



## SYSTIMAX 360™ iPatch® G2 High Density Sliding Fiber Shelf Instructions

### General

The **SYSTIMAX 360™ iPatch® G2 High Density Sliding Fiber Shelf** is a **SYSTIMAX®** approved product. This high density distribution shelf accommodates up to three modules that allow connection of multi-fiber trunk cables terminated with push-on (MPO) connectors. Each module provides 24 **iPatch** LC duplex fiber ports. Designed for use in an **iPatch** system, this shelf is two units high and can be mounted in a standard 19-inch (483mm) rack with a universal hole pattern. This shelf slides out for easy access.

**Note:** The **iPatch G2 High Density Sliding Fiber Shelf** is compatible with Rack Manager Plus and Panel Manager units; it is not compatible with the older rack manager and network manager units. To use the **iPatch G2 High Density Sliding Shelf** in an existing **iPatch** system, the **iPatch** Managers must be running firmware version 10.1 or later. The system manager software, 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. To obtain the latest version of software, contact your **SYSTIMAX®** local account representative.

Ordering information is listed below:

Material ID	Part No.	Description
760093336	360-iP-HD-2U-IP-SD	<b>SYSTIMAX 360™ iPatch® G2 2U high density sliding fiber shelf</b>

### 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](mailto: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 and 6,522,737.



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

## Tools Required

- Flat blade screwdriver

## Parts List

Verify parts against the parts list below:

Quantity	Description
1	Preterminated sliding fiber tray with backplane board
1	Panel bus jumper;
2	Mounting brackets
3	Blank panels
1	Plastic shelf cover
1	Patch cord trough
4	Cable management rings
1	Hinged door for patch cord trough
2	Door retainers
4	#12-24 screws for mounting the shelf in a 19-inch or 23-inch (584mm) rack

## Separately Orderable Components

Material ID	Part No.	Description
760093344	360-iP-HD-MOD-LC-LS	HD 24LC <b>LazrSPEED</b> ® module
760093369	360-iP-HD-MOD-LC-TS	HD 24LC <b>TerraSPEED</b> ® module
760093385	360-iP-HD-MOD-LC-OS	HD 24LC <b>OptiSPEED</b> ® module
760093351	360-iP-HD-MOD-LC-LS-3	HD 24LC <b>LazrSPEED</b> ® module, 3 pack
760093377	360-iP-HD-MOD-LC-TS-3	HD 24LC <b>TerraSPEED</b> ® module, 3 pack
760093393	360-iP-HD-MOD-LC-OS-3	HD 24LC <b>OptiSPEED</b> ® module, 3 pack
	Various (see note)	<b>LazrSPEED</b> ® 150 & 300 and <b>TeraSPEED</b> ™ IPD 12-, 24-, 48-, 72-, 96-, and 144-fiber trunk cable, Plenum, MPO

**Note:** Contact your local account representative for ordering information.

## 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

- **iPatch** high density fiber modules contain fiber optic cable and passive optical components. When removed from protective packing, they should be handled carefully and installed in appropriate racks for mechanical support and protection.
- **iPatch** high density fiber modules require virtually no maintenance to maintain their performance. They contain no user-serviceable components, and any damage to the anti-tamper label or removal of top cover or front adapter mounting panel will void the warranty.
- 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 modules are preterminated, with protective dust caps installed on 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 fiber modules are for use in restricted access areas only.

## IMPORTANT

- **SYSTIMAX 360 iPatch** high density fiber modules 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 – Routing the Panel Bus Jumper

To route the panel bus jumper in preparation for installing the shelf:

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

Position the corrugated tubing so that about 1 inch (2.5cm) of the tubing extends past the end of the cable retainer.

4. 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 1.

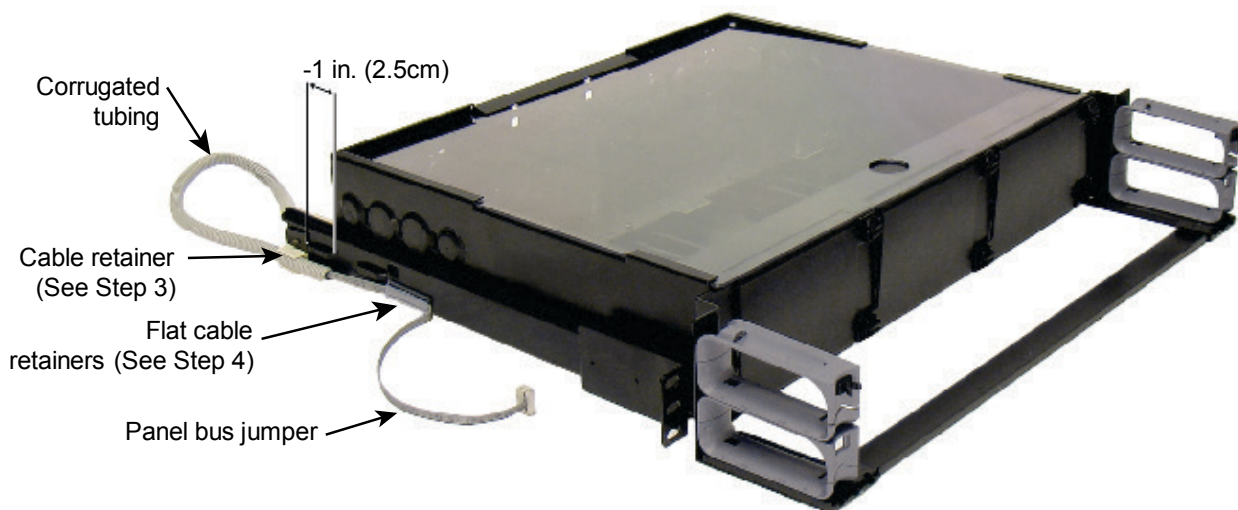


Figure 1 Routing the Panel Bus Jumper

## Step 2 – 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. Remove the plastic cover from the shelf.
2. Fully extend the sliding shelf to allow access to the mounting brackets.
3. Mount the shelf in the rack as shown using the four #12-24 mounting screws provided.
4. Connect the panel bus jumper to the nearest connector on the panel bus as shown in Figure 3.

**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.

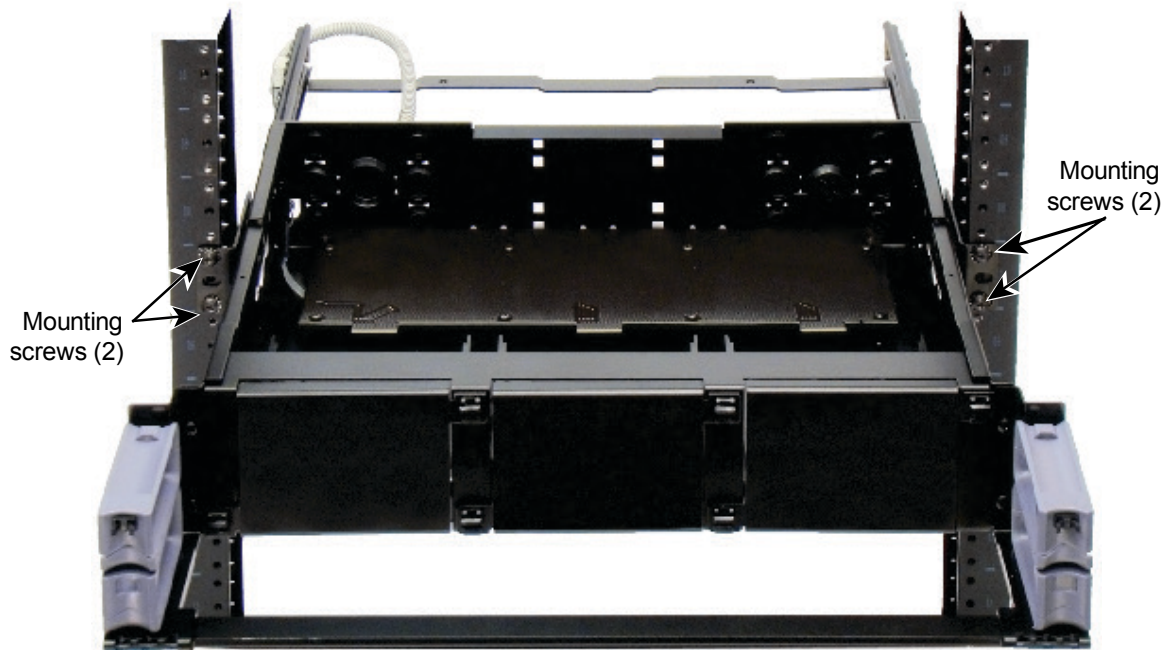


Figure 2 Installing the Shelf in the Rack

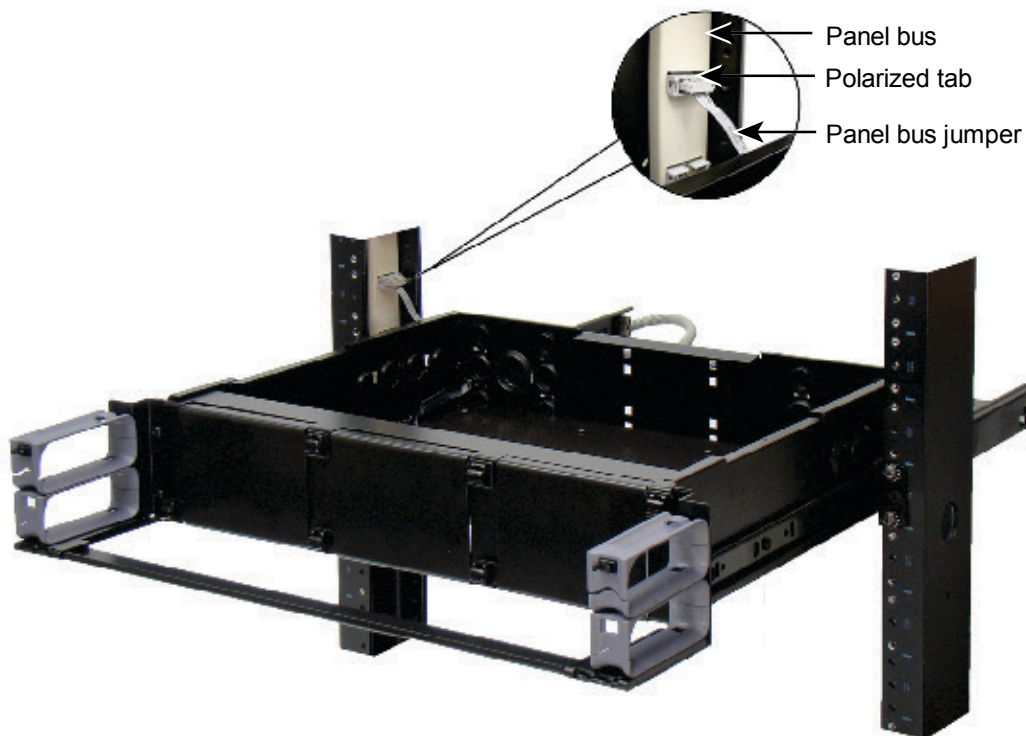


Figure 3 Connecting the Panel Bus Jumper to the Panel Bus

### Step 3 – Installing the Trunk Cable

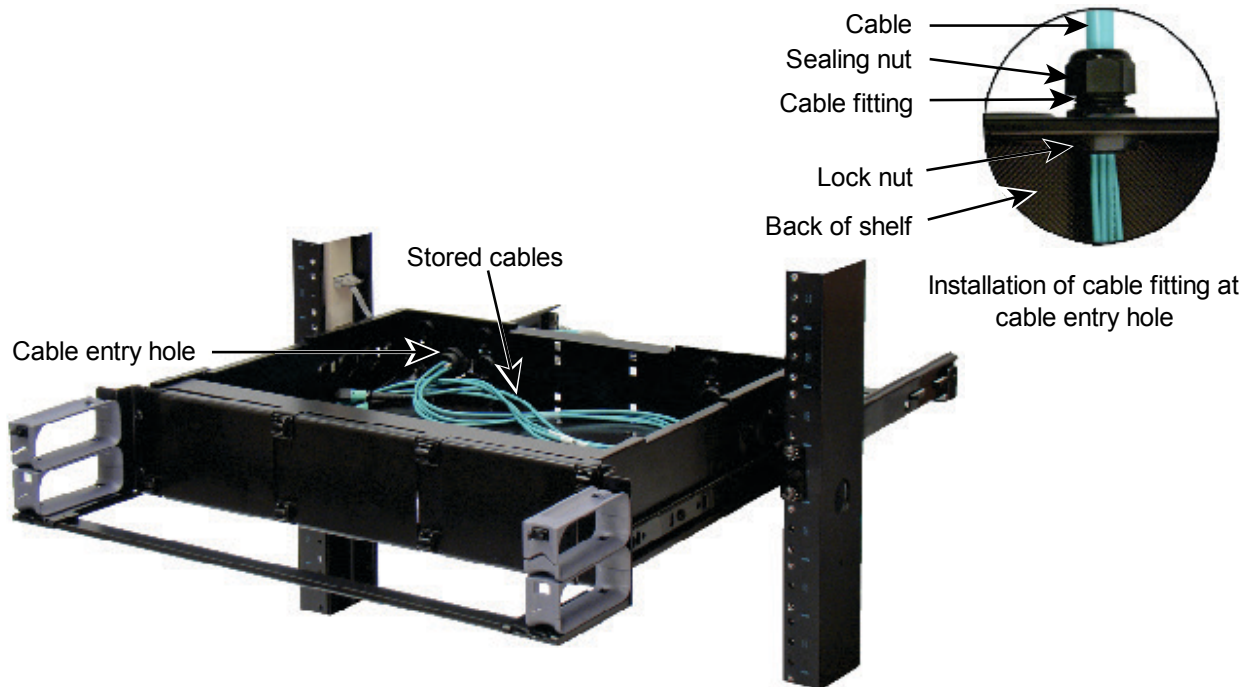


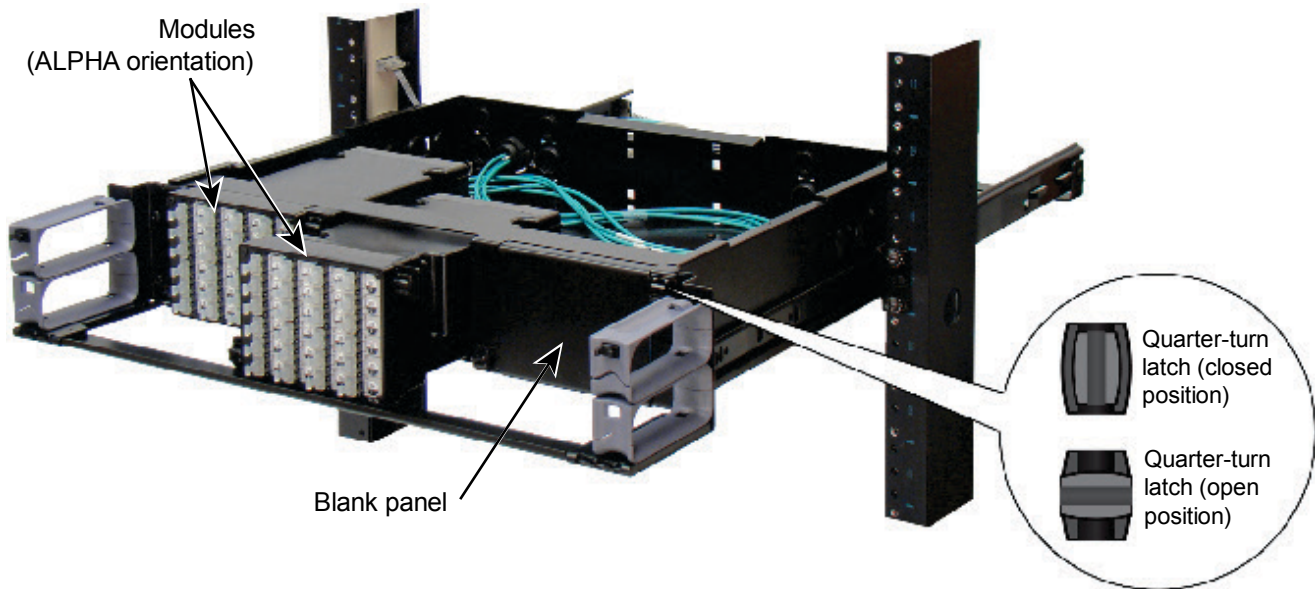
Figure 4 Installing the Trunk Cable

#### To install and dress the trunk cable:

1. Pull the trunk cable to the rack and determine the best way to route the cable to the shelf (from above or below).  
**Note:** When using a distribution frame, route and loosely secure the trunk cable to the cable retainers and cable retainer brackets.
2. Follow the manufacturer's instructions to remove the pulling sock from the trunk cable.
3. Remove the plastic plug from an appropriate cable entry hole in the back or side of the shelf.
4. Feed the MPO connectors and cables through the selected cable entry hole into the shelf.
5. Unscrew the liquid tight lock nut and feed it through the selected cable entry hole to the inside of the shelf.
6. 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 4).
7. Store the cables on top of the back plane board as shown.

**Note:** If you are not going to install any high density fiber modules at this time, install the cover on the shelf and fully retract the shelf (Figure 8 on page 10).

## Step 4 – Installing the High Density Fiber Modules



**Figure 5 Installing the High Density Fiber Modules**

The high density fiber modules must be oriented for the proper polarity. Identical modules are used at each end of a trunk cable, but one module must be in the ALPHA orientation and the other module must be in the BETA orientation.

### To install the modules:

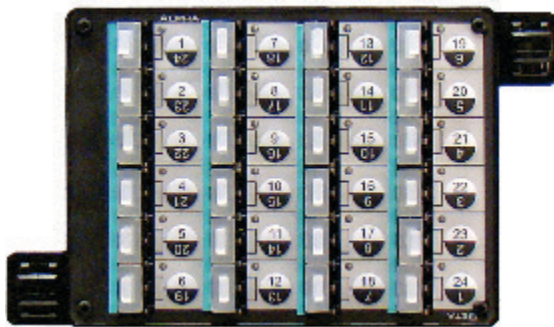
1. Fully extend the shelf.
2. If the plastic cover is installed on the shelf, remove it.
3. To remove the blank panel from the left position in the shelf, use a flat blade screw driver to turn the two quarter-turn latches to the open (horizontal) position (Figure 5). Then pull out the blank panel.
4. Rotate the module to the ALPHA or BETA orientation (Figure 6 on page 8).
5. With the module's quarter-turn latches in the open (horizontal) position, align the module with the opening in the shelf. Slide the module into the shelf so the connector on the back of the module mates with the edge connector on the back plane board.

**Important:** Make sure no fiber cables are pinched beneath the module.

6. Use a flat blade screwdriver to turn both latches to the closed (vertical) position.
7. Repeat item 3 through item 6 to install additional modules in the center and right positions.

**Note:** When installing only two modules in the shelf, use of the left and center positions is recommended.

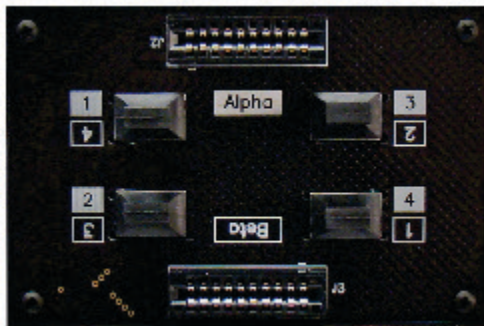
**Important:** Dust covers are installed in the ports to protect the fibers connected to the back of the ports. Do not remove the dust cover from a port until you connect a patch cord to that port. If you remove a patch cord later, replace the dust cover in the port.



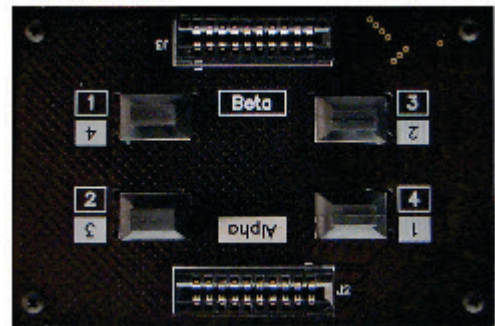
ALPHA Orientation  
(front)



BETA Orientation  
(front)



ALPHA Orientation  
(back)

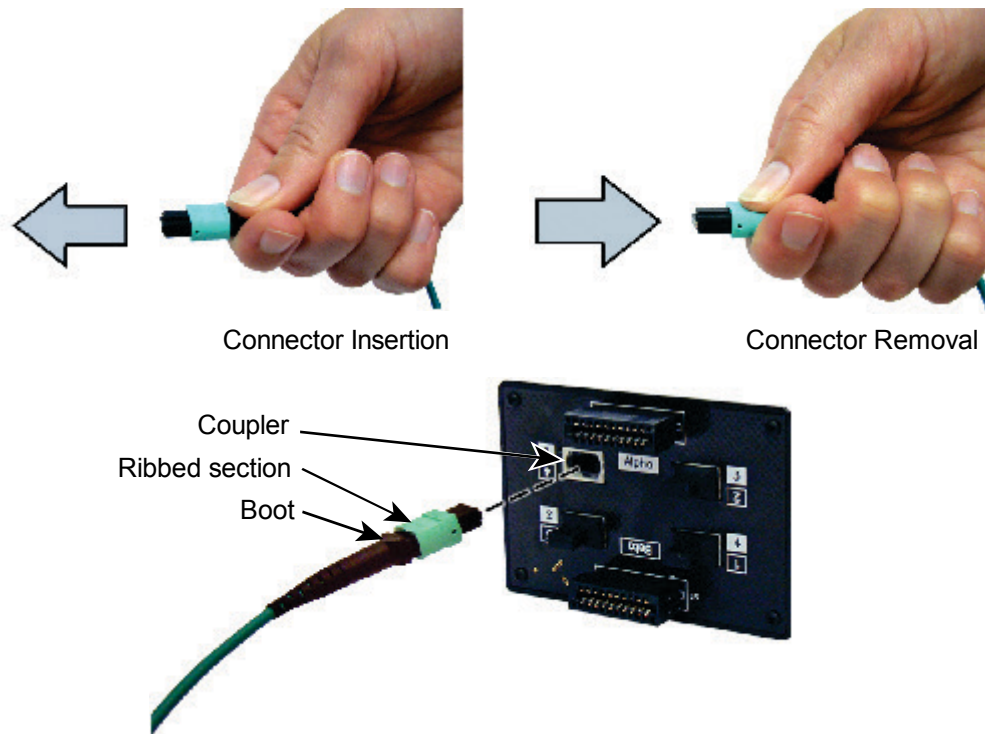


BETA Orientation  
(back)

**Figure 6 Selecting the ALPHA or BETA Orientation for a Module**



## Step 5 – Connecting the Cable



**Figure 7 Inserting and Removing MPO Connectors**

1. Remove the protective dust covers from the MPO connectors on the cable and the MPO couplers on the back of the shelf.
2. Grasp the connector by its boot, near the base of the connector (Figure 7). Insert the MPO connector into the coupler until it clicks into place as shown.

**Note:** The MPO connection is keyed. The polarized tab on the connector fits into the opening on the coupler on the module.

3. Repeat this step to insert each of the trunk cable's MPO connectors into MPO couplers.

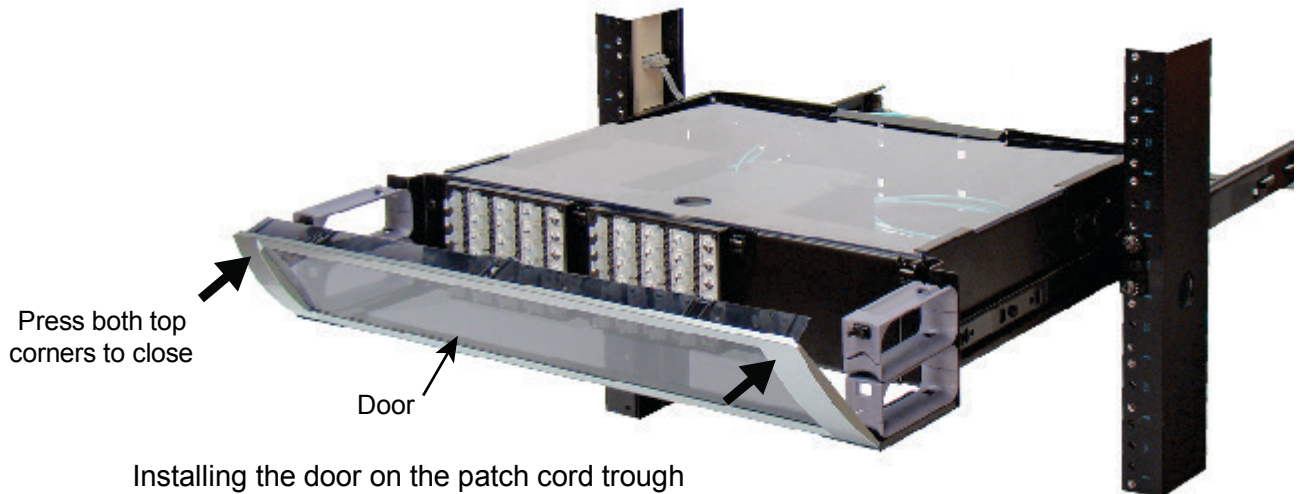
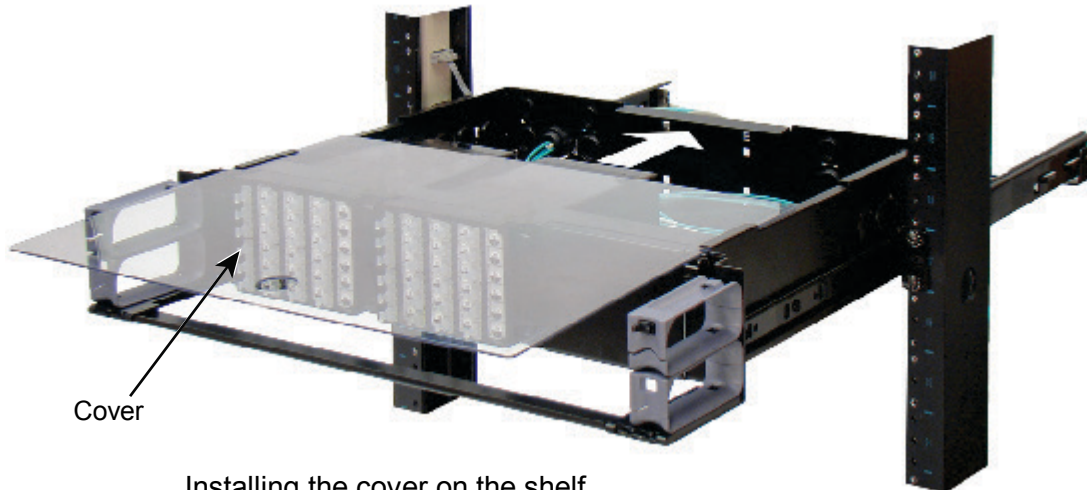
**Note:** To unplug an MPO connector, grasp the ribbed sleeve section and pull the connector out of the coupler. Do not pull on the boot to unplug an MPO connector.

## 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.

### To install the cover:

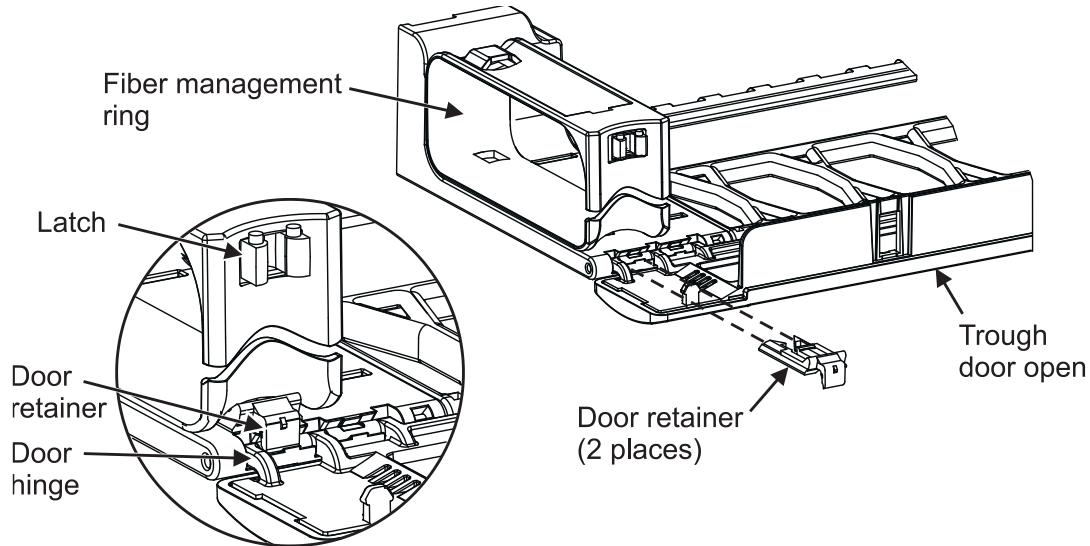
1. Slide the cover through the flanges on the shelf until the cover reaches the back wall of the shelf (Figure 8).



**Figure 8 Installing the Cover and Door**

**To install the door:**

The door retainer is available to update existing 360G2 shelves up to the current functionality of the fiber management trough.



Note: Trough shown is representative, actual part may vary.

**Note:** Door retainer can be installed without removing fiber cables.

1. Orient the door retainer pins as shown and insert them into the space between the trough floor and hinge pin of trough door on each end of the trough. Don't seat retainers now. There will be space between retainer and trough to fit the door's hinge pin into space.

**Note:** If retainer is pushed in before hinge placement, use a small flat blade screwdriver to pry it out from top, opening space to insert hinge.

2. With the door at a 45° angle to the patch cord trough, position the door's hinge tabs in the corresponding door retainer as shown. When door is positioned, slide door and retainer back to seated position as shown above.
3. Swing the door to the closed position, gently pressing the upper corners to latch the door until an audible click is heard.
4. To open the door, pull on both upper corners of door (opposite strikes) until the latches release (verified by an audible click).
5. When opened to a 45° position, the door may be removed from trough by pulling door upward on each end until hinge pins release from hinge sockets. Support the trough under the hinge when removing the door.
6. To re-install door, carefully place the door hinge pin between hinge socket and door retainer. Close door to secure door retainer in place as shown above.
7. Fully retract the shelf in the rack.