

1. Carton contents

- Secure Fiber Zone Box (FZB-04U-PDS)
- Trim Plate Kit for floor installation containing:
 - (2) Trim plates
 - (6) $\frac{6}{32}$ -in screws
- Hardware Kit containing:
 - (4) Strain-relief cable clamps
 - (1) piece of 1-ft hook-and-loop strap
 - (4) Wall-mount brackets
 - (12) $\frac{6}{32}$ -in screws
 - (1) Ground wire
 - (3) Labels

2. Tools and Materials

- Screwdriver and other standard tools (pliers, scissors, etc.)
- #6 AWG ground wire in a length required from unit to building ground
- $\frac{31}{64}$ -in Greenlee®-type punch or $\frac{31}{64}$ -in drill bit
- Coaxial cable stripper (p/n 3204002-01)
- Panel-lifter (suction cup for laminate panels or hook-and-loop for carpeted panels), if installing under raised floor
- Mounting hardware (not provided), such as wall anchors for sheetrock walls
- Fiber Zone Box Ceiling Kit (p/n FZB-04U-CLG), if installing unit in the ceiling

3. Components

The unit (Figure 1) is 21-in wide by 21-in long by 9-in deep.

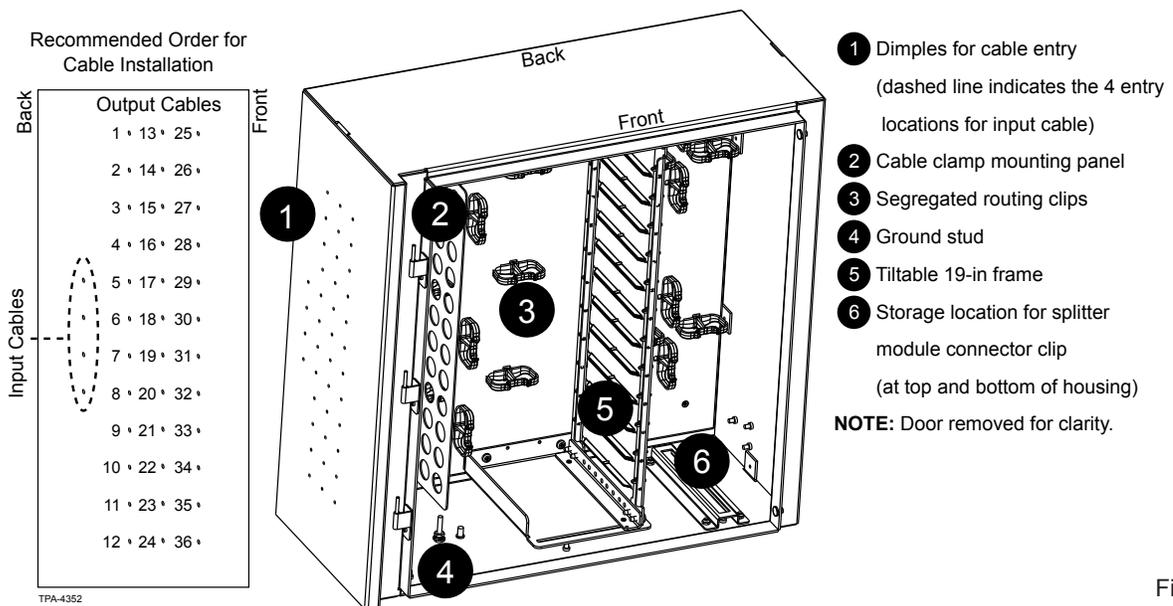


Figure 1

4. Prepare Fiber Zone Box (FZB)

The operations in Section 4 can be performed with the housing on a work surface.

There are 40 dimples on the hinged side of the cabinet wall; only 36 are needed for distribution cables. The four dimples on the first vertical row are the input locations (see Figure 1). All dimples are centered on holes in the cable clamp mounting bracket inside the cabinet. Cables should be installed beginning at the back wall toward the front of the unit as shown in Figure 1.

4.1 Opening Door

Step 1: Pull the latch handle up and turn it one-quarter turn counter-clockwise.

Step 2: Open door.

NOTE: Pad lock for door is provided by customer.

4.2 Removing Door

Door hinges are inside the FZB, so that the door can be removed only when it is open.

Step 1: Slide the door up to disengage the hinge pins.

Step 2: Lift door off the cabinet (Figure 2).

4.3 Drilling Entry Holes

Step 1: Using the dimples shown in Figure 1, punch or drill a $\frac{31}{64}$ -in diameter hole for each cable entry. Punch or drill all the holes that will be needed for the initial installation before mounting any cables.

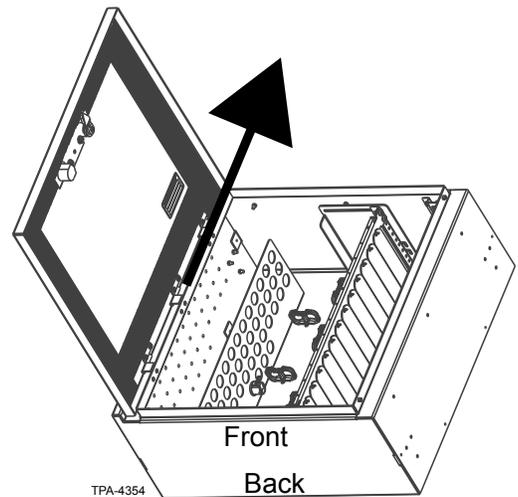


Figure 2

NOTE: Recommend using $\frac{31}{64}$ -in Greenlee®-type punches to minimize metal shavings. A $\frac{31}{64}$ -in drill bit may be used as an alternative.

Step 2: Remove any metal shavings from FZB interior resulting from drilling.

4.4 Installing Adapter Panels

Step 1: To ease access for adapter panel installation, lift up and slide the long edge of the tiltable 19-in frame to the left (Figure 3).

Step 2: Remove blank panels and install adapter panels (purchased separately) in the frame.

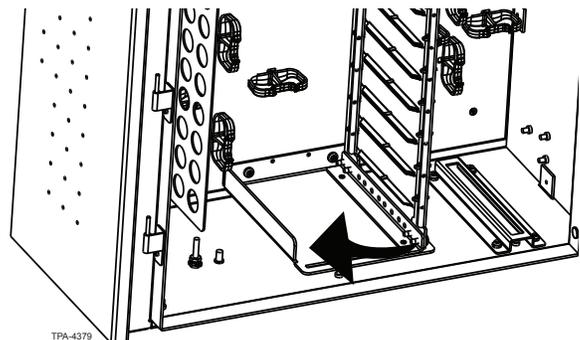


Figure 3

4.5 Installing Splitter Modules



WARNING: Never look directly into the end of a fiber that may be carrying laser light. Laser light can be invisible and can damage your eyes. Viewing it directly does not 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: This product is designed to meet specifications for Class 3 lasers only and should not be used with optical fiber transmission systems containing lasers of classes for which they have not been certified. 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 be suspected, arrange for an eye examination immediately.

- Step 1:** Remove blank panels and install splitter modules (purchased separately) in the tiltable 19-in frame.
- Step 2:** Mate splitter input legs in appropriate connector adapters.
- Step 3:** Mate splitter output fibers in connector adapters to provide service to each customer. The fibers can be mated at the time of the cabinet's installation or stored in the parking panel (seen in Figure 1 and Figure 23) and mated later as new service is required. Ensure dust caps remain on the output connectors until they need to be connected. It is not necessary to turn off feeder power for this procedure.

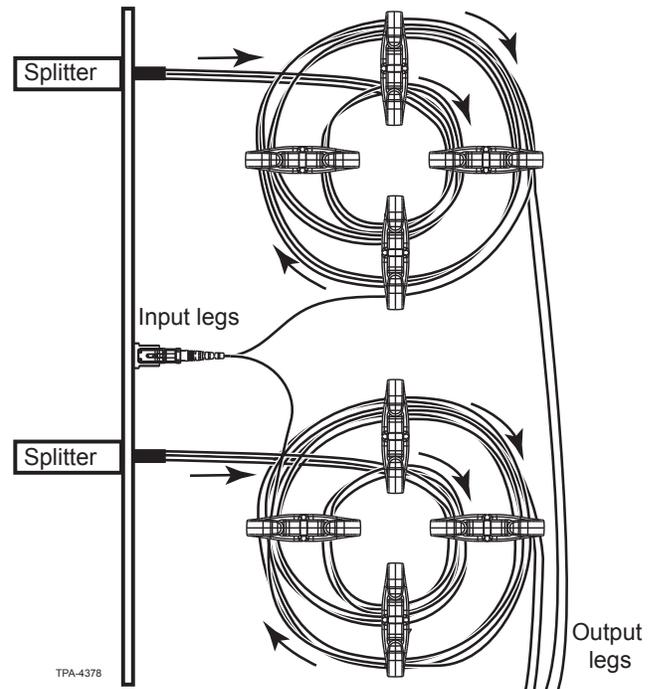


Figure 4

- Step 4:** Route the fiber slack through the segregated routing clips (Figure 4), using the inner section first, then transitioning to the outer section of the clip. Make sure there is adequate slack so the fiber bend radius is maintained across the routing guides.

5. Mount the Cabinet

5.1 To a Wall

NOTE: If the cabinet is hung on drywall, use standard practices and hangers for drywall.

- Step 1:** Install (4) supplied wall mounting brackets to cabinet using provided $\frac{6}{32}$ -in screws (Figure 5).
- Step 2:** Determine mounting location on the wall. Use a flat vertical surface to prevent warping.
- Step 3:** Make sure there is adequate space for the door to open without interference. Ensure that adequate space is available to drill additional holes for moves, adds, and changes in service.
- Step 4:** Use a pencil to mark the wall through the holes in the mounting brackets.
- Step 5:** Drive fasteners in at these locations, using anchors as required.
- Step 6:** Hang the cabinet on the fasteners and tighten screws securely.

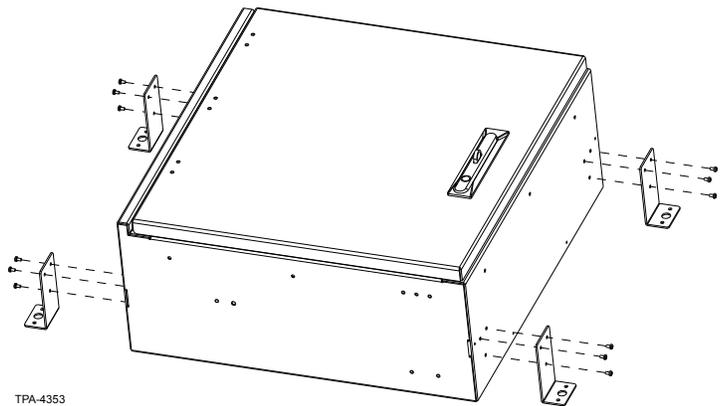


Figure 5

5.2 Underneath a Raised Floor

5.2.1 Direct Method

- Step 1:** Select an installation location and remove five adjacent floor tiles in a “+” pattern (Figure 6) using a panel-lift tool. The unit will be installed in the center of the “+.”

NOTE: Although the FZB can be installed by removing only two floor tiles or panels (when it is not practical to remove more), removing five panels facilitates installation and inspection for obstacles. Ensure that adequate space is available to drill additional holes for moves, adds, and changes in service.

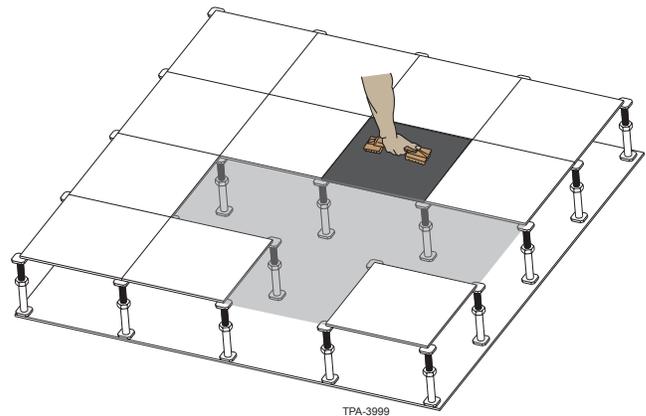


Figure 6

Step 2: Install provided trim plate kit (p/n 10-031423-001) on both sides of the housing with provided screws (Figure 7).

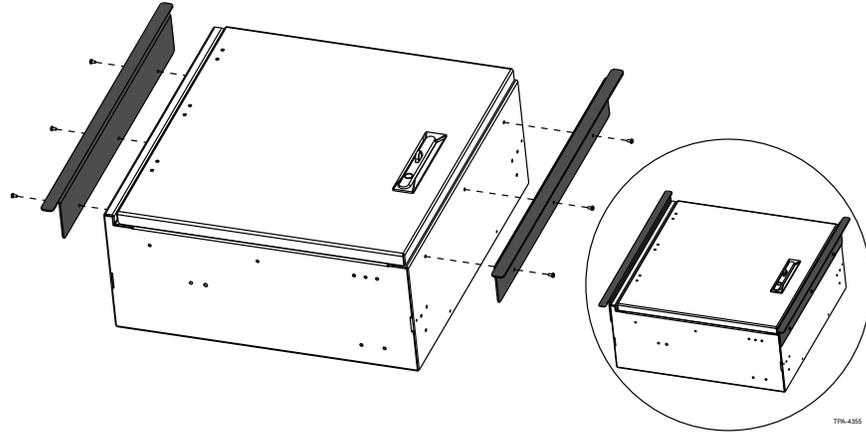


Figure 7

Step 3: Lower housing into center opening of floor tiles (Figure 8). Opening the door and using the interior ledge of the housing as a handle may facilitate installation. The trim plates should rest directly on the floor system posts or “stanchions.”

Step 4: Reinstall all floor tiles with the panel-lifter tool. Ensure tiles are even with adjacent tiles. If the floor tile over the FZB will not lay flat and even, it may be necessary to install the box below the stringers as described in Section 5.2.3.

IMPORTANT: Due to variations in raised floor systems, installation sequences may deviate from this direct installation method. If necessary, proceed to Section 5.2.3 for an alternative installation method.

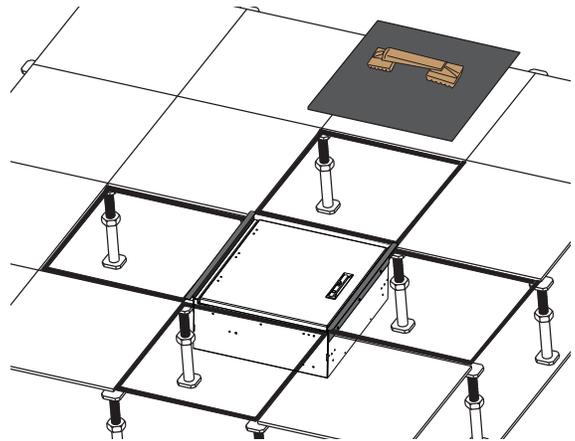


Figure 8

5.2.2 Alternative Method 1

If unable to successfully install the unit under a raised floor following the instructions in Section 5.2.1:

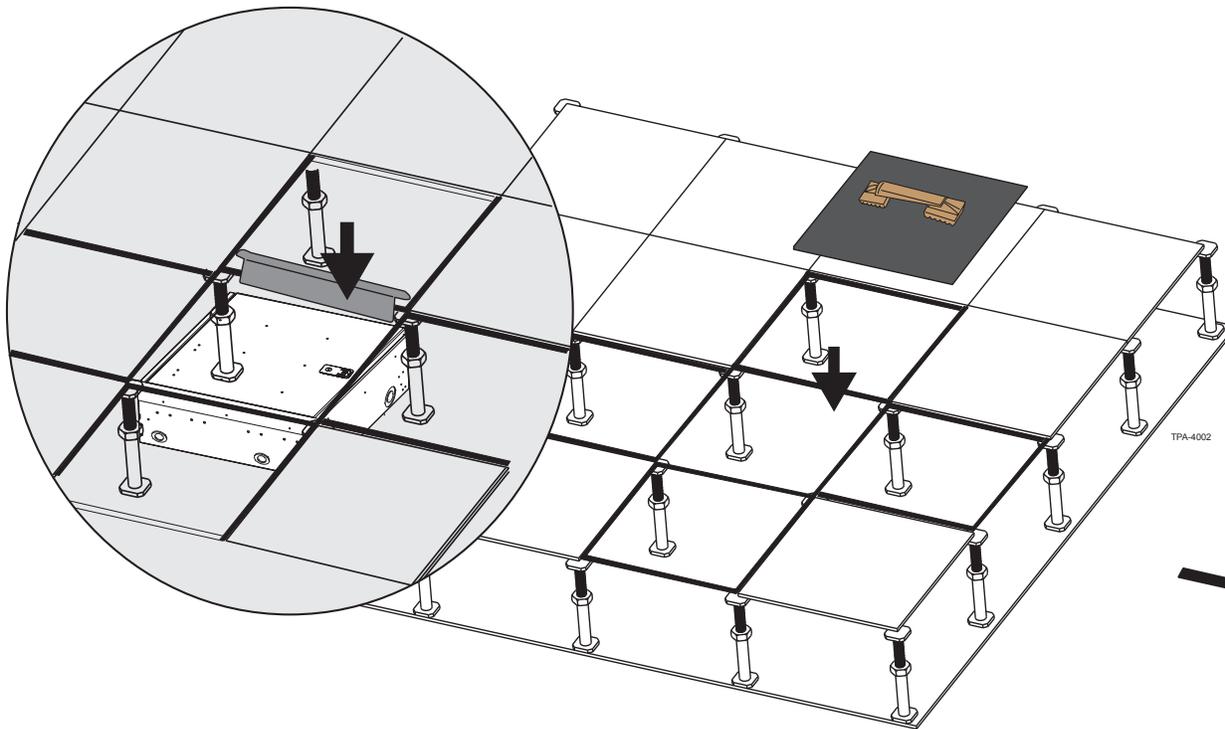


Figure 9

- Step 1:** Remove one of the trim plates and reinsert the housing into the center opening. Allow the side where the trim plate was removed to drop below the stringer on that side (Figure 9).
- Step 2:** Position the trim plate into the gap between the stringer and the FZB. Reinstall the trim plate to the side of the unit with the provided screws (Figure 9 inset). (It may require two people to perform this operation.)
- Step 3:** Reinstall all floor tiles with the panel-lifter tool. Ensure tiles are even with adjacent tiles. If the floor tile over the FZB will not lay flat and even, it may be necessary to install the box below the stringers as described in Section 5.2.3.

5.2.3 Alternative Method 2

With some raised floor systems and/or if desired, the FZB may be mounted directly to the substructure. If there are no cables or conduit running under the FZB, the bottom of the unit will rest directly on the substructure or concrete floor. Ensure there is enough depth for the top of the unit to be just below the stringers.

- Step 1:** Remove stringers, lower FZB into the opening below the level of the stringers, and reinstall the stringers.
- Step 2:** Reinstall all floor tiles with the panel-lifter tool. Ensure tiles are even with adjacent tiles.

5.3 In a Suspended Ceiling

In a suspended ceiling, the door of the FZB can replace the tile for optimal accessibility. To do so, a ceiling trim plate kit (p/n FZB-04U-CLG, ordered separately) must be installed onto the FZB.

NOTE: Mounting hardware and supports are not included. Use framing members (threaded rod in conjunction with metal struts) or support wires compliant with NEC Article 314.23 D (Supports for Suspending Ceilings). Support wires must be capable of supporting a fully loaded FZB (maximum 50 pounds).

Step 1: Install (4) supplied wall-mount brackets to the FZB as shown in Figure 5 using the provided screws.

Step 2: Install ceiling trim plate kit (p/n FZB-04U-CLG) as shown in Figure 10.

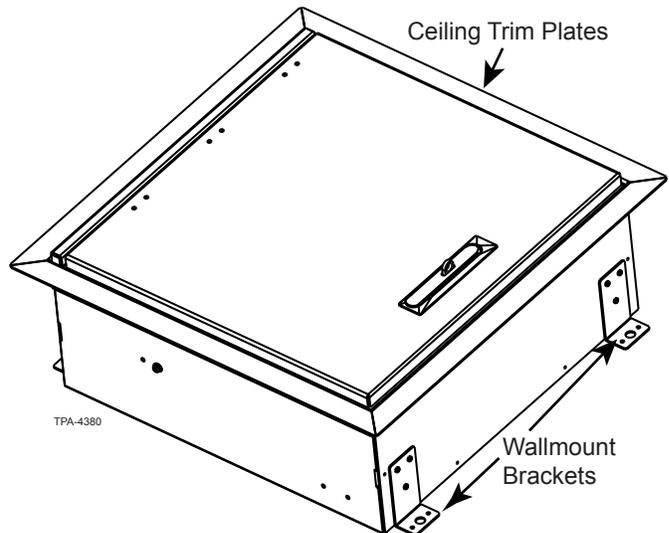


Figure 10

Step 3: Determine mounting location of FZB in the ceiling and remove two ceiling panels or tiles (Figure 11).

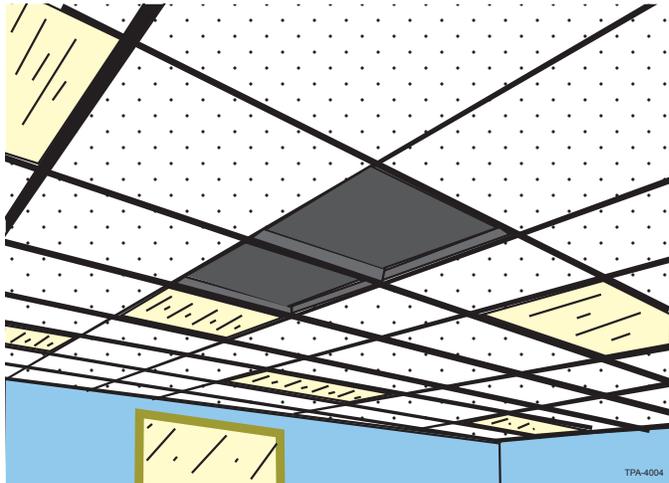


Figure 11

Step 4: Measure distance to building “red-iron” or other structural or supporting elements. Use this measurement, plus any slack length required for tying the wire or installing nuts on threaded rod, to determine the length of each of the four support wires or rods.

Step 5: Attach the tie wires (or threaded rod) to the supporting element. Tie wires are simply tied or wrapped around the supporting truss or girder. In the case of threaded rods, use a supporting bracket and hardware compliant with the manufacturer’s instructions.

Step 6: Tilt the FZB at an angle to allow it to pass through with the trim plates and mounting brackets installed (Figure 12). Pass the box through the opening in the ceiling.

Step 7: Position the box in place so that the trim plates rest directly on the suspended ceiling stringers or cross members while attaching the primary support wires or rods.

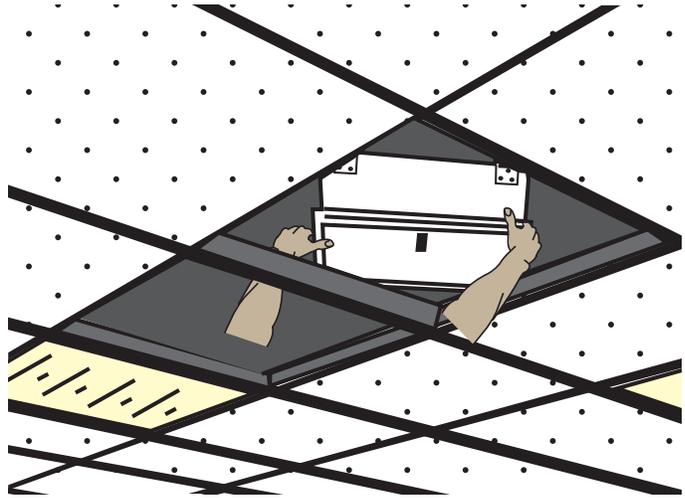
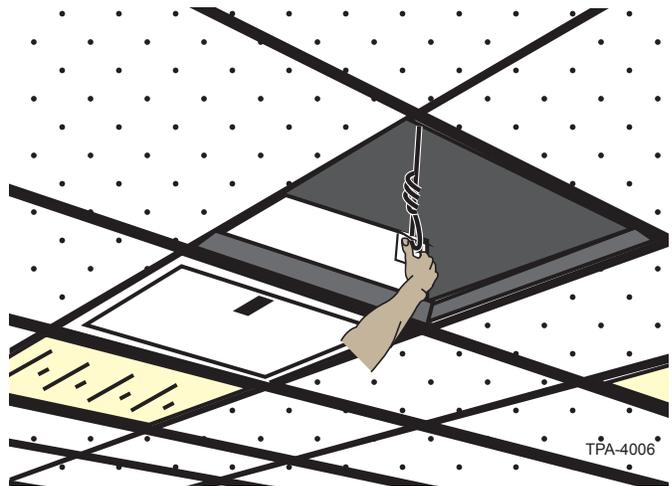


Figure 12

Step 8: Pass the supporting tie wires or threaded rods through the mounting brackets. If using wire, simply pass the wire through the hole in the mounting bracket, loop back up, and make several wraps around the wire (Figure 13).

Step 9: Adjust the tension by bending the wire with a pair of pliers. It is important not to allow the suspended ceiling stringers to bear the weight of the FZB.



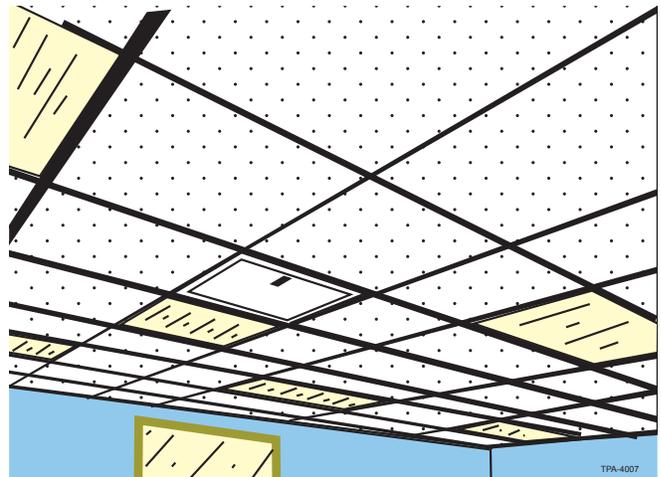
TPA-4006

Figure 13

NOTE: If using threaded rods, it may be necessary to adjust the top or bottom supporting bolts/nuts.

Step 10: Ensure the FZB is level and offset slightly from the stringers or cross-members so that the FZB is only slightly resting on the suspending ceiling.

Step 11: Reinstall the ceiling panels/tiles to complete the installation (Figure 14). Ensure that the door is properly closed and locked to prevent unauthorized access and harm from the door swinging down.



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Figure 14

6. Bonding and Grounding Operations

6.1 Ground Interlocking Armored Cables

Cables are all bonded to the FZB housing through the cable clamp mounting panel.

- Step 1:** Attach one end of the provided ground lead to the ground stud in the base of the housing
- Step 2:** Attach the other end to the ground stud on the cable clamp mounting panel (Figure 15).

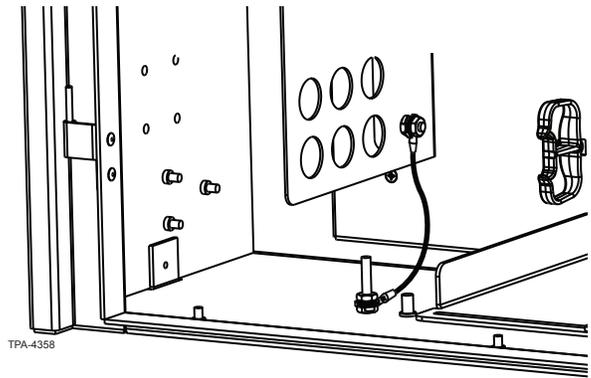


Figure 15

6.2 Ground Housing

- Step 1:** Attach a #6 AWG ground wire lead (purchased separately at any electrical supply store) with a $10/32$ -in screw to the ground location on the outside of the cabinet's base.
- Step 2:** Attach the other end of the ground wire lead to the primary building ground according to standard company practices and local codes (Figure 16).

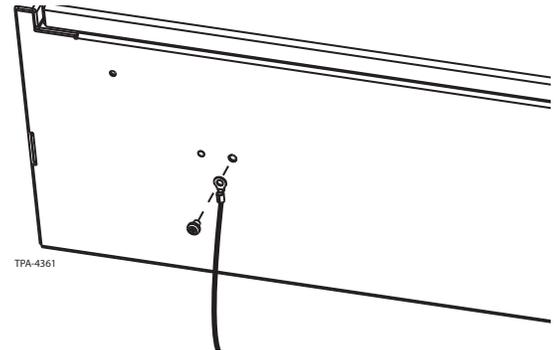


Figure 16

7. Install, Bond, and Strain-Relieve Cable

7.1 Installing Strain-Relief/Bonding Hardware

- Step 1:** Install the cable clamp(s) in the panel opposite the prepared hole(s) in the cabinet wall (Figure 17) by removing the locknut, feeding the clamp through the hole in the cable clamp panel, and reinstalling the lock nut.
- Step 2:** If multiple cables will be installed, turn the cable clamp at a 45-degree angle to allow access to the set screw and prevent interference with other cable installations.
- Step 3:** Unscrew the cable clamp set screw until it will receive the cable.

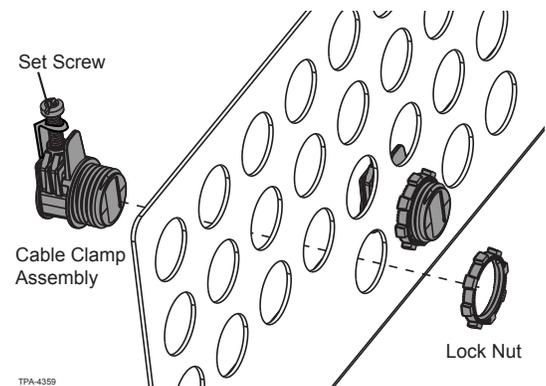


Figure 17

IMPORTANT: The maximum outside diameter of the inner jacket that will fit through the cable clamp is $11/32$ -in.

7.2 Using Pre-terminated Interlocking Armor Cable

Pre-terminated interlocking armor cable requires no field-preparation before installing into the unit. Ensure that your cable has 24 - 28-in leg lengths (Figure 18); then proceed to Section 7.4 to strain-relieve the cable.

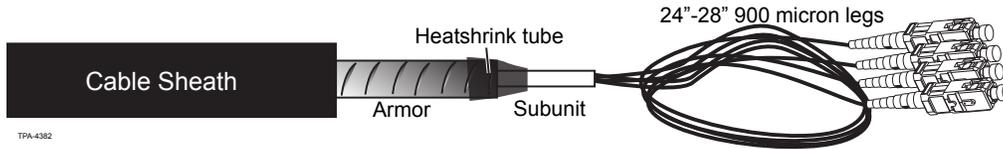


Figure 18

NOTE: If cable is pre-terminated interlocking armor cable, feed connectors one at a time through the cabinet wall, then through the cable clamp.

7.3 Preparing Unterminated Interlocking Armor Cable

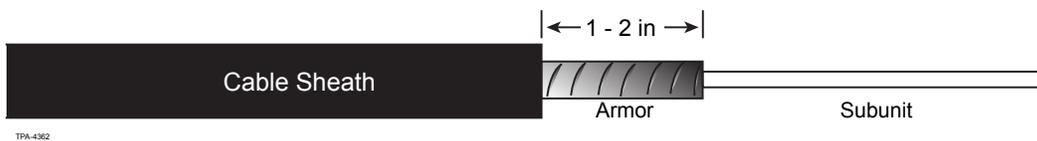


Figure 19

- Step 1:** Measure and mark 2.4 meters (8 ft) of cable. Cut cable sheath with the coaxial cable stripper at the mark and remove the cable sheath to the end of the cable (Figure 19).
- Step 2:** Remove approximately 2.4 meters of armor from cable. Leave a minimum of 25 mm (1-in) and a maximum of 50 mm (2-in) of bare armor to be clamped by the cable clamp to ensure armor is bonded to the steel strain-relief bracket.

NOTE: Cable sheath should cover the armor through the outer wall of the FZB.

IMPORTANT: Do not remove the subunit sheath around the subunit fibers at this time.

7.4 Strain-Relieving/Bonding Interlocking Armor Cables

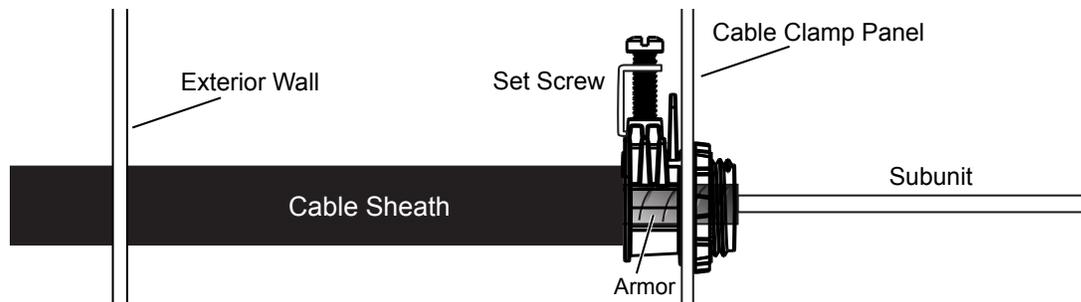


Figure 20

NOTE: If cable is pre-terminated interlocking armor cable, feed connectors one at a time through the cabinet wall, then through the cable clamp.

- Step 1:** Insert the sheathed fibers through the hole in the cabinet wall (Figure 20). The maximum outside diameter of the cable sheath, including heatshrink tubing if used, is 0.474 mm ($3\frac{1}{64}$ -in).
- Step 2:** Feed the cable through the cable clamp until the armor is flush with the front of the clamp.
- Step 3:** Tighten the cable clamp set screw down tightly against the armor.

8. Connectorize Unterminated Cables

Step 1: Remove subunit 1-in beyond the interlocking armor.

Step 2: Trim aramid yarn flush with the edge of the subunit.

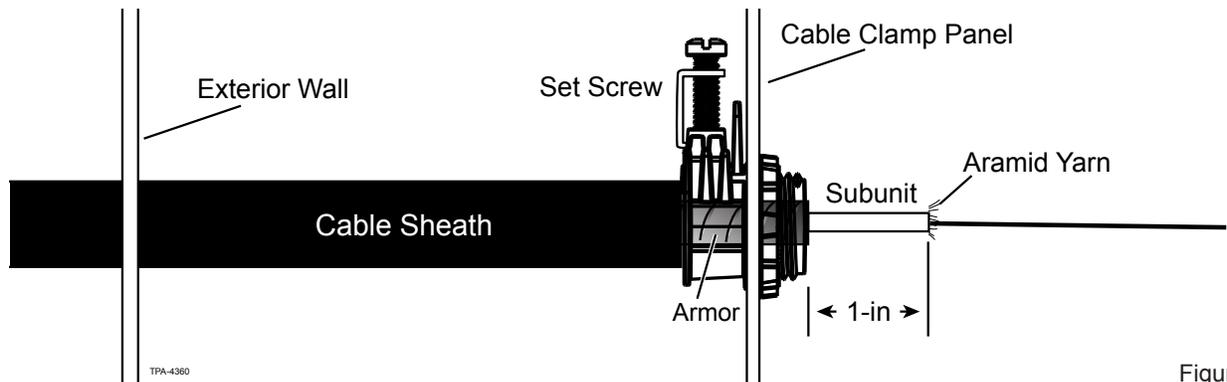


Figure 21

Step 3: Bring subunit to a work surface to terminate connectors per instructions provided with the connectors, or per your standard company practices.

Step 4: Clean the connectors as described below and install them into the adapter panels or leave dust cap on connectors until ready to mate in the adapter.

- Use a clean tissue soaked in alcohol to gently clean the connector. Do not press heavily on it as you clean.
- Dry the connector prior to installation by using a dry tissue or blowing it dry with compressed air.
- Clean all areas that will contact the connector adapter.
- Do not force the connector into the receptacle. If the connector does not fit easily into the receptacle, back it out and reinstall.

9. Store fiber slack

Route the half of the 900 micron fiber slack through the inner section of the segregated routing clips (Figure 22), then transitioning the second half of the length to the outer section of the clip. Make sure there is adequate slack so the fiber bend radius is maintained around the routing clips.

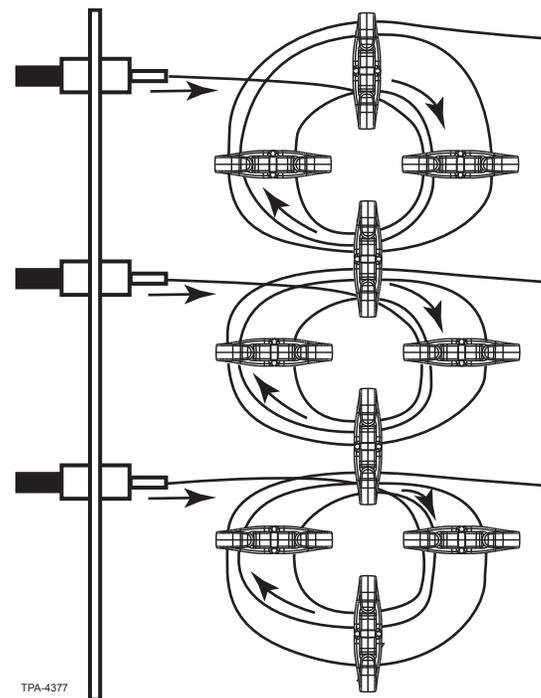


Figure 22

10. Mate Output Fibers

10.1 Route Splitter Output Fibers to be Connected Now

- Step 1:** Select the splitter output fiber to be connected and remove it from the connector storage clip (Figure 23).
- Step 2:** Locate the specific connector adapter in the distribution field where the connector will be inserted.

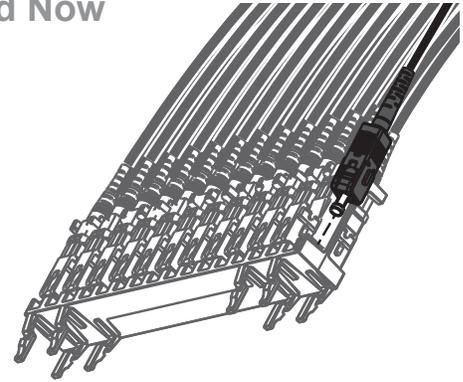


Figure 23

- Step 3:** Clean the adapter and connector end face using a dry process (Figure 24).
- Step 4:** Mate the splitter output fiber connector to the connector in the distribution field.
- Step 5:** Route the splitter output fiber slack as necessary through the segregated routing clips as illustrated in Figure 22.

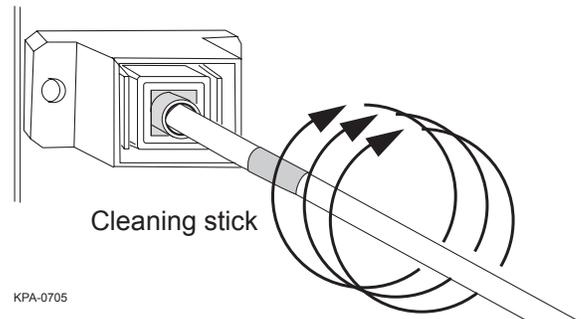


Figure 24

10.2 Route and Store Output Fibers to be Connected Later

- Step 1:** If a splitter output fiber is not to be connected at this time, route the fiber through the segregated routing clips as shown in Figure 4.
- Step 2:** Store the connector clip in the connector parking field (Figure 25) at either the top or bottom of the housing. Ensure the dust caps are in place on the connectors to protect the connector end face from damage.

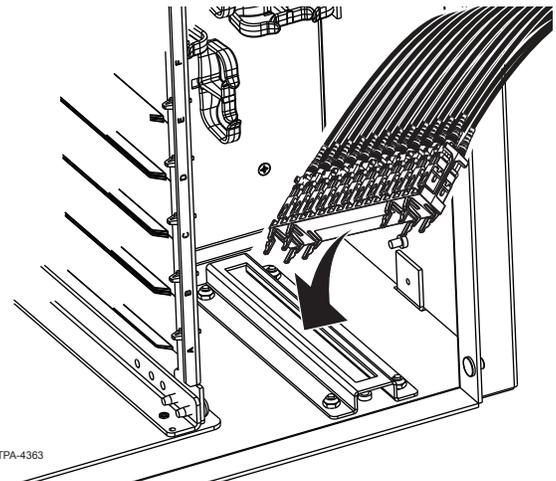


Figure 25

11. Complete Installation

- Step 1:** Install provided labels on the inside of the door and record the connections.
- Step 2:** Close the door and latch the locking mechanism. Install a padlock (not provided), if desired.

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