COMMSCOPE®

Instruction Sheet

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SYSTIMAX 360™ iPatch® Fiber Shelf with Faceplate Instructions

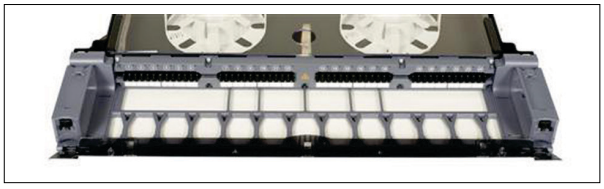
General

The **SYSTIMAX 360™ iPatch®** G2 fiber shelf with faceplate is a **SYSTIMAX®** approved product. This distribution shelf provides for connection of non-metallic Outside Plant (OSP) cable or Lightguide Building Cable (LGBC) to 24 **iPatch** LC duplex fiber ports either by direct termination or splicing. Designed for use in an **iPatch** system, this shelf is one unit high and can be mounted in a standard 19-inch rack with a universal hole pattern. Both a sliding version and a fixed version are available.

Note: To use the **SYSTIMAX 360 iPatch** G2 shelf in an existing **iPatch** system, the **iPatch** Managers must be running firmware version 8.1 or later, and the **imVision®** Controller must be running firmware version 10.1 or later. The System Manager firmware, used to manage the system, must be Version 7.1 or later. We recommend that you upgrade the System Manager software to Version 7.1 or a later version before you install the shelf.

Ordering information is listed below:

Material ID	Part No.	Description
760193789	360-iP-G2-1U-LC-FX	**iPatch®** G2 LC fiber shelf, fixed
760193797	360-iP-G2-1U-LC-SD	**iPatch®** G2 LC fiber shelf, sliding



SYSTIMAX 360™ iPatch® G2 Fiber Shelf

How to Contact Us

- To find out more about **CommScope®** products, visit us on the web at http://www.commscope.com/
- For technical assistance:
  - Within the United States, contact your local account representative or technical support at 1-800-344-0223. Outside the United States, contact your local account representative or **PartnerPRO™** Network Partner.
  - Within the United States, report any missing/damaged parts or any other issues to **CommScope** Customer Claims at 1-866-539-2795 or email to claims@commscope.com. Outside the United States, contact your local account representative or **PartnerPRO** Network Partner.

This product is covered by one or more of the following U.S. patents or their foreign equivalents: 6,285,293, 6,522,737, 5,923,807, 6,245,998 and 8,344,900.

Specifications

Fiber Optic Interface

Industry-standard LC

Compatible Fiber Size

Multimode with 50 µm core diameter, such as **LazrSPEED®**
Multimode with 62.5 µm core diameter, such as **OptiSPEED®**
Singlemode with 8.3 µm core diameter, such as **TeraSPEED®**

Environmental Data

Temperature Range	-40º F to 158º F (-40º C to 70º C) (storage) 23º F to 122º F (-5º C to 50º C) (operational)
Humidity	95% non-condensing

Tools Required

- Flat blade screwdriver
- Pliers

Parts List

Verify parts against the parts list below:

Quantity	Description
1	Shelf with the one of the following items installed: sliding fiber tray or fixed fiber tray; LC duplex fiber faceplate (24 ports); **iPatch** Ready LC fiber module; plastic cover
1	Panel bus jumper;
2	mounting brackets
2	3-inch storage drums
1	Patch cord trough
1	Hinged door for patch cord trough
4	#12-24 x 1/2 inch screws for mounting the shelf in a 19-inch or 23-inch (584mm) rack
2	Liquid tight cable fittings with lock nuts
2	Plastic cable tie retainers
6	Fiber type labels (4 labels each)
1	Instruction sheet

Separately Orderable Components

Material ID	Part No.	Description
760027516	RS-00	RoloSplice without trays
760039859	RS-2AM-12SS	RoloSplice with 2 mechanical splice trays
760039867	RS-2AF-16SS	RoloSplice with 2 fusion splice trays
700006257	1AF1-16LG	Fusion splice trays
700006281	1AMF1-6LG	Mass fusion splice trays
700006240	1AM1-12LG	Mechanical splice trays
760039883	600-23BRKT	Mounting bracket for 23-inch frame

Important Safety Cautions

- To reduce the risk of fire, electric shock, and injury to persons, read, understand, and adhere to the following instructions as well as any warnings marked on the product.
- Remote risk of electric shock. Never install the product in wet locations or during lightning storms. Never touch uninsulated communication wires or terminals.
- Disconnected optical components may emit invisible optical radiation that can damage your eyes. Never look directly into an optical component that may have a laser coupled to it. Serious and permanent retinal damage is possible. If accidental exposure to laser radiation is suspected, consult a physician for an eye examination.
- Wear safety glasses to install the shelf. Although standard safety glasses provide no protection from potential optical radiation, they offer protection from accidental airborne hardware and cleaning solvents.

Precautions

- Fiber optic trunk cable and jumper performance is sensitive to bending, pulling, and crushing. Minimum bend radius must be maintained during installation per the manufacturer's specification. Appropriate pulling socks must be used during installation, and pulling forces shall not exceed manufacturer's recommendations. MPO terminated trunk cables may use ribbonized fiber optic cable, which has a preferential bend axis. Use caution to avoid kinking trunk cables.
- **iPatch** high density fiber MPO adapters are equipped with protective dust caps installed in the front of all adapters.
- Prior to installation, clean the trunk cable and jumper connectors per the manufacturer's recommendations.
- All wiring that connects to this equipment must meet applicable local and national building codes and network wiring standards for communication cable.
- Care should be taken not to compromise the stability of the rack by installation of this equipment.
- **iPatch** high density MPO fiber shelves are for use in restricted access areas only.

IMPORTANT

- **SYSTIMAX 360 iPatch** G2 shelves use infrared sensing technology and should be installed where they are not exposed to direct sunlight or other infrared sources.

  Save these instructions.

Step 1 – Applying the Fiber Type Labels

Apply one of the color-coded labels provided to each connector module to indicate the type of fiber optic cable to be used for the module. Place the label just below the connectors (Figure 1).

Refer to the table below to select the appropriate color of label for each module.

Color	Fiber Type
Aqua	Multimode with 50 µm core diameter—**LazrSPEED**®
Beige	Multimode with 62.5 µm core diameter—**OptiSPEED**®
Blue	Singlemode

Important: If you are unsure what type of fiber optic cable will be used for each module, you can apply the labels later, after the shelf has been installed and the cable has been connected to the back of the modules.

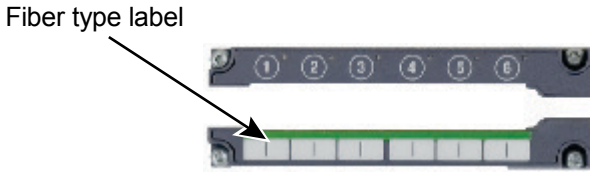


Figure 1 Applying the Fiber Type Labels

Step 2 – Routing the Panel Bus Jumper

Follow the appropriate set of steps below to route the panel bus jumper in preparation for installing the shelf.

For a sliding shelf:

1. Slide the plastic cover off the shelf.
2. Remove the tape securing the panel bus jumper to the cable support.
3. Route the panel bus jumper with protective corrugated tubing around the end of the sliding rail to the outside of the rail.
4. Snap the corrugated tubing protecting the panel bus jumper into the cable retainer on the outside of the rail as shown in Figure 2.

   Position the corrugated tubing so that about 1 inch (2.5cm) of the tubing extends past the end of the cable retainer.
5. Position the exposed ribbon cable of the panel bus jumper in the flat retainers on the outside of the sliding rail as shown in Figure 2.

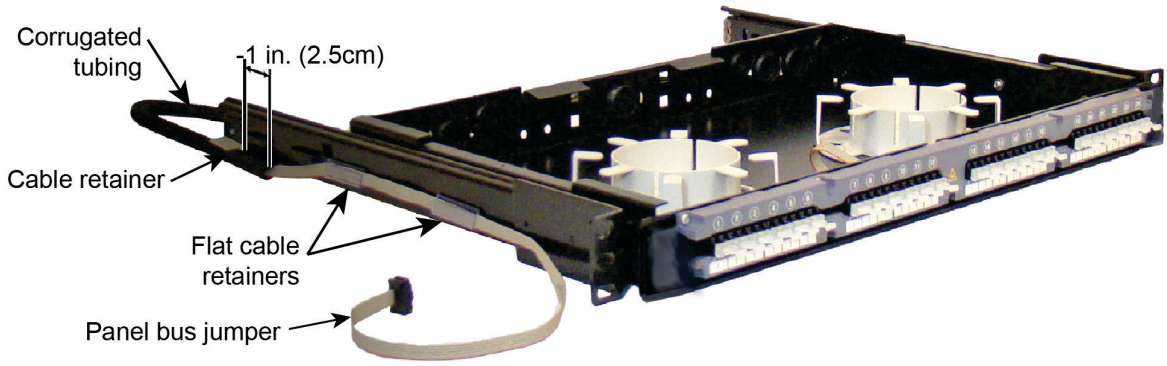


Figure 2 Routing the Panel Bus Jumper for a Sliding Shelf

For a fixed shelf:

1. Slide the plastic cover off the shelf.
2. Remove the tape securing the panel bus jumper to the back of the shelf.
3. Route the panel bus jumper around the back corner of the shelf and along the outside as shown in Figure 3.
4. Position the panel bus jumper in the flat retainer on the outside of the shelf as shown in Figure 3.

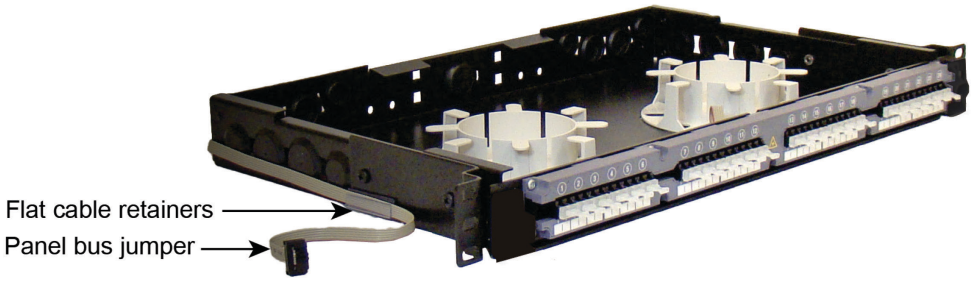


Figure 3 Routing the Panel Bus Jumper for a Fixed Shelf

Step 3 – Installing the Shelf

When installing multiple shelves in a rack, install the lowest shelf first and work toward the top of the rack.

To install the shelf in the rack:

1. Mount the shelf in the rack using the four mounting screws provided (Figure 4).

   Note: For a 19-inch (483mm) rack, mount the shelf to the rack using the pre-installed mounting brackets and the four #12-24 screws provided.

   For a 23-inch (584mm) rack, use the 600-23BRKT accessory kit (ordered separately) and install one conversion bracket on each side of the shelf using the four #10-32 x 3/8 inch screws included in the kit. Mount the shelf to the rack using the four #12-24 screws provided.

   For an ETSI rack, use the 600-23BRKT accessory kit (ordered separately) and install one conversion bracket on one side of the shelf using two of the four #10-32 screws included in the kit. Mount the shelf to the rack using four M6 x 12mm screws. The shelf will not be centered in the rack.

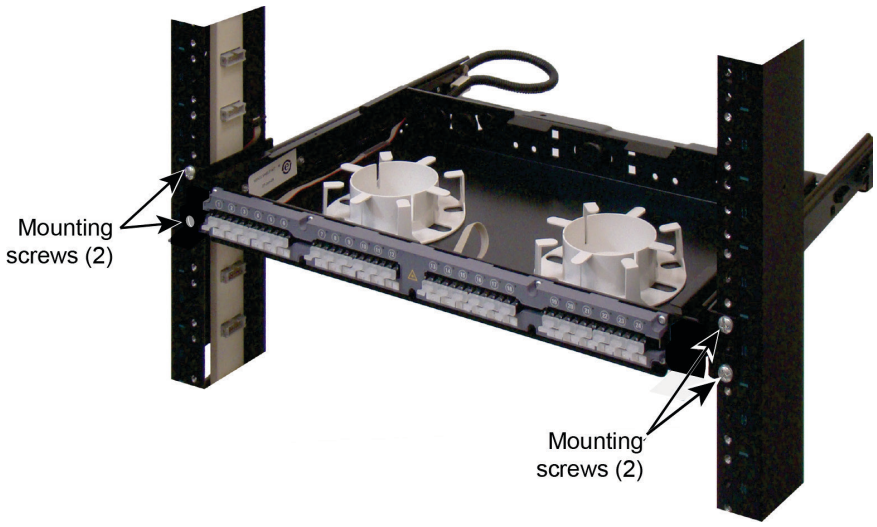


Figure 4 Installing the Shelf in the Rack

2. Connect the panel bus jumper to the nearest connector on the panel bus (Figure 5).
   Note: The connector is keyed. The polarized tab on the jumper connector fits into the opening in the header connector on the panel bus.
   Important: Make sure that the jumper connector is fully seated in the header connector on the panel bus.

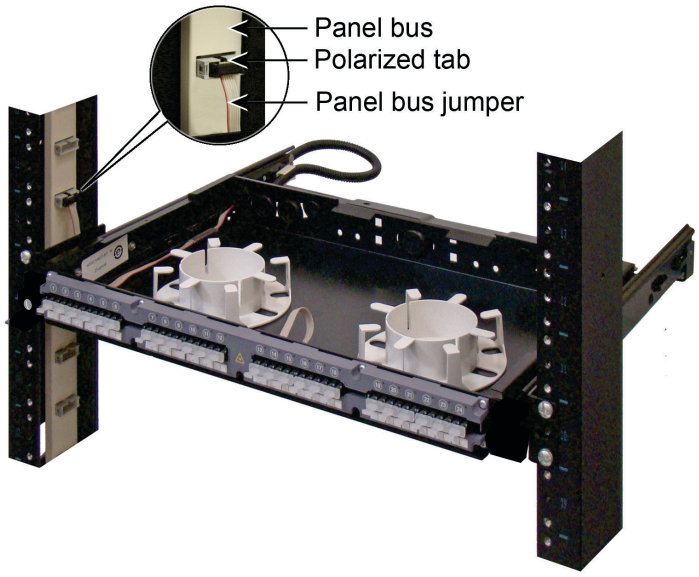
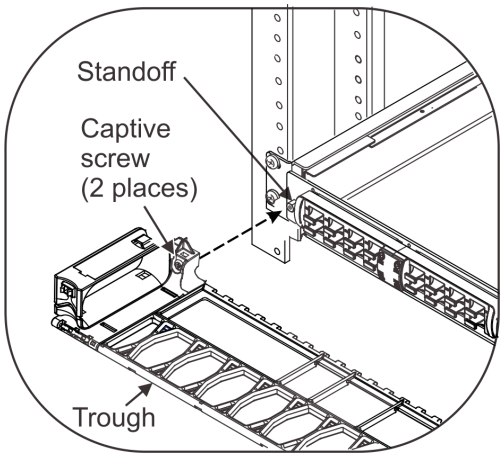


Figure 5 Connecting the Panel Bus Jumper to the Panel Bus

Step 4 – Installing the Patch Cord Trough

To install the patch cord trough:

1. Position trough on shelf so that indentions behind captive screws rest on the standoffs as shown.
2. Using a Phillips head screwdriver, tighten the captive screw on each end of trough to secure it to shelf.



Note: If installing the trough on a sliding shelf, pull the shelf out enough to support the faceplate from behind before tightening the captive screws.

Note: Shelf shown is representative, actual shelf may vary.

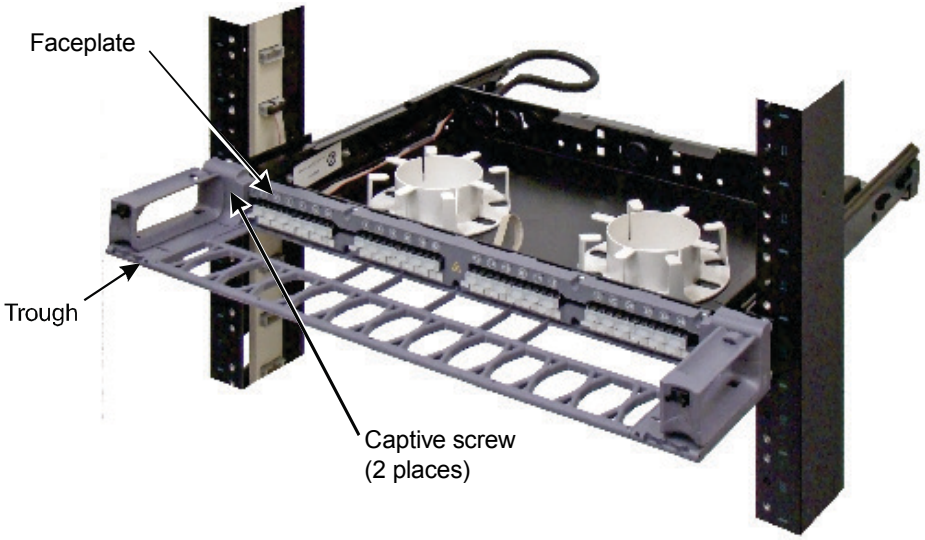


Figure 6 Installing the Trough on the Shelf

Step 5 – Installing the Cable

Directions are provided in the sub-sections below for preparing the fiber optic cable and connecting it to the faceplate connectors.

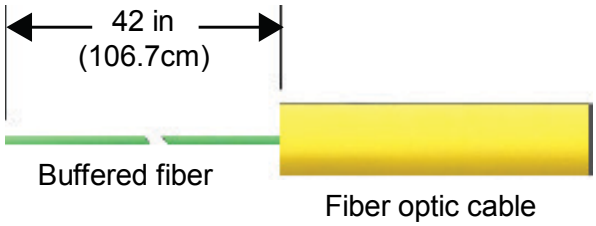


Figure 7 Preparing the Cable for Termination or Splicing

Preparing the Cable for Splicing or Termination

Whether you are splicing or terminating the fiber optic cable, perform the following steps:

1. Prepare the cable as shown in Figure 7.
2. Slide the liquid tight sealing nut and cable fitting onto the incoming fiber optic cable (Figure 8).
3. Position the cable fitting about 1 inch (2.5cm) from the edge of the jacket and tighten the sealing nut onto the cable fitting.
4. Remove the plastic plug from an appropriate cable entry hole in the back of the shelf.
5. Feed the buffered fibers and the jacketed end of the cable through a round hole in the back of the shelf (Figure 8).
6. Unscrew the liquid tight lock nut and feed it through the selected cable entry hole to the inside of the shelf.
7. Hold the liquid tight cable fitting so that the threaded portion is through the hole in the back of the shelf. Then tighten the locknut onto the cable fitting, securing the fitting to the back of the shelf (Figure 8).

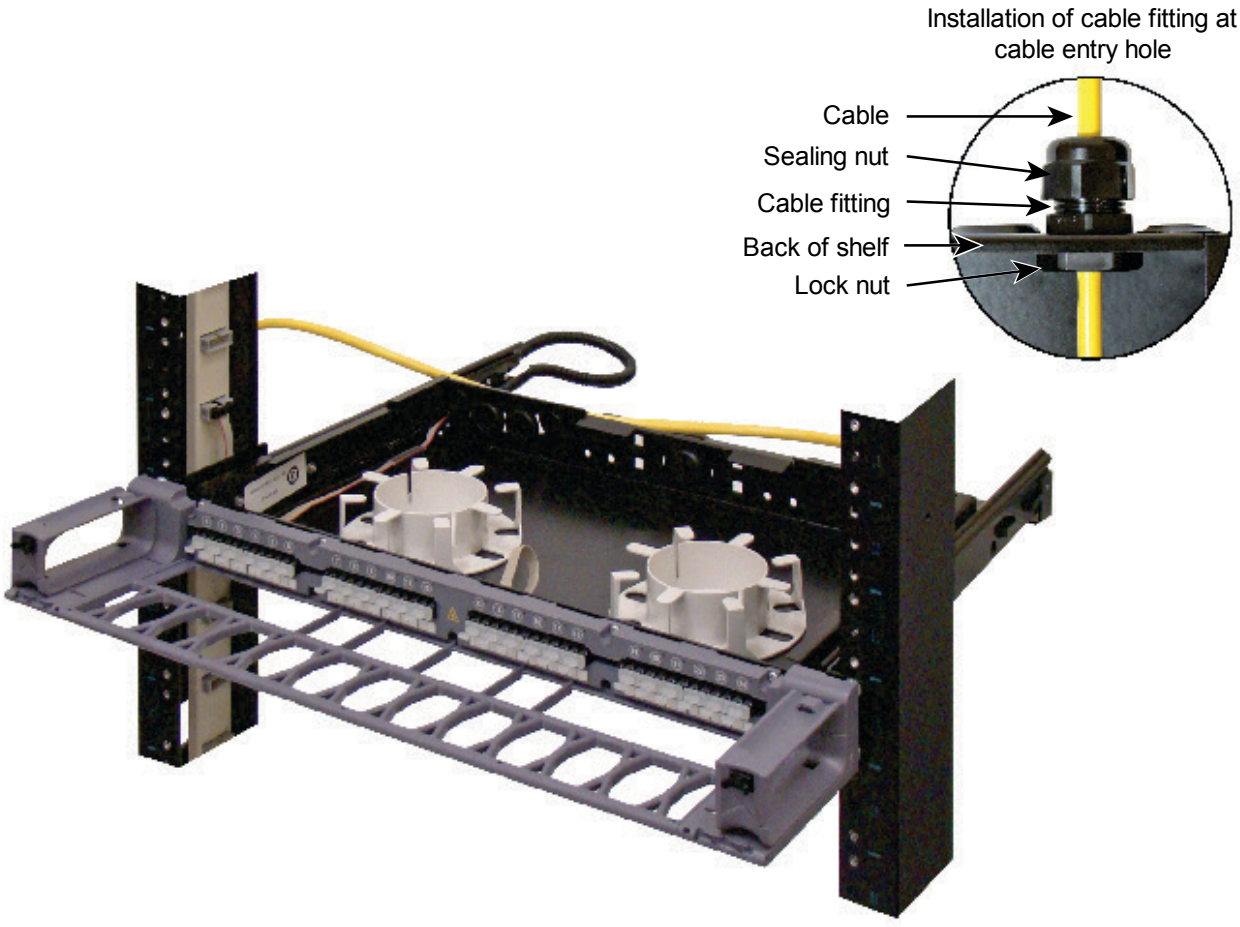


Figure 8 Installing the Liquid Tight Cable Fitting

Prepare the fiber optic cable for connection to the faceplate either by splicing or terminating the cable For instructions, see “Splicing and Installing the Cable” on page 9 or “Terminating and Installing the Cable” on page 11.

Splicing and Installing the Cable

To fully cable the shelf, install two RoloSplice multiple splice organizers (ordered separately).

To install each RoloSplice in the shelf:

1. Temporarily remove the pivoting trays from the RoloSplice base by spreading the sides of the base sufficiently to allow for removal.
2. Remove the top two breakaway tabs on each side of the RoloSplice base:

   Hold the side of the base firmly against a solid surface, such as a table top, and score the V-groove below the second breakaway tab several times (Figure 9). Repeat this process to score the corresponding V-groove on the opposite side of the base.

   Wearing safety glasses, hold the base with a pair of pliers and grasp the breakaway tabs with another pair of pliers just above the V-groove (Figure 9). Bend the tab back and forth several times until it breaks off. Repeat this process to remove the breakaway tabs on the opposite side of the base.

   Use a file or sandpaper to smooth any rough edges that result from the breaks.
3. Use isopropyl alcohol and a lint-free cloth or tissue to wipe the inside of the shelf where the RoloSplice is to be mounted and the bottom of the RoloSplice base.
4. Peel the paper from one side of the double-sided tape (provided with the RoloSplice) and affix it to the mounting location.
5. Peel the paper from the other side of the double-sided tape and position the RoloSplice in the desired mounting location. Press firmly for several seconds to assure that the tape makes good contact.

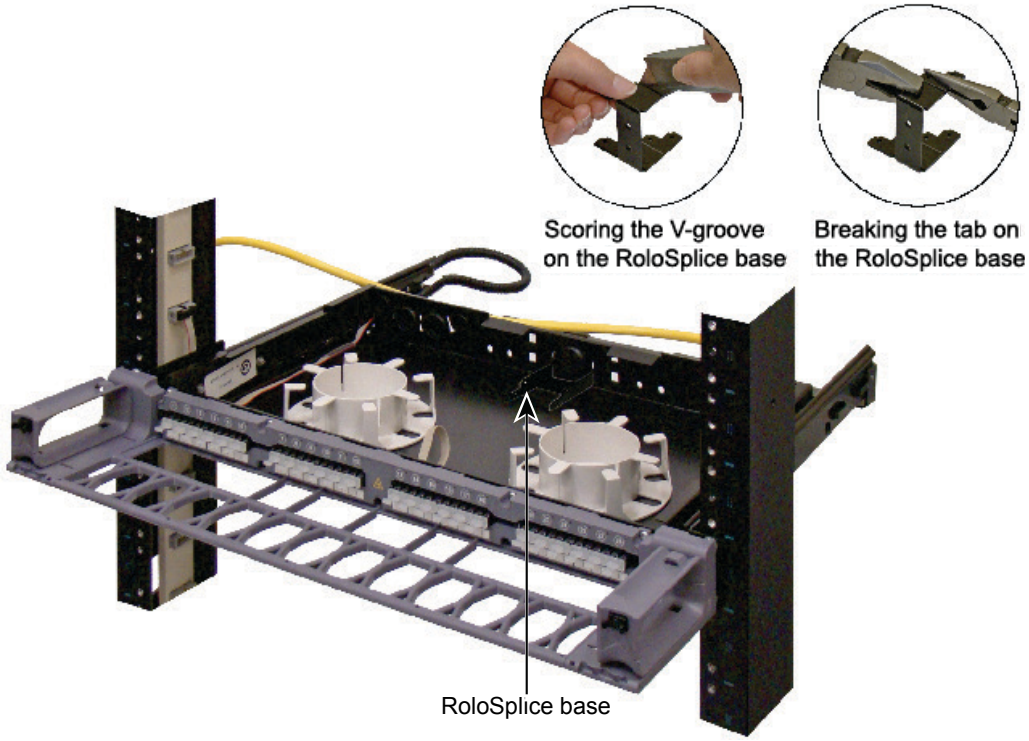


Figure 9 Installing Splice Trays Using a RoloSplice

To splice and install the fiber optic cable:

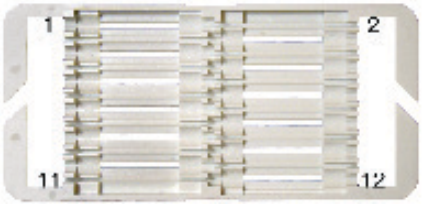
1. On a clean work surface, prepare the incoming buffered fibers for splicing to the fiber pigtail by untangling them and laying them out flat.
2. Using the splicing materials appropriate for the type of splices you are making, splice the incoming buffered fibers to the pigtail.
3. For fusion splices, use your fingers to place the splices in the splice trays (ordered separately) in the recommended sequence shown in Figure 10.

   Note: The numbers shown in Figure 10 do not appear on the actual splice trays.

   For rotary/ mechanical splices, use a 1012A compression tool to compress the springs on the splices and place the splices in the splice trays (ordered separately) in the recommended sequence shown in Figure 10.

Fusion splice trays

Mass fusion splice trays



Mechanical splice trays

Figure 10 Splice Sequence for Fusion Mass Fusion and Mechanical Splice Trays

To install the splice trays in the RoloSplice:

1. Slide the splice tray over the rear latch and under the front latch in a RoloSplice pivoting tray. Orient the splice tray so that the indentation is centered under the front latch.
2. Bend the pivoting tray slightly to allow the rear latch to engage the splice tray.
3. Push down on the splice tray at the rear latch until the splice tray snaps into position, fully engaging the rear latch.
4. Install the pivoting tray in the RoloSplice base.
5. Dress the fibers as shown in Figure 11 and route the slack around the storage drums.
6. Connect the pigtail connectors to the adapters on the back of the faceplate.

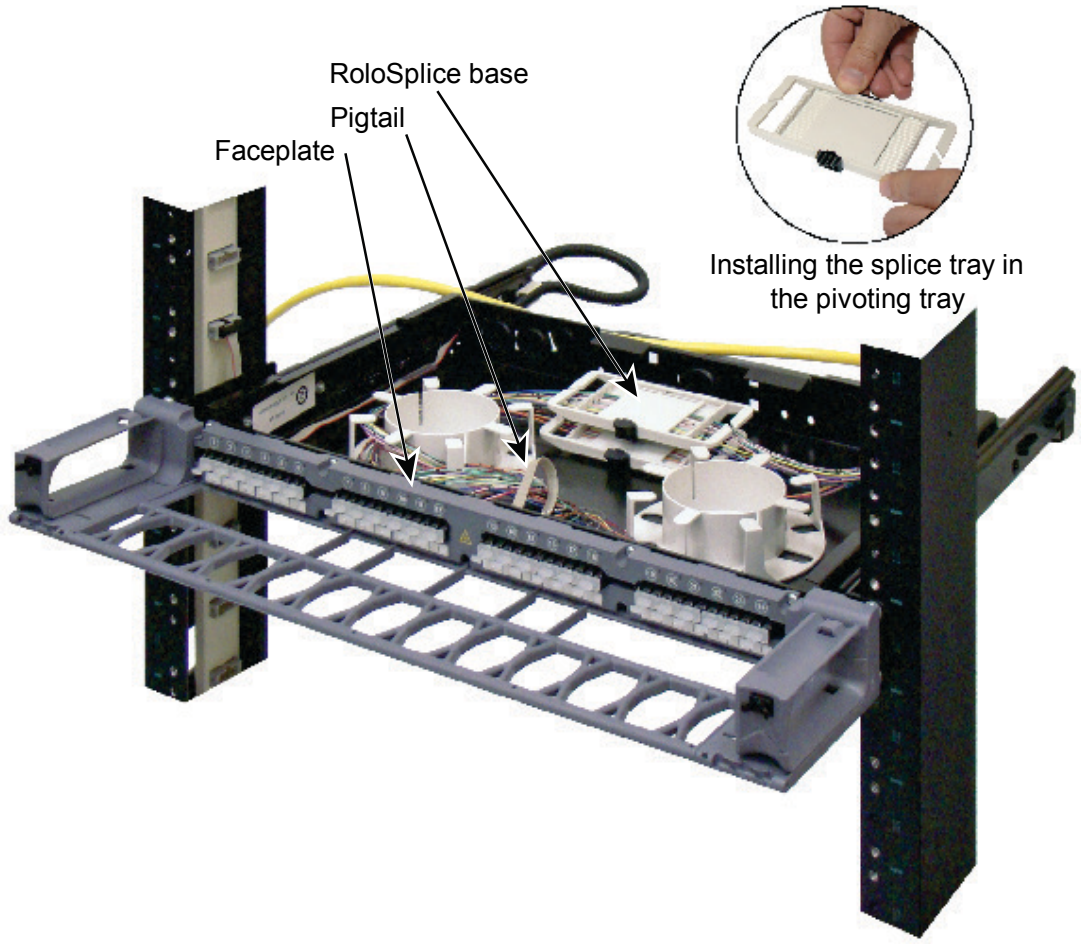


Figure 11 Positioning the Splices and Fibers

To terminate and install the fiber optic cable:

1. Install LC connectors on the buffered fibers.
2. Route the buffered fibers around the storage drums to the adapters on the back of the faceplate (Figure 12).
3. Connect the terminated fibers to the adapters on the back of the faceplate

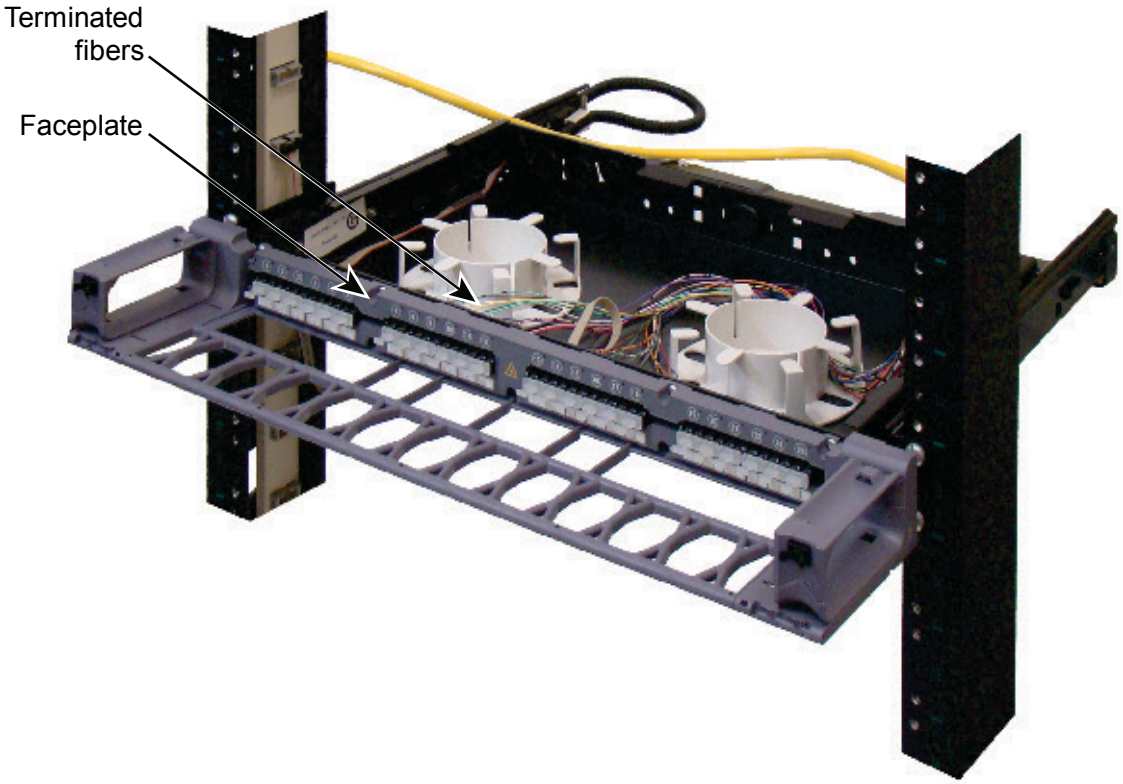


Figure 12 Routing the Terminated Fibers

Securing the Cable

To secure the incoming fiber optic cable to the back of the shelf and rack:

1. Insert a cable tie retainer (provided) up through the hole in the cable support on the rear of the shelf on the side opposite from where the cable enters the shelf (Figure 13). For example, if the cable enters the shelf on the right side, use the hole on the left side of the cable support.

   Note: Two cable tie retainers are provided for your convenience.

2. Insert a cable tie (provided) through the cable tie retainer and secure the incoming fiber optic cable to the cable support.

   Important: Do not tighten the cable tie completely. For a sliding shelf, leave enough slack so that the cable moves freely when you slide the shelf out from the rack.

3. Secure the incoming fiber optic cable to the back of the rack approximately 7 inches (about 18cm) above the shelf (Figure 13).

4. If the shelf is a sliding shelf, slide the shelf out of the rack and back in, making sure that it slides freely and the panel bus jumper does not bind.

   Note: The ribbon cable of the panel bus jumper may slide in the corrugated tubing.

Checking the Panel Bus Jumper

1. Make sure that the panel bus jumper is still firmly connected to the faceplate (Figure 13).

   Important: The connector is keyed. The polarized tab on the panel connector fits into the opening in the header connector on the back of the faceplate.

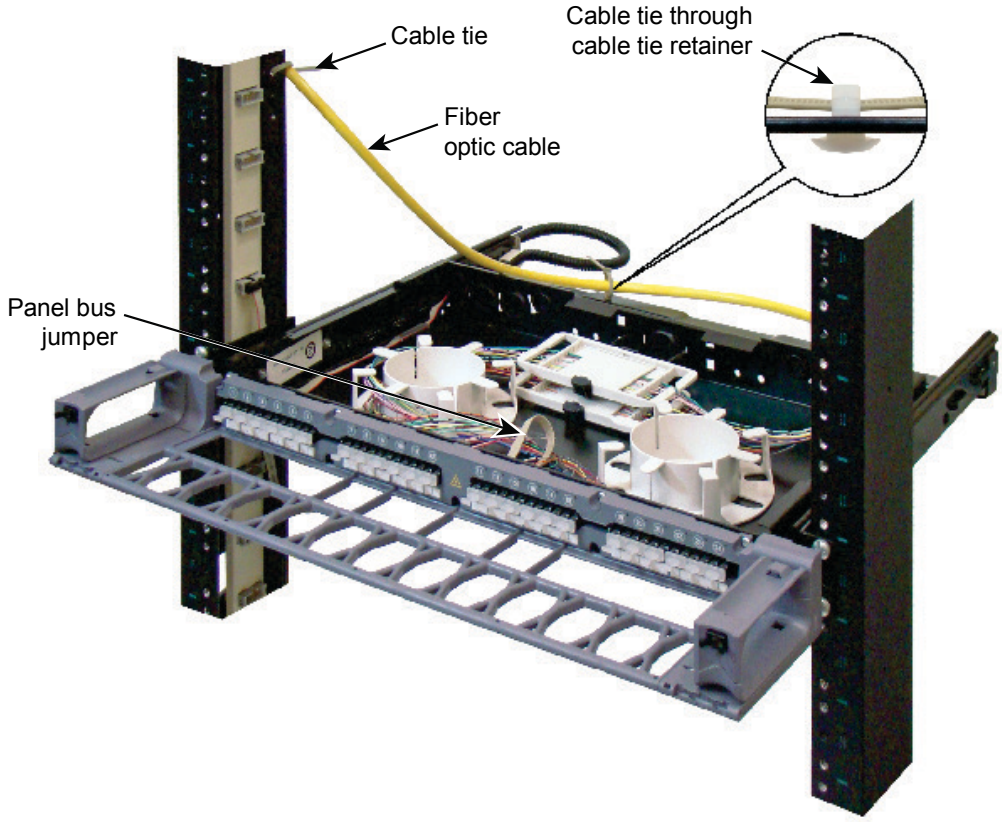
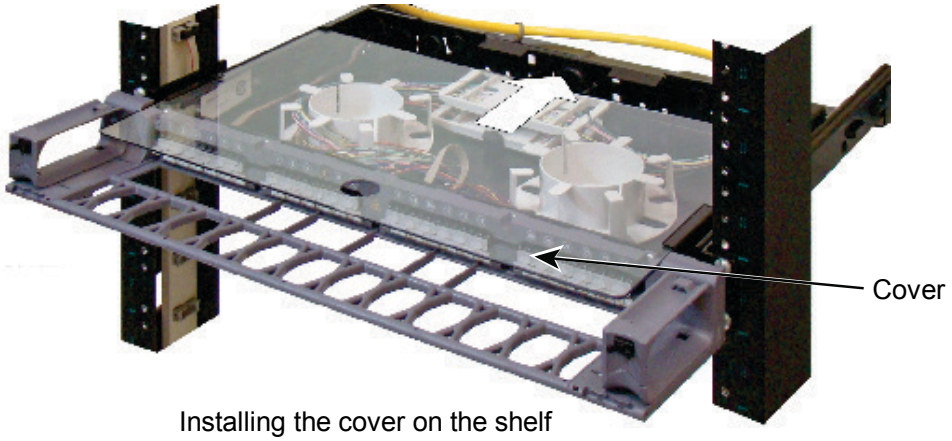


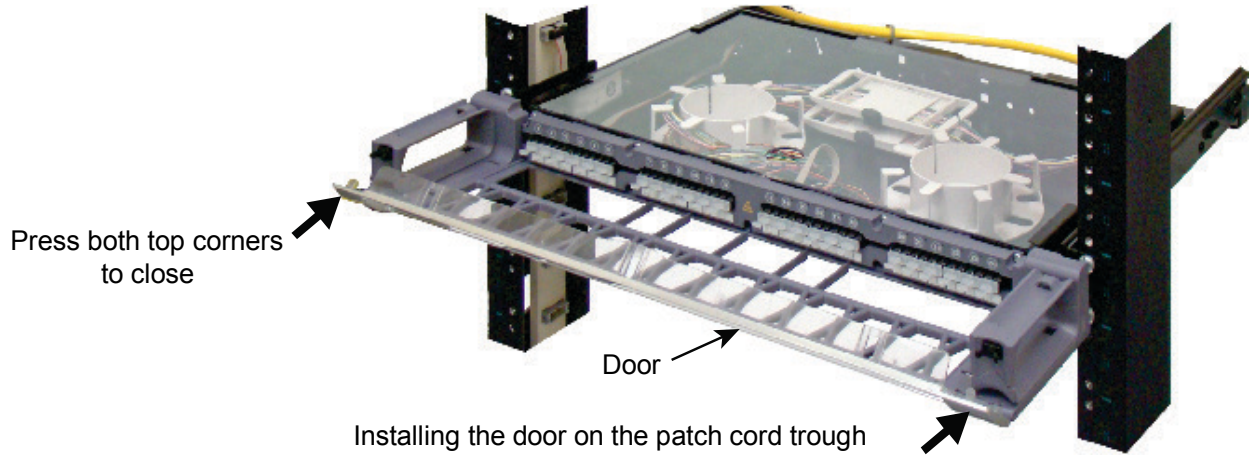
Figure 13 Securing the Cable and Checking the Panel Bus Jumper

Step 6 – Installing the Cover and Door

Install the plastic cover and trough door (both provided) to shield the shelf from foreign particles. The cover, which is made of clear, flame-retardant plastic, slides on and off the shelf. The door for the patch cord trough is hinged and has touch-latches for closing and opening.



Installing the cover on the shelf



Installing the door on the patch cord trough

Figure 14 Installing the Cover and Door

1. Slide cover through flanges on shelf until cover reaches the back wall of shelf.
2. Remove door from protective wrapping.
3. Orient door at an angle from trough and position hinge pins on door into hinge sockets on trough.
4. Using one hand to support bottom of trough on one end, push down on inside of door over hinge pins with other hand to seat pins into hinge sockets.
5. Repeat on other end to secure door to trough.
6. Pivot door into the vertical position until strikes engage latches and door snaps into the closed position with an audible click.
7. Door may be reopened by pulling on both upper corners of door (opposite strikes) until the latches release (verified by an audible click).
   Note: Trough door may be removed when opened to a 45° position, by holding one of the side hinge brackets and pulling upward until hinge pins release from socket. Lift door to release from hinge socket on other side bracket.
8. Fully retract the shelf in the rack.