



SYSTIMAX® iPatch® Pre-Terminated Shelf Instructions

General

The **iPatch**® Pre-Terminated Shelf is a **SYSTIMAX**® approved product. This distribution shelf allows connection of multi-fiber trunk cables terminated with push-on (MPO) connectors and provides 12 **iPatch** SC duplex fiber ports or 24 **iPatch** LC duplex fiber ports. Designed for use in an **iPatch** System, this shelf is one unit 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: To use the **iPatch** Pre-Term Shelf in an existing **iPatch** system, the Network Manager and Rack Managers must be running a firmware version 7.2V4 or later. The system manager software, used to manage the system, must be Version 6.6.1 or later. We recommend that you upgrade the system manager software to Version 7.0 or a later version before you install the **iPatch** Pre-Term Shelf.

Ordering information is listed below:

Material ID	Part No.	Description
760038521	iP-PTF-12-SC-TS	iPatch ® TeraSPEED ® pre-terminated fiber shelf, SC 12 port duplex

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 Authorized Business Partner.
 - Within the United States, report any missing/damaged parts or any other issues to CommScope Customer Claims at 1-866-539-2795. Outside the United States, contact your local account representative or Authorized Business Partner.

Specifications

Fiber Optic Interface:

Industry-standard SC or LC

Compatible Fiber Size:

Multimode with 50 µm core diameter, such as **LazrSPEED**™
 Singlemode with 8.3 µm core diameter, such as **TeraSPEED**™

Environmental Data

Temperature Range:

-40° F to 158° F (-40° C to 70° C) (storage)
 14° F to 158° F (-10° C to 70° C) (operational)

Humidity:

95% noncondensing



Parts List

Verify parts against the parts list below:

Quantity	Description
1	Preterminated distribution shelf for 12 iPatch SC duplex ports, or Preterminated distribution shelf for 24 iPatch LC duplex ports
1	SC duplex fiber faceplate (12 port), or LC duplex fiber faceplate (24 port)
2	Mounting bracket
1	Panel bus jumper
4	12-24 mounting screw
1	Hook-and-loop strap kit
2	Self-adhesive trunk cable coiling clip
1	Instruction sheet

Separately Orderable Parts

Material ID	Description
700002348	1U-17 patch cord trough
Various	LazrSPEED 150 & 300 and TeraSPEED IPD 12-, 24-, 48-, 72-, 96-, and 144-fiber trunk , Plenum, MPO
Various	LazrSPEED 150 & 300 and TeraSPEED IPR 12-fiber ribbon trunk cable, Plenum, MPO

Note: Contact your local account representative for ordering numbers for cables or trunk cables.

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.
- Isopropyl alcohol is flammable, and can cause eye irritation on contact. If eye contact occurs, flush with water for at least 15 minutes. In case of ingestion, consult a physician. Use only in well ventilated areas.
- 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. If accidental exposure to laser radiation is suspected, consult a physician for an eye examination.
- Wear safety glasses to install this shelf. Although standard safety glasses provide no protection from potential optical radiation, they offer protection from accidental airborne hardware and cleaning solvents.

Important

iPatch pre-term shelves 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 the top cover or front adapter mounting panel will void the warranty.

Precautions

- This shelf contains 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.
- Fiber optic trunk cable and jumper performance is sensitive to bending, pulling, and crushing. The minimum bend radius must be maintained during installation per the 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** pre-term shelves 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.
- **iPatch** pre-term shelves are for use in restricted access areas only.
- 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.

Step 1 – Route 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.
4. 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 retainer on the outside of the sliding rail as shown in Figure 1.

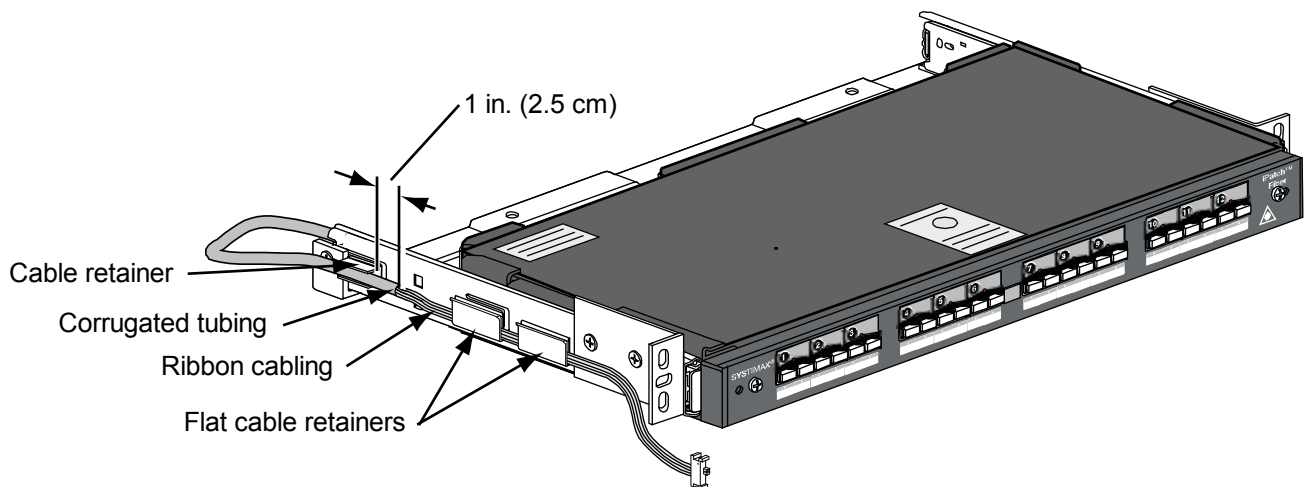


Figure 1. Route the Panel Bus Jumper

Step 2 – Install 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. Install the shelf in the rack using the four #12-24 x 3/8 inch mounting screws provided as shown in Figure 2.
2. 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.

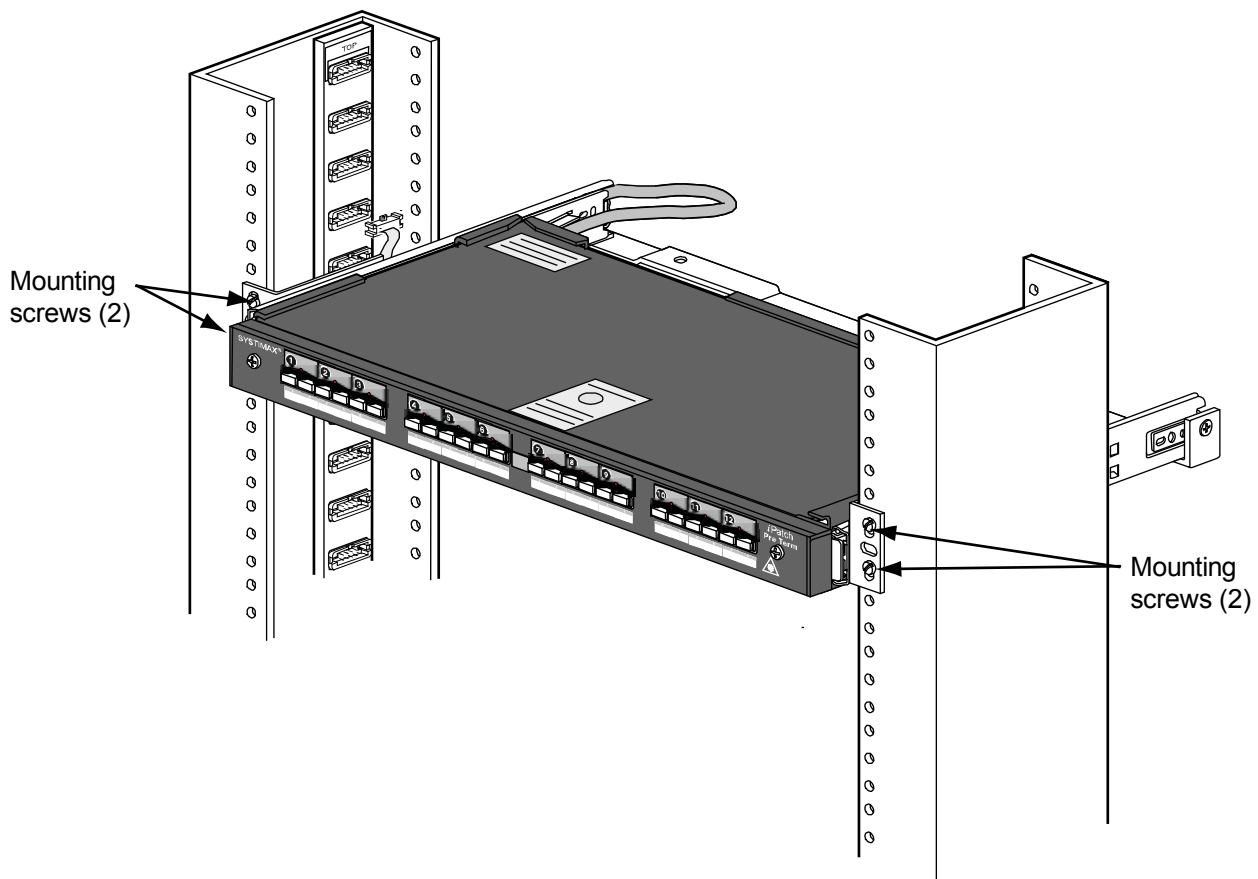


Figure 2. Install the Shelf in the Rack

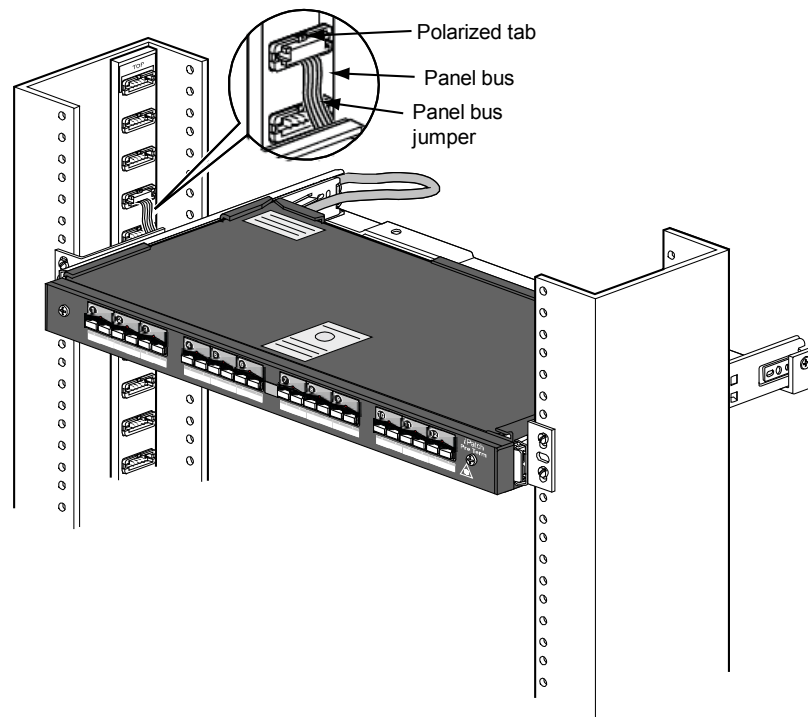


Figure 3. Connect the Panel Bus Jumper to the Panel Bus

Step 3 – Route the Trunk Cable to the Rack

To route the trunk cable to the rack:

1. Pull the trunk cable to the rack and determine the best way to route the cable to the shelf (from above or below). Refer to Figure 4.
2. Follow the manufacturer's instructions to remove the pulling sock from the trunk cable.
3. Use a cable tie to loosely secure the ribbon trunk cable to the back of the rack. Use a tie point 1U above the shelf (if routing from above) or 1U below the shelf (if routing from below). Secure the cable at least 27 inches (686mm) from its end.

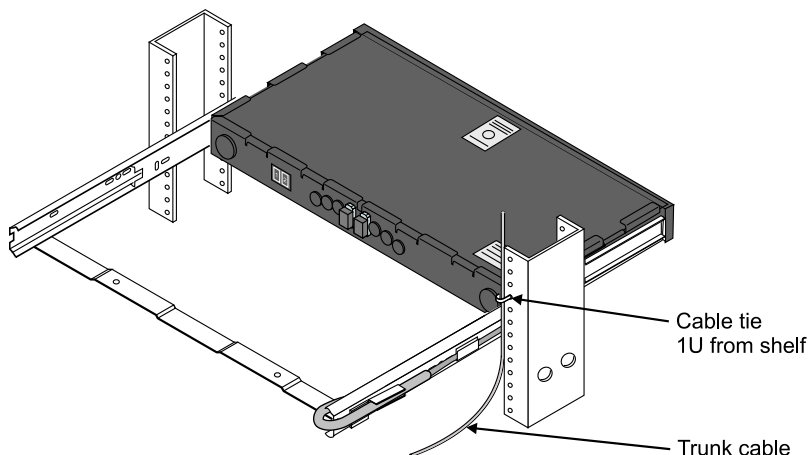


Figure 4. Route the Trunk Cable to the Rack

Step 4 – Install Optional Cable Coiling Clips

If slack trunk cable will be stored at the shelf, install the trunk cable coiling clips (provided) on the cable management bar:

1. Assemble each coiling clip by snapping the radiused component to the clip base.
2. Use a clean wipe and isopropyl alcohol to clean the area of the cable management bar where the clips are to be installed. Refer to Figure 5.
3. Install an adhesive-backed coiling clip on each end of the trough as shown in Figure 5. Position the clips to leave approximately 1/4 inch (6mm) between the outer edge of the clip and the sliding shelf rail. Refer to Figure 5.

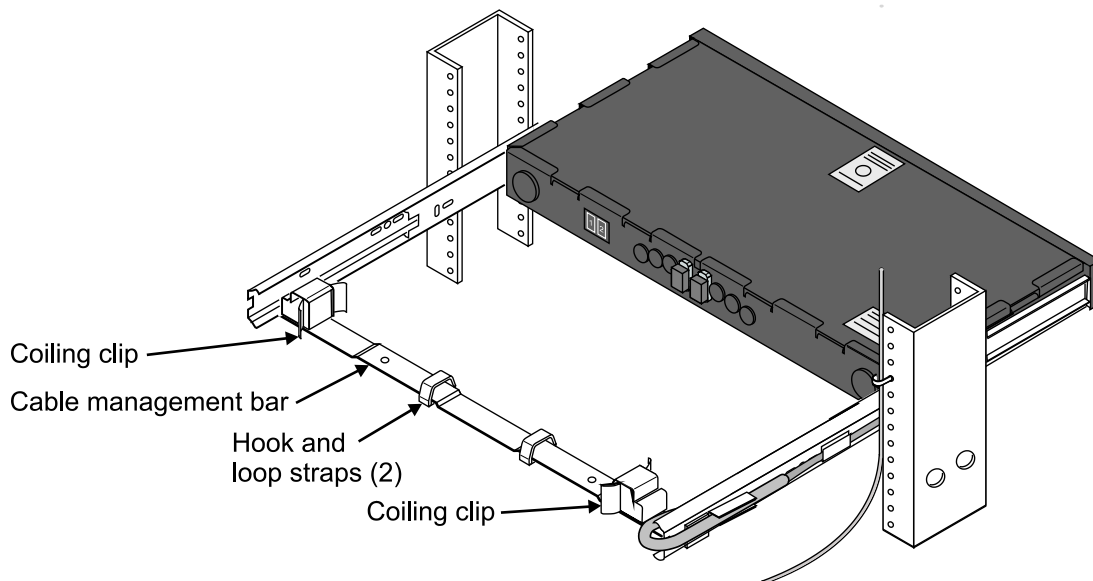


Figure 5. Install Cable Clips (optional) and Hook-and-Loop Straps

Step 5 – Install Hook-and-Loop Straps

To install two hook-and-loop straps on the cable management bar:

1. Cut two pieces of hook-and-loop strap (provided) approximately 8 inches (203mm) long.
2. If slack trunk cable will not be stored at the shelf, attach the two straps to the cable management bar near the hole in the bar closest to the rack support where the trunk cable is routed. Refer to Figure 8.
3. If trunk cable is routed to the shelf on both the left and right sides, attach two straps to the cable management bar near each hole (4 straps total).
4. If slack trunk cable will be stored at the shelf, attach one strap near each hole in the cable management bar. Refer to Figure 6.

Important: Do not use electrical tape to secure the trunk cables to the cable management bar.

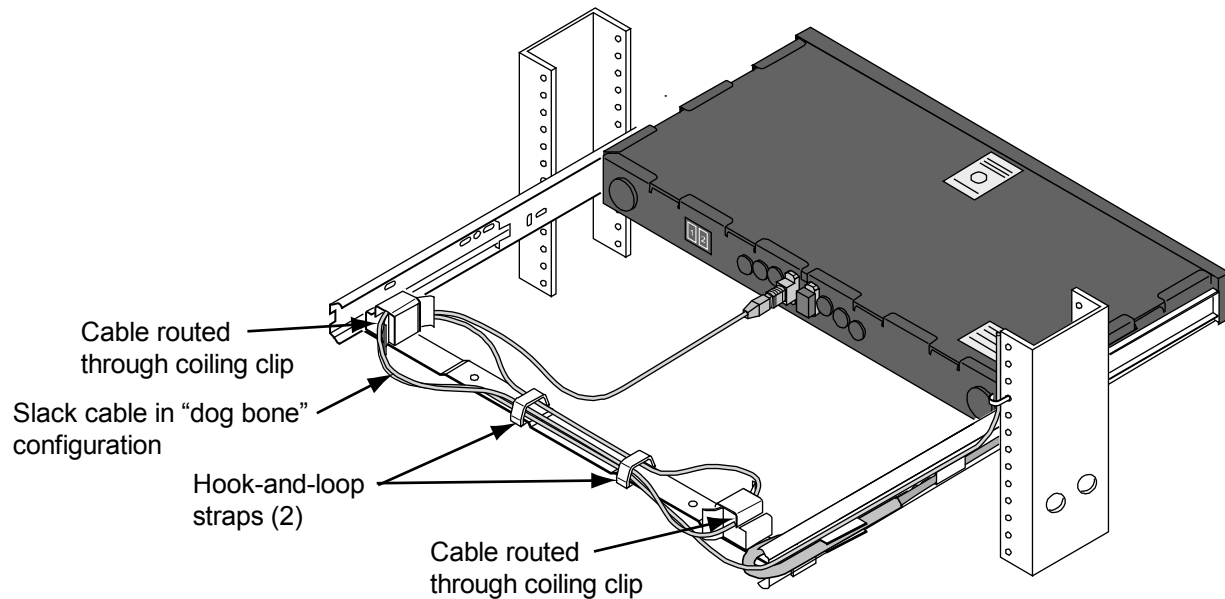


Figure 6. Store Slack Trunk Cable at the Shelf

Step 6 – Install Trunk Cable

To dress the trunk cable and insert the MPO connectors:

1. Fully extend the sliding tray to the front of the rack.
2. Route the trunk cable along the shelf support and then along the cable management bar, maintaining the acceptable minimum bend radius.

Note: The trunk cable may need to twist so that the connector on the cable can mate with the MPO coupler on the shelf. (The connectors and adapters are keyed with white markings.) If necessary, twist the cable for mating during the horizontal routing.

3. If storing slack trunk cable at the shelf, route the cable through the cable coiling clips in a "dog-bone" configuration as shown in Figure 6.

Note: The trunk cable can be coiled in either a clockwise or counterclockwise direction. Ideally, the trunk cable coil should end with the cable exiting a coiling clip on the shelf-side of the clip. Refer to Figure 6.

4. Secure the trunk cable to the cable management bar using the two hook and loop straps. If you are not storing slack trunk cable at the shelf, leave approximately 12 inches (305mm) of cable past the straps.
5. Remove the protective dust covers from the MPO connectors on the cable and the MPO couplers on the back of the shelf.
6. Grasp the connector by its boot, near the base of the connector as shown in Figure 7. With the white marks aligned, insert the MPO connector into the coupler until it clicks into place.

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

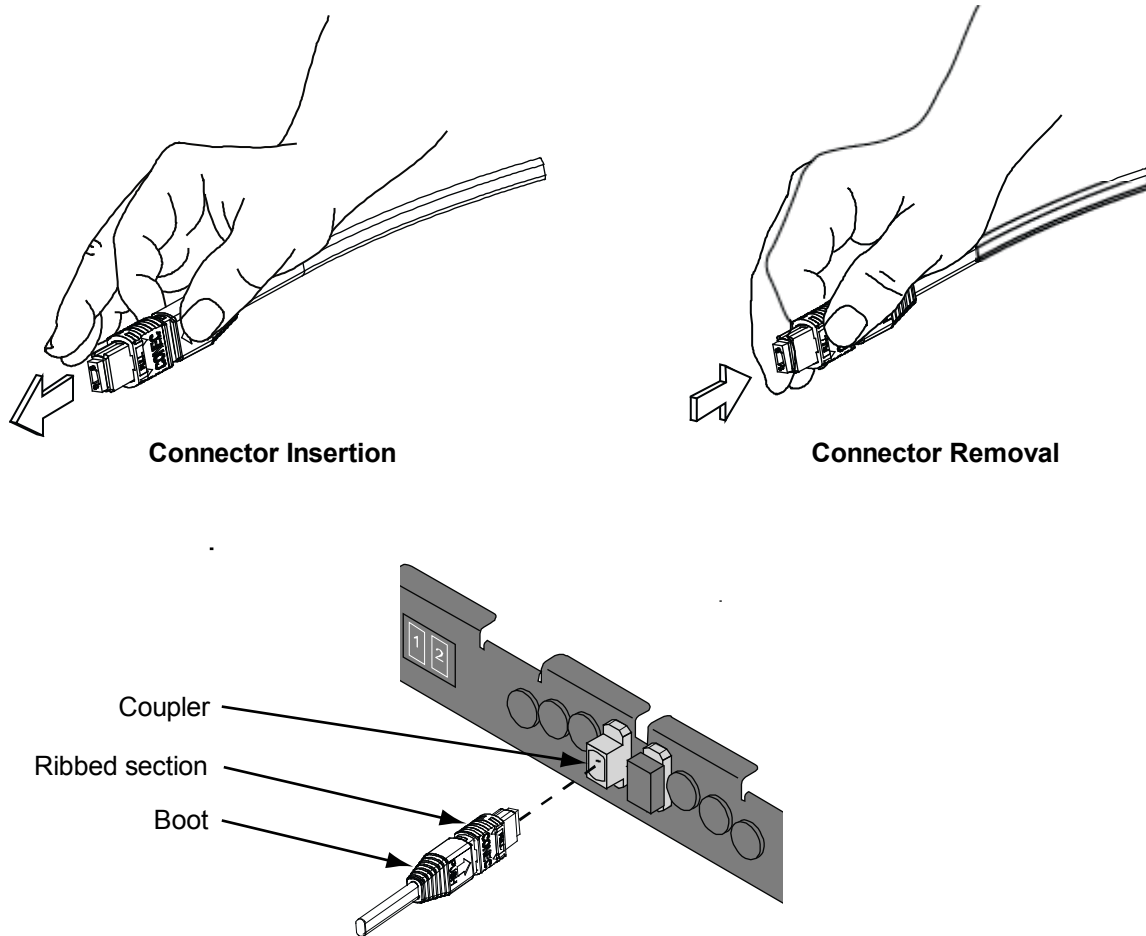


Figure 7. Inserting and Removing MPO Connectors

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.

7. Check that the trunk cable is dressed correctly as shown in Figure 8. The cable should make an acceptable, non-tensioned bend from the straps, and should connect straight into the back of the shelf.

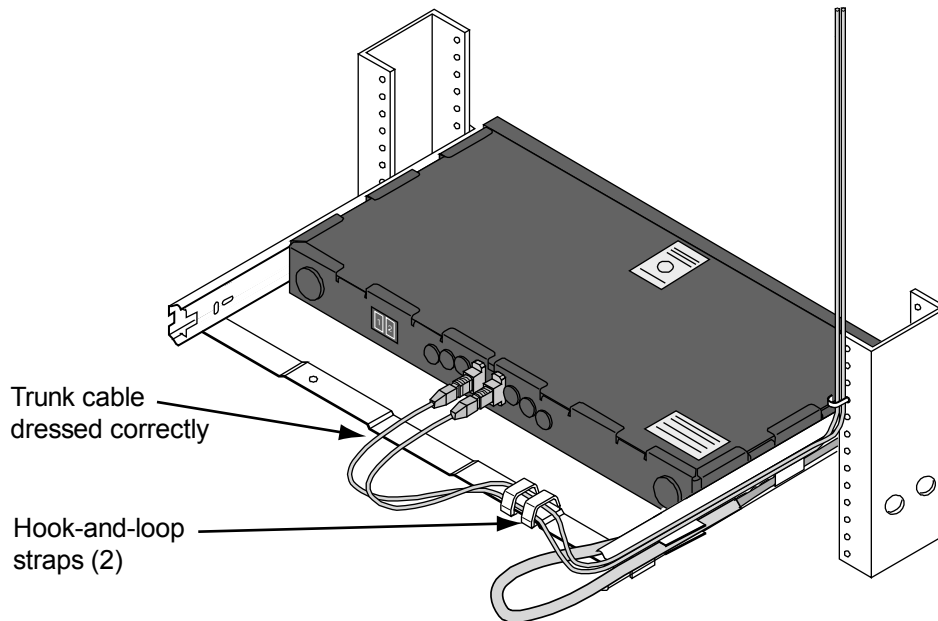


Figure 8. Check the Trunk Cable

Note: If necessary, adjust the length of the trunk cable extending beyond the straps, but do not exceed 14 inches (356mm) from the strap to the end of the cable.

8. Fully retract and extend the tray to make sure that the trunk cable does not bind or interfere with any other cables.
9. Secure the trunk cable to the rack support as required.

Important: Do not crush the cable by overtightening the cable ties.

To install additional trunk cables, repeat Step 6 for each cable.

Step 7 – Install Patch Cord Trough

A 1U-17 patch cord trough (ordered separately) can be installed for routing patch cords to the faceplate and to serve as a handle for sliding the tray:

1. Loosen the two #8-32 x 3/4 inch screws holding the faceplate on the shelf (Figure 9).
2. Position the trough over the faceplate and tighten the two screws (Figure 9).
3. Install an adhesive-backed wire retainer (provided) on each end of the trough as shown in Figure 9.

Note: Each wire retainer can hold up to 6 duplex patch cords.

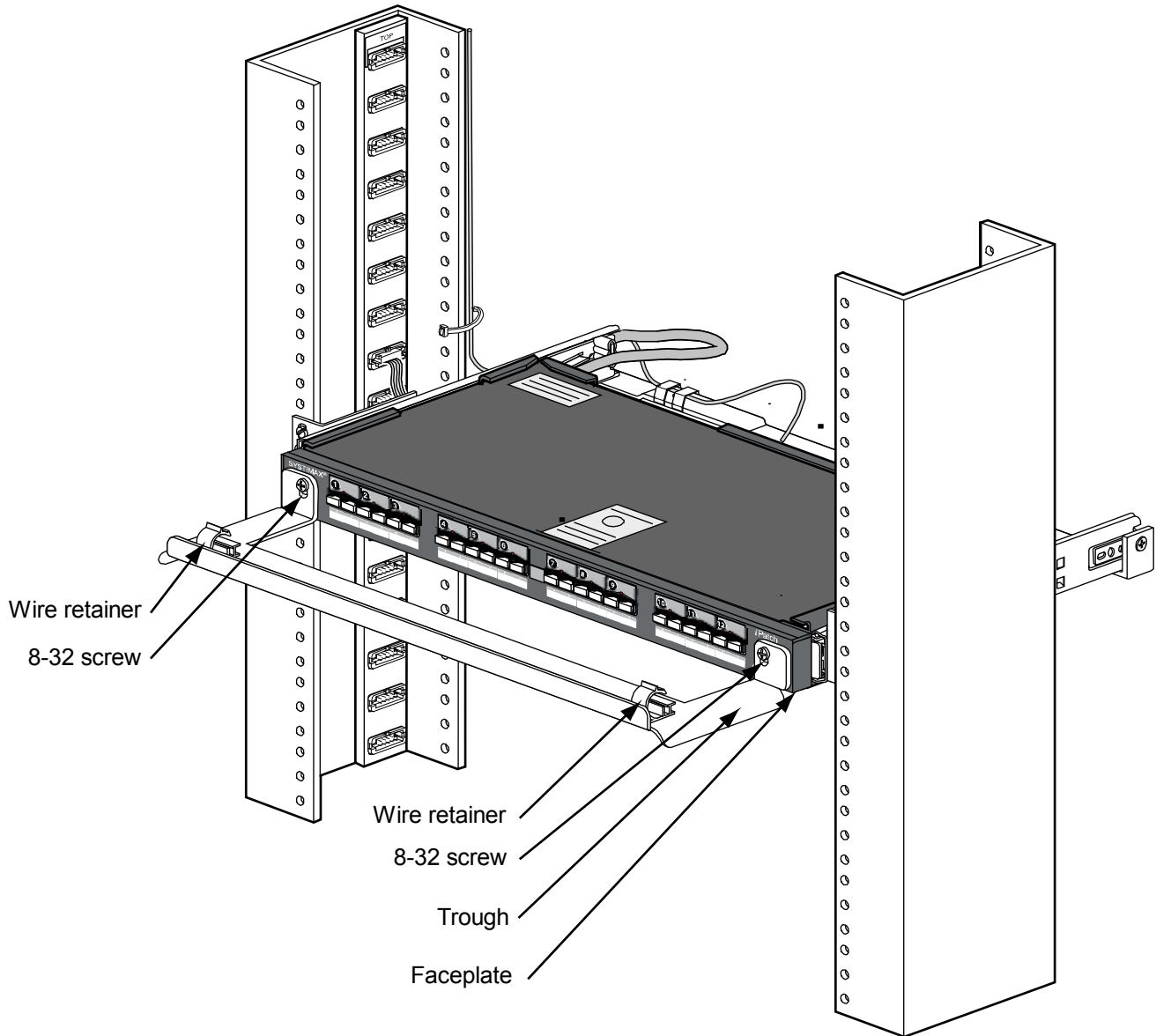


Figure 9. Install the Trough on the Shelf

Step 8 – Cable iPatch Pre-Term Shelves

There are two main methods for cabling two **iPatch** pre-term shelves to each other. The method used determines which ports are cabled together on the two shelves.

Method 1

To use this method, cable the MPO couplers from one **iPatch** pre-term shelf to the other shelf as shown below.

Sequential Cabling for LC Shelves		Sequential Cabling for SC Shelves	
Connect MPO on shelf 1	To MPO on shelf 2	Connect MPO on shelf 1	To MPO on shelf 2
1	1	1	1
2	2	2	2
3	3		
4	4		

The ports are cabled to each other as shown below.

Resulting Port Cabling for Method 1

LC Shelves		SC Shelves	
Shelf 1 Port	Shelf 2 Port	Shelf 1 Port	Shelf 2 Port
1	6	1	6
2	5	2	5
3	4	3	4
4	3	4	3
5	2	5	2
6	1	6	1
7	12	7	12
8	11	8	11
9	10	9	10
10	9	10	9
11	8	11	8
12	7	12	7
13	18		
14	17		
15	16		
16	15		
17	14		
18	13		
19	24		
20	23		
21	22		
22	21		
23	20		
24	19		

Important: For instructions to cable an **iPatch** pre-term shelf to an **InstaPATCH**® Plus preterminated shelf, contact **SYSTIMAX** Technical Support.

Method 2

To use this method, cable the MPO couplers from one **iPatch** pre-term shelf to the other shelf as shown below.

Inverse Cabling for LC Shelves		Inverse Cabling for SC Shelves	
Connect MPO on shelf 1	To MPO on shelf 2	Connect MPO on shelf 1	To MPO on shelf 2
1	4	1	2
2	3	2	1
3	2		
4	1		

The ports are cabled to each other as shown below.

Resulting Port Cabling for Method 2

LC Shelves		SC Shelves	
Shelf 1 Port	Shelf 2 Port	Shelf 1 Port	Shelf 2 Port
1	24	1	12
2	23	2	12
3	22	3	10
4	21	4	9
5	20	5	8
6	19	6	7
7	18	7	6
8	17	8	5
9	16	9	4
10	15	10	3
11	14	11	2
12	13	12	1
13	12		
14	11		
15	10		
16	9		
17	8		
18	7		
19	6		
20	5		
21	4		
22	3		
23	2		
24	1		

Step 9 – Verify the Cable

During power loss testing, verify that the cabling matches the method selected for the site. 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.