscape® Pretium™ Solutions Product

Corning  
Cable Systems

## Features / Benefits

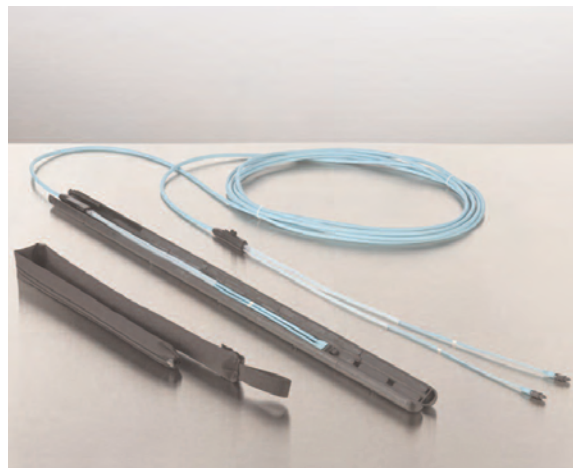
- For 12- and 24-fiber trunks, MIC® 250 Cable, a round, plenum rated distribution cable with a small outside diameter is used, allowing more room for trunk cables and easier routing in patch panels without preferential bend concerns
- For 36- to 144-fiber trunks, ribbon cable and MTP® Connectors are utilized to provide space savings while providing quick, convenient deployment
- Factory-terminated solutions provide improved system performance, component compatibility and consistent quality
- Universal wired modular system components enable fast and simple networking moves, adds and changes without polarity concerns associated with special polarity-compensating components
- Plug & Play™ Universal Systems provides a simple migration path between 2-fiber and parallel optics applications

## Plug & Play Universal Low-Loss Systems Trunks

Plug & Play Universal Low-Loss Systems are available in fiber counts of 12 to 144 fibers. Using the MTP Connector, a 12-fiber push/pull optical connector with a footprint similar to the SC simplex connector, high density and rapid deployment with space savings and minimal error can be realized.

For applications requiring 36 to 144 fibers, the MTP Connector, used in conjunction with high-density ribbon cable, provides a space savings of up to 45 percent and three times the fiber-tray capacity over traditional bulkier cabling solutions. Cable tray weight and cooling air impediment are minimized.

Corning Cable Systems' enhanced pulling grip and furcation plug make deployment and installation quicker and easier than ever before. The re-usable, zippered pulling grip has a small form factor, allowing for installation through smaller conduits and pathways while providing unsurpassed connector protection and intuitive access to the preterminated assembly for rapid network deployment. The small-form-factor furcation plug mechanically joins the trunk cable and furcation legs, providing strain-relief and featuring a design which allows easy integration into Corning Cable Systems hardware. Optional brackets are available for mounting the furcation plug into equipment racks and cabinets.



Plug & Play Universal Low-Loss Systems | Photo LAN656



Plug & Play Universal Low-Loss Systems | Photo LAN655

## Ordering Information

### Plug & Play™ Universal Low-Loss Systems MTP® Connector Trunks

Grip Application	Connector 1st End	Connector 2nd End	Fiber Count	Fiber Type	Cable Type	Furcation 1st End	Furcation 2nd End	Trunk Type	Cable Length	Unit of Measure
<input type="checkbox"/>	<u>75</u>	<u>75</u>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>U</u>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>

**1 Select grip application.**

A = Grip on first end only  
B = Grip on both ends  
N = No grip

**2 Defines MTP Connector on the first end.**

75 = MTP Connector low-loss performance (non-pinned)

**3 Select MTP Connector on the second end.**

75 = MTP Connector low-loss performance (non-pinned)

**4 Select standard fiber count.**

12 = 12 fibers  
24 = 24 fibers  
36 = 36 fibers  
48 = 48 fibers  
72 = 72 fibers  
96 = 96 fibers  
E4 = 144 fibers

**5 Select fiber type.**

S = Pretium™ 300 Multimode Laser-Optimized 50/125 μm Solutions  
Y = Pretium 550 Multimode Laser-Optimized 50/125 μm Solutions

**6 Select cable type.**

**12 and 24 Fibers**

D8 = MIC® 250 Cable (indoor)  
AD = MIC 250 Armored Plenum Cable (indoor)

**36, 48, 72, 96 and 144 Fibers**

C8 = Ribbon plenum indoor (standard cable construction)  
CA = Interlocking armored ribbon plenum indoor

**7 Select ribbon furcation on the first end.**

A = 24-in leg length (+5/-0) Standard  
B = 36-in leg length (+5/-0 in)

Note: Furcation legs are color-coded by fiber type:  
S = Aqua  
Y = Aqua

**8 Select furcation on the second end.**

Use options from item 7.

**9 Defines trunk type.**

U = Standard universal MTP Connector to MTP Connector trunk

**10 Select cable length (assembly lengths are measured from furcation plug to furcation plug).**

001-999 Tolerance: -0/+6 ft (-0/+2 m)

**11 Select unit of measure.**

F = Feet  
M = Meters

## **Plug & Play™ Universal Low-Loss Systems Extender Trunks**

Universal low-loss extender trunks are used to distribute portions, or all, of the fibers in a Universal low-loss trunk to other areas in the infrastructure. For example, a high-fiber-count trunk can be deployed from a main distribution area to a zone distribution area. Lower-fiber-count extender trunks can then be utilized to distribute fiber from the zone distribution areas into cabinets.

Extender trunks are manufactured with pinned MTP® Connectors on one end of the cable trunk and non-pinned MTP Connectors on the other end. The pinned MTP Connectors on the extender trunk mate with the non-pinned connectors of the Universal low-loss trunk. The non-pinned MTP Connectors on the extender trunk are plugged into the Universal low-loss module or mated to a Universal low-loss harness via an MTP Connector adapter panel.

## **Plug & Play Universal Low-Loss Systems Hybrid Connector Trunks and Hybrid Extender Trunks**

Universal low-loss hybrid connector trunks are terminated with MTP Connectors on one end of the trunk and LC connectors on the other end for applications requiring one end of the trunk to connect directly into system equipment or patch panels. Both Universal low-loss trunks and extender trunks are available in hybrid connector options.

## Ordering Information

### Plug & Play™ Universal Low-Loss Systems Extender Trunks

Grip Application	Connector 1st End	Connector 2nd End	Fiber Count	Fiber Type	Cable Type	Furcation 1st End	Furcation 2nd End	Trunk Type	Cable Length	Unit of Measure
<input type="checkbox"/>	<u>93</u>	<u>75</u>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>X</u>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>

#### 1 Select grip application.

- A = Grip on first end only
- B = Grip on both ends
- N = No grip

*Note: Extender trunks have pinned MTP® Connectors on one end and non-pinned MTP Connectors on the other end. Alignment of the MTP Connector is achieved when mating a pinned MTP Connector to a non-pinned MTP Connector. Attempting to mate two pinned MTP Connectors or two non-pinned MTP Connectors will not produce the desired optical performance.*

#### 2 Defines MTP Connector on the first end.

93 = MTP Connector low-loss performance (pinned)

#### 3 Defines MTP Connector on the second end.

75 = MTP Connector low-loss performance (non-pinned)

#### 4 Select standard fiber count.

- 12 = 12 fibers
- 24 = 24 fibers
- 36 = 36 fibers
- 48 = 48 fibers
- 72 = 72 fibers
- 96 = 96 fibers
- E4 = 144 fibers

#### 5 Select fiber type.

- S = Pretium™ 300 Multimode Laser-Optimized 50/125 μm Solutions
- Y = Pretium 550 Multimode Laser-Optimized 50/125 μm Solutions

#### 6 Select cable type.

##### 12 and 24 Fibers

- D8 = MIC® 250 Cable (indoor)
- AD = MIC 250 Armored Plenum Cable (indoor)

##### 36, 48, 72, 96 and 144 Fibers

- C8 = Ribbon plenum indoor (standard cable construction)
- CA = Interlocking armored ribbon plenum indoor

#### 7 Select furcation on the first end.

- A = 24-in leg length (+5/-0 in) Standard
  - B = 36-in leg length (+5/-0 in)
- Note: Furcation legs are color-coded by fiber type:*
- S = Aqua
  - Y = Aqua

#### 8 Select furcation on the second end.

Use options from item 7.

#### 9 Defines trunk type.

- X = Universal MTP to MTP Connector extender trunk

#### 10 Select cable length (assembly lengths are measured from furcation plug to furcation plug).

001-999 Tolerance: -0/+6 ft (-0/+2 m)

#### 11 Select unit of measure.

- F = Feet
- M = Meters

## Ordering Information

### Plug & Play™ Universal Systems Low-Loss Hybrid Trunks

Grip Application	Connector 1st End	Connector 2nd End	Fiber Count	Fiber Type	Cable Type	Furcation 1st End	Furcation 2nd End	Trunk Type	Cable Length	Unit of Measure
<input type="checkbox"/>	<u>75</u>	<u>05</u>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>W</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>

**1 Select grip application.**

A = Grip on first end only  
 B = Grip on both ends  
 N = No grip

**2 Defines MTP® Connector on the first end.**

75 = MTP Connector low-loss performance (non-pinned)

**3 Defines MTP Connector on the second end.**

05 = LC duplex, multimode

**4 Select standard fiber count.**

12 = 12 fibers  
 24 = 24 fibers  
 36 = 36 fibers  
 48 = 48 fibers  
 72 = 72 fibers  
 96 = 96 fibers  
 E4 = 144 fibers

**5 Select fiber type.**

S = Pretium™ 300 Multimode Laser-Optimized 50/125 μm Solutions  
 Y = Pretium 550 Multimode Laser-Optimized 50/125 μm Solutions

**6 Select cable type.**

**12 and 24 Fibers**

D8 = MIC® 250 Cable (indoor)  
 AD = MIC 250 Armored Plenum Cable (indoor)

**36, 48, 72, 96 and 144 Fibers**

C8 = Ribbon plenum indoor (standard cable construction)  
 CA = Interlocking armored ribbon plenum indoor

**7 Select furcation on the first end.**

A = 24-in leg length (+5/-0 in) Standard  
 B = 36-in leg length (+5/-0 in)

Note: Furcation legs are color-coded by fiber type:

S = Aqua

Y = Aqua

**8 Select furcation on the second end.**

F = 24 in (+3/-0 in), 900 μm  
 G = 36 in (+3/-0 in), 900 μm  
 H = 48 in (+3/-0 in), 900 μm  
 S = 60 in (+3/-0 in), 900 μm  
 T = 72 in (+3/-0 in), 900 μm  
 V = 79 in (+3/-0 in), 900 μm  
 Y = 98 in (+3/-0 in), 900 μm  
 K = 24 in (+3/-0 in), 2.0 μm  
 L = 36 in (+3/-0 in), 2.0 μm  
 M = 48 in (+3/-0 in), 2.0 μm  
 N = 60 in (+3/-0 in), 2.0 μm  
 P = 72 in (+3/-0 in), 2.0 μm  
 Q = 79 in (+3/-0 in), 2.0 μm  
 R = 98 in (+3/-0 in), 2.0 μm

**9 Defines trunk type.**

W = Universal hybrid trunk

**10 Select cable length (assembly lengths are measured from furcation plug to furcation plug).**

001-999 Tolerance: -0/+6 ft (-0/+2 m)

**11 Select unit of measure.**

F = Feet

M = Meters

## Ordering Information

### Plug & Play™ Universal Low-Loss Systems Hybrid Extender Trunks

Grip Application	Connector 1st End	Connector 2nd End	Fiber Count	Fiber Type	Cable Type	Furcation 1st End	Furcation 2nd End	Trunk Type	Cable Length	Unit of Measure
<input type="checkbox"/>	<b>93</b>	<b>05</b>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Z</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>

#### 1 Select grip application.

- A = Grip on first end only
- B = Grip on both ends
- N = No grip

*Note: Hybrid universal extender trunks have male MTP® Connectors on one end and single-fiber connectors on the other end. Alignment is achieved when mating a male MTP Connector to a female MTP Connector. Attempting to mate two male MTP Connectors or two female MTP Connectors will not produce the desired optical performance.*

#### 2 Defines MTP Connector on the first end.

- 93 = MTP Connector low-loss performance (pinned)

#### 3 Defines connector on the second end.

- 05 = LC duplex, multimode

#### 4 Select standard fiber count.

- 12 = 12 fibers
- 24 = 24 fibers
- 36 = 36 fibers
- 48 = 48 fibers
- 72 = 72 fibers
- 96 = 96 fibers
- E4 = 144 fibers

#### 5 Select fiber type.

- S = Pretium™ 300 Multimode Laser-Optimized 50/125 μm Solutions
- Y = Pretium 550 Multimode Laser-Optimized 50/125 μm Solutions

#### 6 Select cable type.

##### 12 and 24 Fibers

- D8 = MIC® 250 (indoor)
- AD = MIC 250 Armored Plenum Cable (indoor)

##### 36, 48, 72, 96 and 144 Fibers

- C8 = Ribbon plenum indoor (standard cable construction)
- CA = Interlocking armored ribbon plenum indoor

#### 7 Select furcation on the first end.

- A = 24-in leg length (+5/-0 in) Standard
  - B = 36-in leg length (+5/-0 in)
- Note: Furcation legs are color-coded by fiber type:*
- S = Aqua
  - Y = Aqua

#### 8 Select furcation on the second end.

- F = 24 in (+3/-0 in), 900 μm
- G = 36 in (+3/-0 in), 900 μm
- H = 48 in (+3/-0 in), 900 μm
- S = 60 in (+3/-0 in), 900 μm
- T = 72 in (+3/-0 in), 900 μm
- V = 79 in (+3/-0 in), 900 μm
- Y = 98 in (+3/-0 in), 900 μm
- K = 24 in (+3/-0 in), 2.0 μm
- L = 36 in (+3/-0 in), 2.0 μm
- M = 48 in (+3/-0 in), 2.0 μm
- N = 60 in (+3/-0 in), 2.0 μm
- P = 72 in (+3/-0 in), 2.0 μm
- Q = 79 in (+3/-0 in), 2.0 μm
- R = 98 in (+3/-0 in), 2.0 μm

#### 9 Defines trunk type.

- Z = Universal hybrid extender trunk

#### 10 Select cable length (assembly lengths are measured from furcation plug to furcation plug).

- 001-999 Tolerance: -0/+6 ft (-0/+2 m)

#### 11 Select unit of measure.

- F = Feet
- M = Meters

# Plug & Play™ Universal Low-Loss Systems

A LANscape® Pretium™ Solutions Product

Corning  
Cable Systems

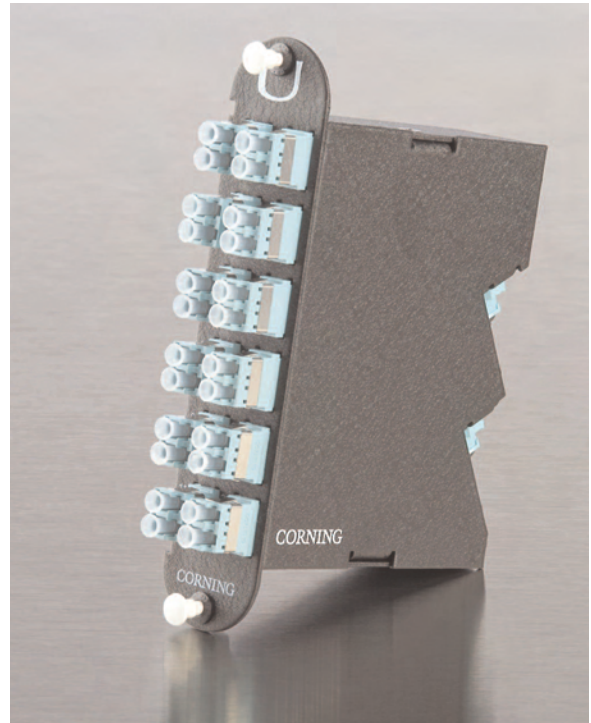
## Plug & Play™ Universal Low-Loss Systems Modules

Corning Cable Systems Universal low-loss modules are used to break out the 12-fiber MTP® Connectors terminated on trunk cables into LC duplex connectors. Jumpers can then be used to patch into system equipment ports, patch panels, or work area outlets.

The modules feature LC duplex adapters across the front and one or two MTP Connector adapters across the back. A factory-terminated and -tested optical fiber assembly inside the modules connects the front adapters to the back MTP Connector adapter(s). The modules fit into Corning Cable Systems LANscape® Pretium™ Solutions hardware and are available in 12- and 24-fiber configurations with LC duplex connectors.

The modules' reduced-depth footprint provides added room for routing cables in the back of hardware and also provides a solution for shallow, raised-floor boxes. Using modules provides adaptability for the changing data center environment, which requires technology evolution every 12 to 18 months. The use of Universal low-loss modules in the data center offers the advantage of greater manageability. They can easily be swapped with new modules when future requirements change, leaving the existing trunk cable infrastructure in place.

*Note: Plug & Play Universal Low-Loss Systems modules are constructed with a value-added fiber polarity wiring solution that is not backwards compatible with systems utilizing a fiber pair-wise flip polarity solution placed in the trunk or module.*



Plug & Play Universal Low-Loss Systems Modules | Photo LAN697



## Ordering Information

### Plug & Play™ Universal Low-Loss Systems Modules

	Fiber Count	Front Adapters	Back Adapter(s)	Fiber Type
CCH - UM	<input type="checkbox"/> <input type="checkbox"/>	05	93	<input type="checkbox"/>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

**1** Select fiber count.

12 = 12 fibers  
24 = 24 fibers

**3** Defines MTP® Connector adapter on back of module.

93 = Low-loss performance multimode

**2** Defines adapters on front of module.  
*LC Duplex*

05 = LC duplex, multimode

**4** Select fiber type.

S = Pretium™ 300 Multimode Laser-Optimized 50/125 µm Solutions  
Y = Pretium 550 Multimode Laser-Optimized 50/125 µm Solutions

*Note: Plug & Play Universal Low-Loss Systems modules contain fibers configured in the Universal Wiring Scheme and must be used in conjunction with Plug & Play Universal Low-Loss MTP Connector Trunking Systems.*

## Plug & Play™ Universal Low-Loss Systems Harness Assembly

Universal low-loss harnesses have a pinned MTP® Connector on one end that connects to a Universal low-loss trunk while the other end is equipped with LC duplex connectors. The assembly uses MIC® 250 Cable, a round plenum rated interconnect cable with a small outside diameter, allowing for easier routing with preferential bend concerns. The LC duplex connectors are terminated on 2.0 mm legs to provide a ruggedized solution and can accommodate many ranges of length requirements to ease fiber routing.

Used with the Universal low-loss trunks or extender trunks, the LC duplex connectors provide quick installation in applications where up-jacketed legs are needed for direct installation into electronic equipment. They also provide a routing solution that is less dense than traditional jumpers since the MTP Connector end of the harness that routes through the rack or cabinet is much smaller than the equivalent six 2-fiber patch cords.

## Ordering Information

### Plug & Play™ Universal Low-Loss Systems Harnesses

	MTP Connector	Harness Connectors	Fiber Type	Cable Type	Harness Leg Length	Harness Type	Overall Length	Unit of Measure
H	93	05	<input type="checkbox"/>	E8	- <input type="checkbox"/>	Z	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>

**1** Defines the MTP® Connector.

93 = Low-loss performance multimode (pinned)

**2** Defines the break-out connector type.  
**LC Duplex**

05 = LC duplex, multimode

**3** Select fiber type.

S = Pretium™ 300 Multimode Laser-Optimized 50/125 µm Solutions  
Y = Pretium 550 Multimode Laser-Optimized 50/125 µm Solutions

**4** Defines the cable type.

E8 = 12-Fiber MIC 250 Interconnect Cable

**5** Select the break-out connector leg length (leg O. D. is 2.0 mm).

J = 12 in (+3/-0 in), 2.0 mm  
K = 24 in (+3/-0 in), 2.0 mm  
L = 36 in (+3/-0 in), 2.0 mm, Standard  
M = 48 in (+3/-0 in), 2.0 mm  
N = 60 in (+3/-0 in), 2.0 mm  
P = 72 in (+3/-0 in), 2.0 mm  
Q = 79 in (+3/-0 in), 2.0 mm  
R = 98 in (+3/-0 in), 2.0 mm

Note: Furcation legs are color-coded by fiber type:

S = Aqua

Y = Aqua

**6** Defines harness type.

Z = Universal low-loss harness assembly

**7** Select the overall harness length (the overall length includes the break-out connector leg lengths).

001-999

**8** Select unit of measure.

F = Feet  
M = Meters

## Accessories

Part Number	Description
TKT-PNP	Connector and Adapter Cleaning Kit for Plug & Play Systems



## Low-Loss Jumpers and Reference Jumpers

Corning Cable Systems offers the most complete line of connectors and factory-terminated cables, including low-loss jumpers to meet or exceed all industry standards for reflectance and insertion loss.

Corning Cable Systems' state-of-the-art manufacturing process ensures unsurpassed connector performance. Fibers and ferrules are thoroughly screened at the beginning of the process, assembled and polished in a carefully monitored and controlled process, and quality tested to ensure top performance. This assembly and polishing process ensures the same outstanding quality in every connector. When performance counts, ask for Corning Cable Systems assemblies.



Low-Loss Jumpers and Reference Jumpers | Photo LAN663

## Ordering Information

### Low-Loss Jumpers and Reference Jumpers

#### Jumper Part Numbers

E050502S5120xxxF	LC Duplex to LC Duplex, multimode (laser-optimized 50/125 μm) 2.0 mm riser zipcord – unit of measure is feet
E050502S5120xxxM	LC Duplex to LC Duplex, multimode (laser-optimized 50/125 μm) 2.0 mm riser zipcord – unit of measure is meters

#### Reference Jumper Part Numbers\*

E031701S2180xxxF	LC Simplex to FC Simplex, multimode (laser-optimized 50/125 μm) 2.0 mm riser jumper – unit of measure is feet
E031701S2180xxxM	LC Simplex to FC Simplex, multimode (laser-optimized 50/125 μm) 2.0 mm riser jumper – unit of measure is meters

\*Note: Low-loss reference jumpers are required during test to achieve the link-loss values as stated in the illustration on page 1.

Corning Cable Systems LLC • PO Box 489 • Hickory, NC 28603-0489 USA  
800-743-2675 • FAX: 828-901-5973 • International: +1-828-901-5000 • [www.corning.com/cablesystems](http://www.corning.com/cablesystems)

Corning Cable Systems reserves the right to improve, enhance and modify the features and specifications of Corning Cable Systems products without prior notification. LANscape and MIC are registered trademarks of Corning Cable Systems Brands, Inc. Plug & Play and Pretium are trademarks of Corning Cable Systems Brands, Inc. Discovering Beyond Imagination is a trademark of Corning Incorporated. MTP is a registered trademark of USConec, Ltd. All other trademarks are the properties of their respective owners. Corning Cable Systems is ISO 9001 certified. © 2007 Corning Cable Systems. All rights reserved. Published in the USA. LAN-779-EN / January 2007