CORNING

Pretium™ Rack-mountable 4U Housing

Revision History

Issue	Date	Reason for Change
5	01/2009	Added Note regarding slack storage in Section 5
4	05/2007	Moved the location of the RoHS logo
3	03/2007	Clarified difference between initial and current design of the housing
2	12/2004	Clarified changes in product design
1	07/2003	Initial release

Related Literature

SRP 001-278	Instruction, Installing CCH Connector Modules
LAN-538-EN	Product Specifications for Pretium Rack-mountable 4U Housing
LAN-539-EN	Ordering Guide for Pretium Rack-mountable 4U Housing

Admonishments

The precautionary terms used by Corning Cable Systems in its standard recommended procedures conform to the guidelines expressed in the American National Standards Institute document (ANSI Z535) for hazard alert messages. Alerts are included in this instruction based on the following:

⚠ **DANGER:** *indicates an imminently hazardous situation which, if not avoided, <u>will</u> result in death or serious injury.*

⚠ **WARNING:** *indicates a potentially hazardous situation which, if not avoided, <u>could</u> result in death or serious injury.*

⚠ **CAUTION:** *indicates a hazardous situation which, if not avoided, <u>may</u> result in minor or moderate injury.*

1.   GENERAL

This document describes the recommended procedure for installing the Pretium™ rack-mountable 4U (p/n PCH-04U) housing (Figure 1). The unit fits into 19-inch utility racks and occupies four rack spaces. Individual components of the housing are shown in Figure 2. A separate adapter bracket (purchased separately) is required to mount the unit into a 23-inch rack.

Figure 1 — PCH-04U Housing

Initial versions of the housing were designed with internal studs in the sides. These studs have been eliminated in current versions of the housing.

If installing OSP (outside plant) cable in splicing or fanout applications, bring the cable into the housing using the entry grommets in the cable entry plate. If installing connectorized multi-fiber indoor cable, remove the cable entry plate to allow routing of preconnectrized cable or field termination of large quantities of four-fiber cables.

Factory-pigtailed units or stubbed units are available. Contact your customer service representative to order other configurations or to purchase accessories that are sold separately.
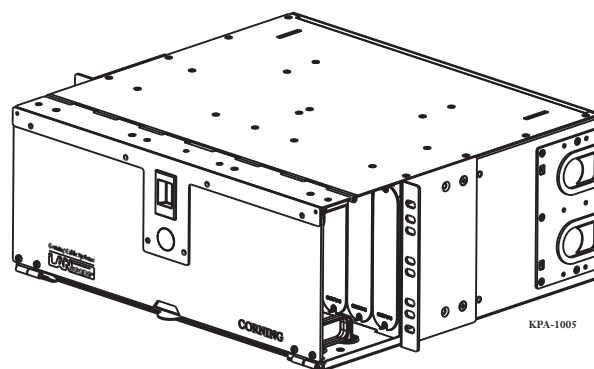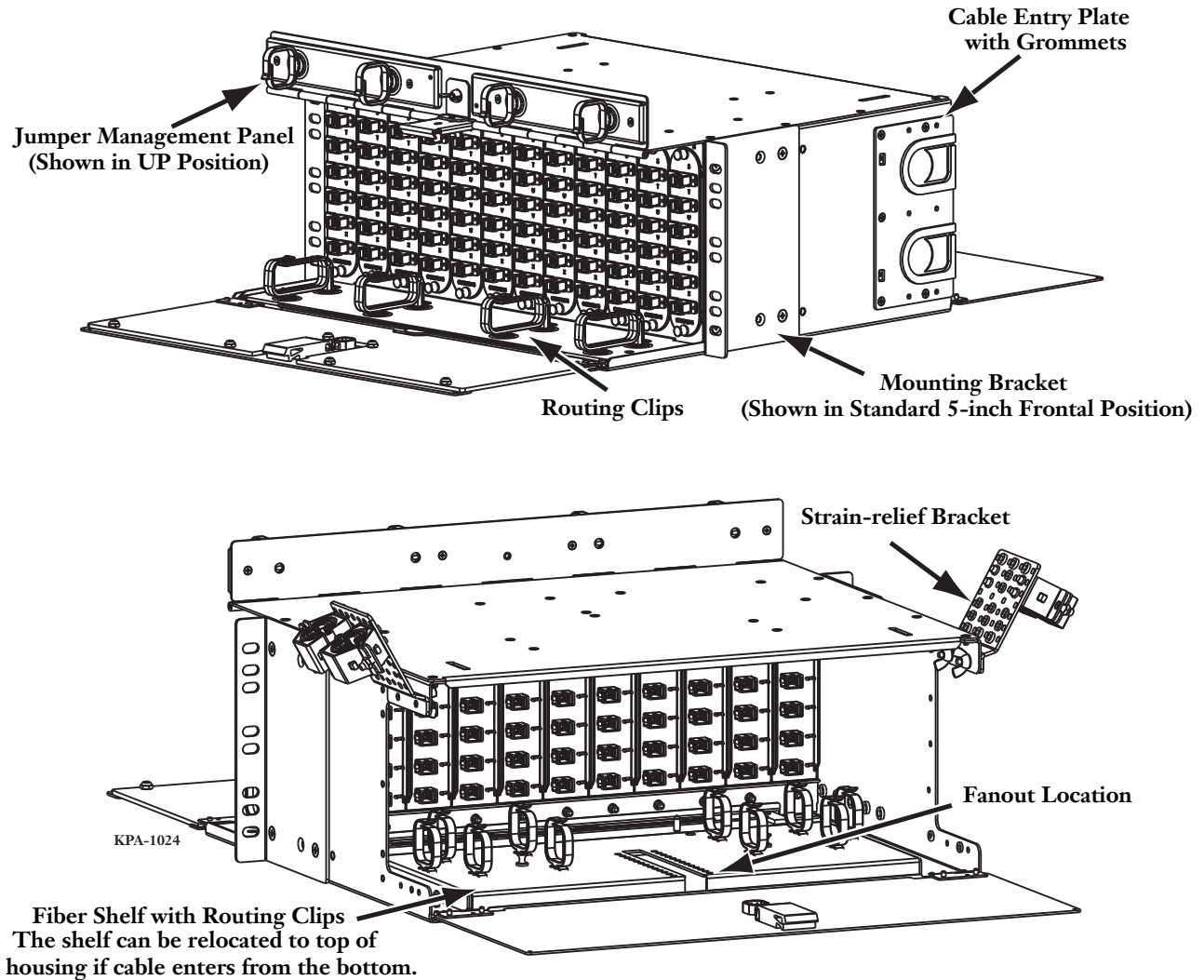
Unpacking Stubbed Units

If you are installing a stubbed unit, follow the directions provided with the shipping container to remove the stubbed unit from its packaging. Place the unit on a work surface to perform the preliminary work before mounting the unit into a rack.

Cable Entry Plate with Grommets

Jumper Management Panel (Shown in UP Position)

Routing Clips

Mounting Bracket (Shown in Standard 5-inch Frontal Position)

Strain-relief Bracket

Fanout Location

KPA-1024

Fiber Shelf with Routing Clips
The shelf can be relocated to top of housing if cable enters from the bottom.

Part Number	Dimensions (H x W x D)	Weight
PCH-04U	7 x 17 x 16 in. (18 x 43 x 41 cm)	11 lb (5 kg)

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Figure 2 — Components and Dimensions of PCH-04U Housing

2.   CARTON CONTENTS

- Pretium™-04U Housing with two mounting brackets
- Hardware Kit containing:
    - (1) Unit Identification label
    - (1 ft) Double-sided hook-and-loop strap
    - (12) Cable ties
    - (3 ft) Spiral wrap
    - (4) Routing clips
    - (1) Universal Cable Clamp kit
    - (1) Universal Cable Clamp bracket
    - (2) 6-32 Wing nuts
    - (8) #10-32 Phillips-head screws
    - (4) #12-24 Phillips-head screws
    - (1) 8-32 Phillips-head screw
    - (1) M6 flat washer
    - (1) U-shaped washer

3.   TOOLS AND MATERIALS REQUIRED

3.1   Tools

- Phillips-head screwdriver
- Flat-tipped screwdriver
- $5/16$-inch socket or wrench
- $11/32$-inch socket or wrench
- Needle-nosed pliers
- Cable stripping tools

3.2   Materials

Depending on your application, the following materials may be required:

- Preconnectorized Adapter Panels
- Universal Cable Clamp (UCC)
- Grounding kit (p/n FDC-CABLE-GRND) to ground armored cable
- Buffer tube fanout (BTF) kits
- Splice tray bracket kit (p/n PC4-SPLC-12SR)

4.   INSTALLATION

4.1   Mount the Housing into a Rack

Attach the unit to the equipment rack using the four screws provided. Two screws are required per each side of the housing. The mounting bracket position may be changed to adjust the frontal projection from the rack (Figure 3).

Mounting Bracket Position for 3-inch Frontal Projection From Rack

Mounting Bracket Position for 3-inch Projection from Rack
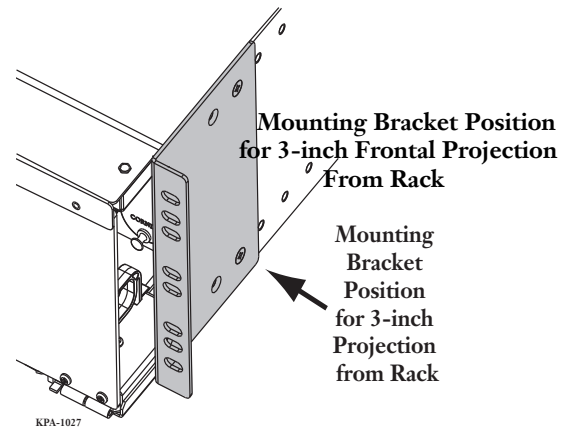
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Figure 3 — Mounting Bracket Position

If installing into a 23-inch rack, attach the adapter bracket (Figure 4) to both sides of the housing using the screws provided before installing the unit into the rack.

4.2   Remove the Front or Rear Doors

The doors can be removed to facilitate cable installation.

4.2.1   Removing Front Door

Step 1: Loosen the screw on the left side of the housing.

Step 2: Slide the screw toward the rear of the housing (Figure 5).
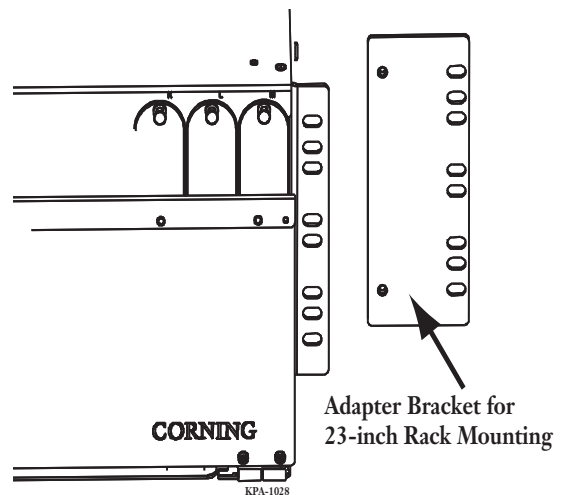
Step 3: Slide the door off the hinge pin.

4.2.2   Removing Rear Door

Step 1: Open rear door of housing.

Step 2: Flex the door and slide the door off one of the hinge pins.

Step 3: Remove the door from the other hinge pin.

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Adapter Bracket for 23-inch Rack Mounting

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Figure 4 — Adapter Bracket for 23-inch Rack
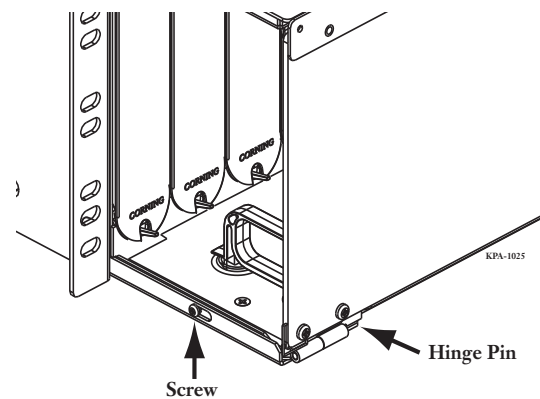

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Hinge Pin

Screw

Figure 5 — Hinge Pin on Front Door

4.3   Secure the Cable

NOTE: *Fiber optic cable is sensitive to excessive pulling, bending, and crushing forces. Consult the cable specification sheet for the cable you are installing.* **Do not bend the cable more sharply than the minimum recommended bend radius. Do not apply more pulling force to the cable than specified. Do not crush the cable or allow it to kink.** *Doing so may cause damage than can alter the transmission characteristics of the cable; the cable may have to be replaced.*

IMPORTANT: *If you are installing outside plant cable or temperature fluctuates widely along any part of the cable, the central member must be strain-relieved. Failure to do so may result in damage to the cable as temperature varies. If the entire length of cable is located in a controlled environment where temperature fluctuation is minimal, it is not necessary to secure the central members. The cable can be strain-relieved by sheath retention alone.*

For cable sheath retention only, use the Universal Cable Clamp (UCC) or cable ties.

4.3.1   Strain-relieve using the Universal Cable Clamp (UCC)

Step 1: Determine the location for cable entry into the housing.

Step 2: If installing outside plant cable, remove the membrane from the appropriate entry grommet (Figure 7).

Bracket Orientation for Top Cable Entry | **Bracket Orientation for Bottom Cable Entry**
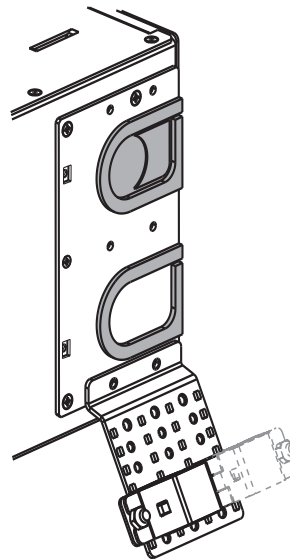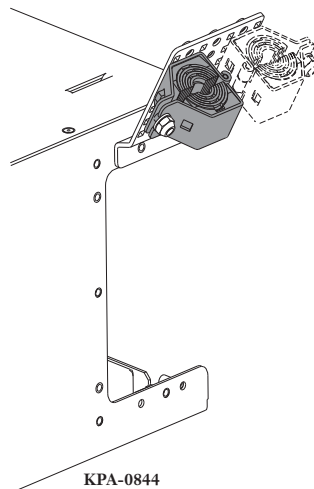

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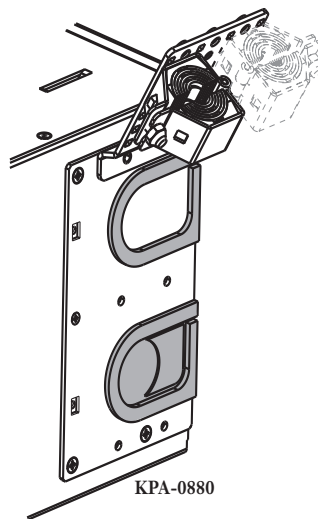
Figure 6 — Install Strain-relief Bracket to Cable Entry Plate

Step 3:   If installing indoor cable, remove appropriate cable entry plate as shown in Figure 7.

Bracket Orientation for Top Cable Entry   **Bracket Orientation for Bottom Cable Entry**
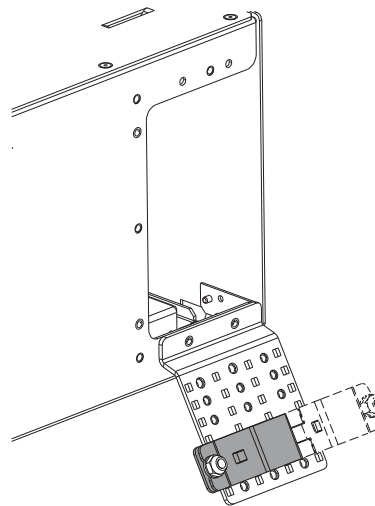
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Figure 7 — Install Strain-relief Bracket Directly to Housing

Step 4:   Attach the UCC clamshell to the strain-relief bracket as shown in Figure 6 and Figure 7 to allow installation of a second UCC if necessary.

Step 5:   Attach the strain-relief bracket to the housing.

Step 6:   Follow installation instructions provided with the UCC kit to secure the cable. Do not tighten yet to allow for cable adjustment if necessary.

4.3.2   Strain-relieve using Cable Ties

Step 1:   Attach the cable tie to the strain-relief bracket in two places with cable ties as shown in Figure 8.

Step 2:   Attach the strain-relief bracket to the housing.

Step 3:   Allow room on the bracket to strain-relieve the cable strength member, if present.

4.3.3   Strain-relieving the Cable Central Member

⚠ **CAUTION:** *Wear safety glasses to protect your eyes from accidental injury when handling chemicals and cutting fiber. Pieces of glass fiber are very sharp and can damage the eye easily.*

⚠ **CAUTION:** *Wear safety gloves to protect hands from accidental injury when using sharp instruments.*

Step 1:   Install the U-shaped washer and the flat washer on the strain-relief bracket in the orientation shown using the supplied Phillips-head machine screw (Figure 8).

Step 2:   Place the central member and yarn, if present, between the U-shaped washer and the flat washer.

Step 3: Wrap yarn around the screw in a clockwise direction and under the U-shaped washer.

Step 4: Tighten the screw.

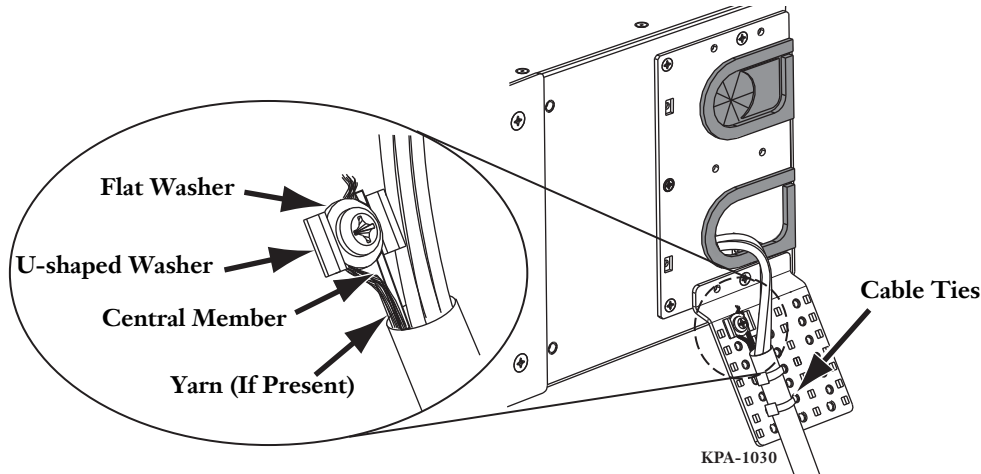**Step 5:** Trim off the excess yarn and central member.

Figure 8 — Strain-relieve Central Member

4.3.4   Grounding Armored Cable, if Armored Cable is Used

If using armored cable, one grounding kit (p/n FDC-CABLE-GRND, purchased separately) is required to ground each armored cable. Follow instructions provided with the grounding kit to attach the hardware to the armored cable.

Step 1: Attach the other end of the ground wire from the armored cable to the equipment rack. The equipment rack must be grounded to the primary building ground.

Step 2: Remove the paint from the rack at the grounding location to ensure metal-to-metal contact. It is recommended to use an antioxidant on the bare metal to prevent corrosion.

Step 3: Or, attach the other end of the ground wire from the armored cable to a rack-mounted grounding bus bar that is grounded to the primary building ground.

5.   MANAGING CABLE

NOTE: *The PCH-04U housing is supplied with one fiber shelf or rear slack storage bracket with no routing clips installed. Follow your company's best practices for routing fiber slack (both jacketed and unjacketed fiber), and install routing clips accordingly. Ensure that you abide by the minimum installed bend radius specifications of the fiber and/or cable. Corning Cable Systems can provide you with recommended routing schemes depending upon your particular product and cable configuration. Contact Corning Cable Systems for more information.*

In addition, you can order a second fiber shelf (p/n PC4-SLK) or a circular cassette accessory unit (p/n PC4-SLK-D24) if additional management provisions are required for your particular application. Contact your customer service representative to order these parts.

5.1 Install Preconnectorized Cable into Adapter Panels

⚠ **WARNING:** *Never look directly into the end of a fiber that may be carrying laser light. Laser light is invisible and can damage your eyes. Viewing it directly does no cause pain. The iris of the eye will not close involuntarily as when viewing a bright light. Consequently, serious damage to the retina of the eye is possible. Should accidental eye exposure to laser light be suspected, arrange for an eye examination immediately.*

⚠ **WARNING:** *DO NOT use magnifiers in the presence of laser radiation. Diffused laser light can cause eye damage if focused with optical instruments. Should accidental eye exposure to laser light be suspected, arrange for an eye examination immediately.*

Step 1: Remove the blank panels from the front of the unit and replace with adapterr panels (purchased separately).

Step 2: Clean connectors and adapters as described in Section 6.

Step 3: Install connectors into the adapters at the rear of the adapter panels (Figure 9).

Step 4: Route fiber slack through the routing clips on the fiber shelf.
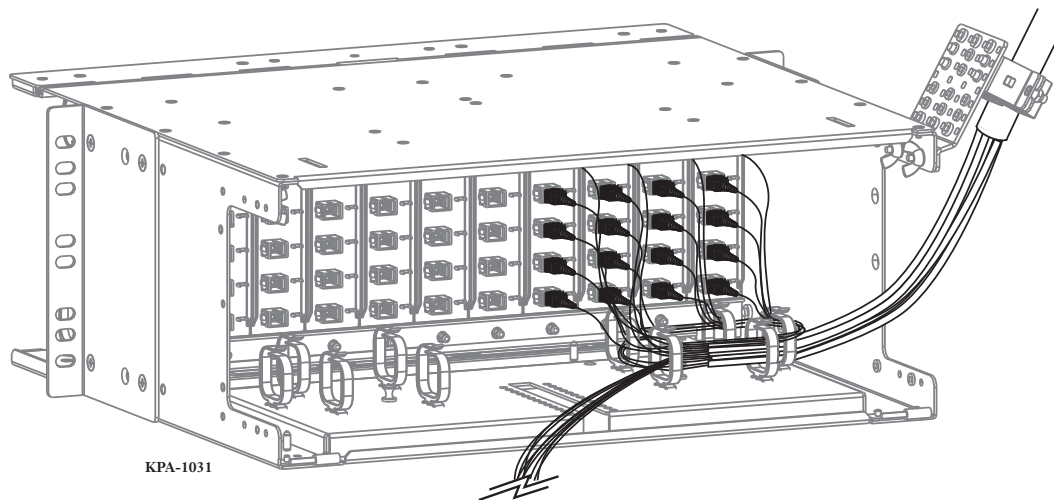
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Figure 9 — Preconnectorized Cable Installation and Routing

5.2 Install Cable Using BufferTube Fanout Kits

Step 1: Terminate the fibers according to the instruction provided with the BTF kit (purchased separately).

Step 2: Feed the fanout body and connectors through the entry grommet (Figure 10).

Step 3: Slide the fanout body into the cut-out in the fiber shelf with the rings on the fanout body beneath the shelf. Secure fanout with a cable tie (Figure 10 inset).

Step 4: Remove the blank panels from the unit and replace with connector panels (purchased separately).

Step 5: Clean connectors and adapters as described in Section 6.

Step 6: Install connectors into the front of the adapters at the rear of the adapter panels.

Step 7: Route fiber slack through the routing clips on the fiber shelf.
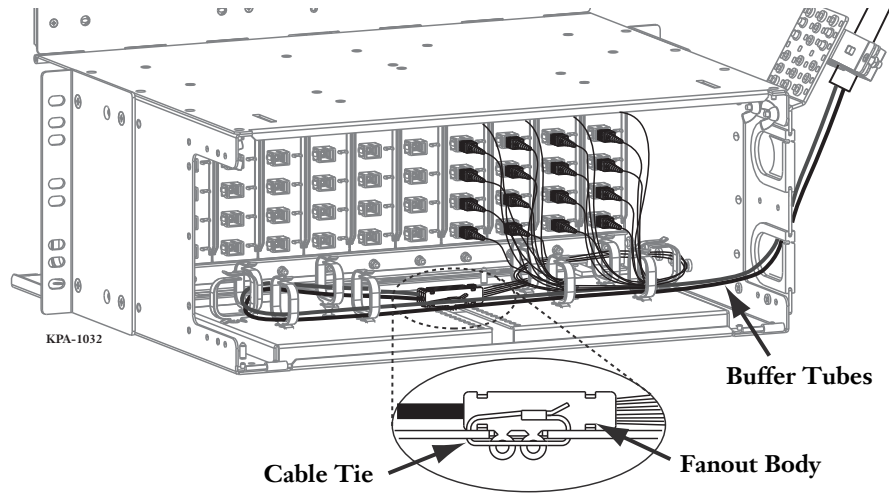
Figure 10 — Fanout Installation and Cable Routing

5.3   Install Connector Modules

Step 1: Rotate the management panel to the UP position by removing the bracket from under the panel, raise the panel, then reinstall the bracket as shown. Or, remove the routing clips as shown (Figure 11).

View From Above for Panel Orientation in the UP Position

View From Beneath With Panel in Standard Down Position

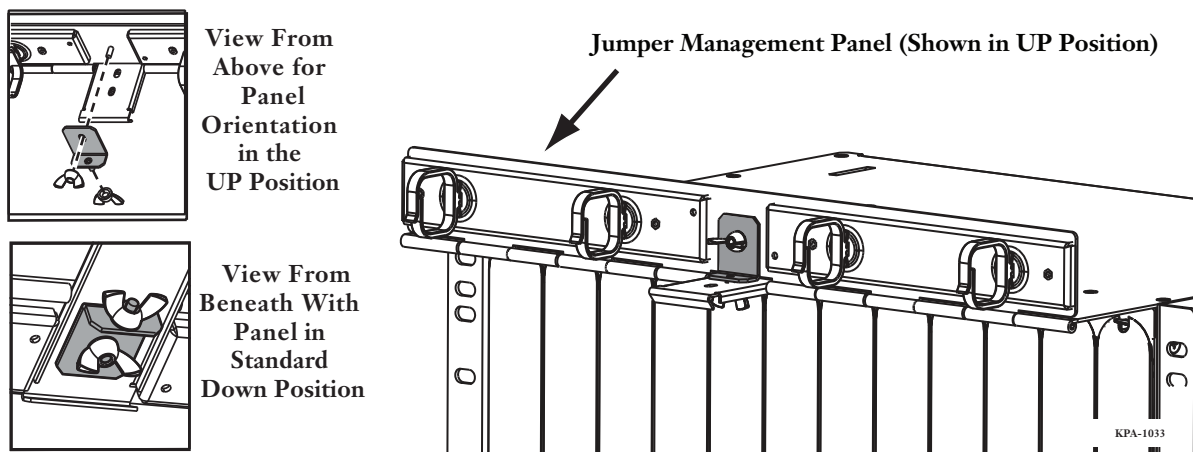Jumper Management Panel (Shown in UP Position)

Figure 11 — Jumper Management Panel

Step 2: Remove the blank panels from the front of the unit and replace with the connector modules (purchased separately).

Step 3: Once the modules have been installed, replace the routing clips.
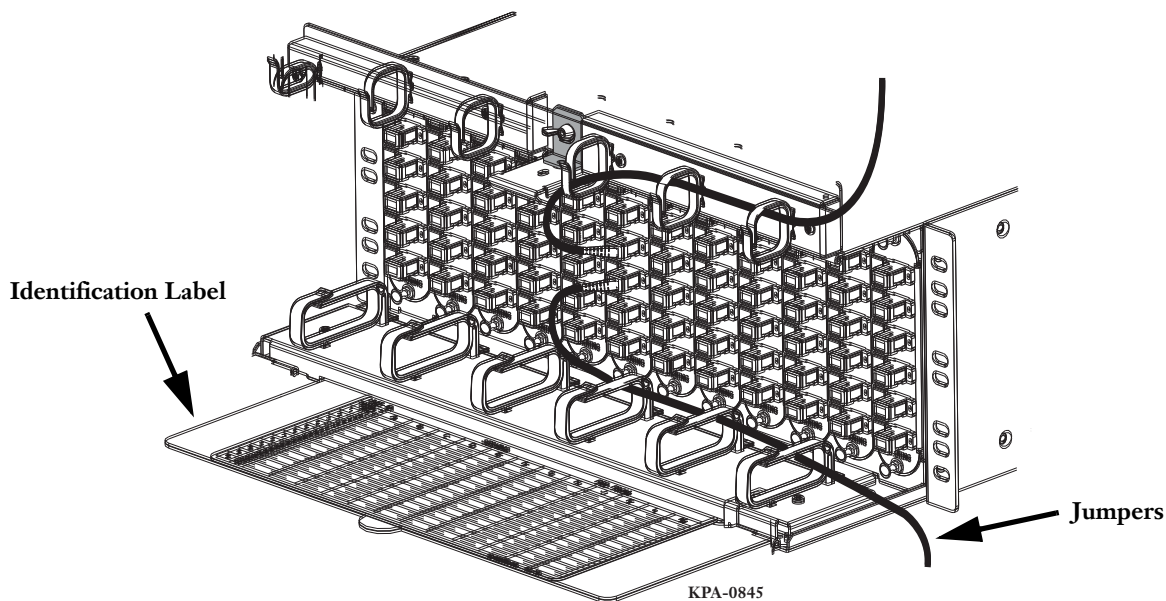

Identification Label

Jumpers

KPA-0845

Figure 12 — Jumper Routing

5.4 Install Cable Using Splice Trays

A splice tray bracket kit (p/n PC4-SPLC-12SR, purchased separately) is required to install splice trays. Follow instructions provided with the splice tray bracket kit.

5.5 Documentation

Record fiber identification information appropriately on the provided identification label stored beneath the fiber routing plate (Figure 12). Accurate recordkeeping is imperative for an organized installation.

5.6 Reinstall Doors

If the front and rear doors were removed, reinstall them at this time.

5.7 Route Jumpers (Patch Cords)

The jumper management panel at the front of the housing can be used in the UP or DOWN position. Follow previous instructions shown in Figure 11 if the UP position is desired.

Step 1: Remove dust caps from the connectors and adapters into which they will be mated. Refer to Section 6 for recommended cleaning instructions. Clean connector end-faces and adapters per standard company practices and insert connectors into adapters.

Step 2: Install jumpers as specified by company planning diagrams.

Step 3: Route jumpers through the clips at the front of the housing.

6.   CONNECTOR CARE AND CLEANING

- Always keep dust caps on connectors and adapters when not in use.
- Ensure dust caps are clean before reuse.
- Use optical cleaning materials as standardized by your company.
- Clean the connector before every mating, especially for test equipment patch cords (jumpers).
- A minimum level of cleaning is listed below. Local procedures may require more rigorous cleaning methods.

Step 1:   Remove plugs from the connector adapter.

Step 2:   Wipe the connector ferrule twice with a lint-free wiping material moistened with isopropyl alcohol. Then wipe across the end of the ferrule.

⚠ **CAUTION:** *Isopropyl alcohol is flammable with a flashpoint at 54°F. It can cause irritation to eyes on contact. In case of eye contact, flush eyes with water for at least 15 minutes. Inhaling fumes may cause mild dizziness. In case of ingestion, consult a physician.*

Step 3:   Repeat previous step with a dry wipe.

7.   MAINTENANCE

The unit requires very little maintenance to ensure fibers and parts remain in good condition.

- External components may be cleaned occasionally with a damp, nonabrasive cloth.
- Check nuts, bolts, and screws; tighten as needed.
- Check fiber optic cable to make sure bends do not exceed the minimum bend radius.
- Check cables for unnecessary strain, for crimping or crushing at entries and exits, and for damage.
- Check unit record labels to make sure all are clear and accurate.