

## FlexBET™ Protected Entrance Terminal

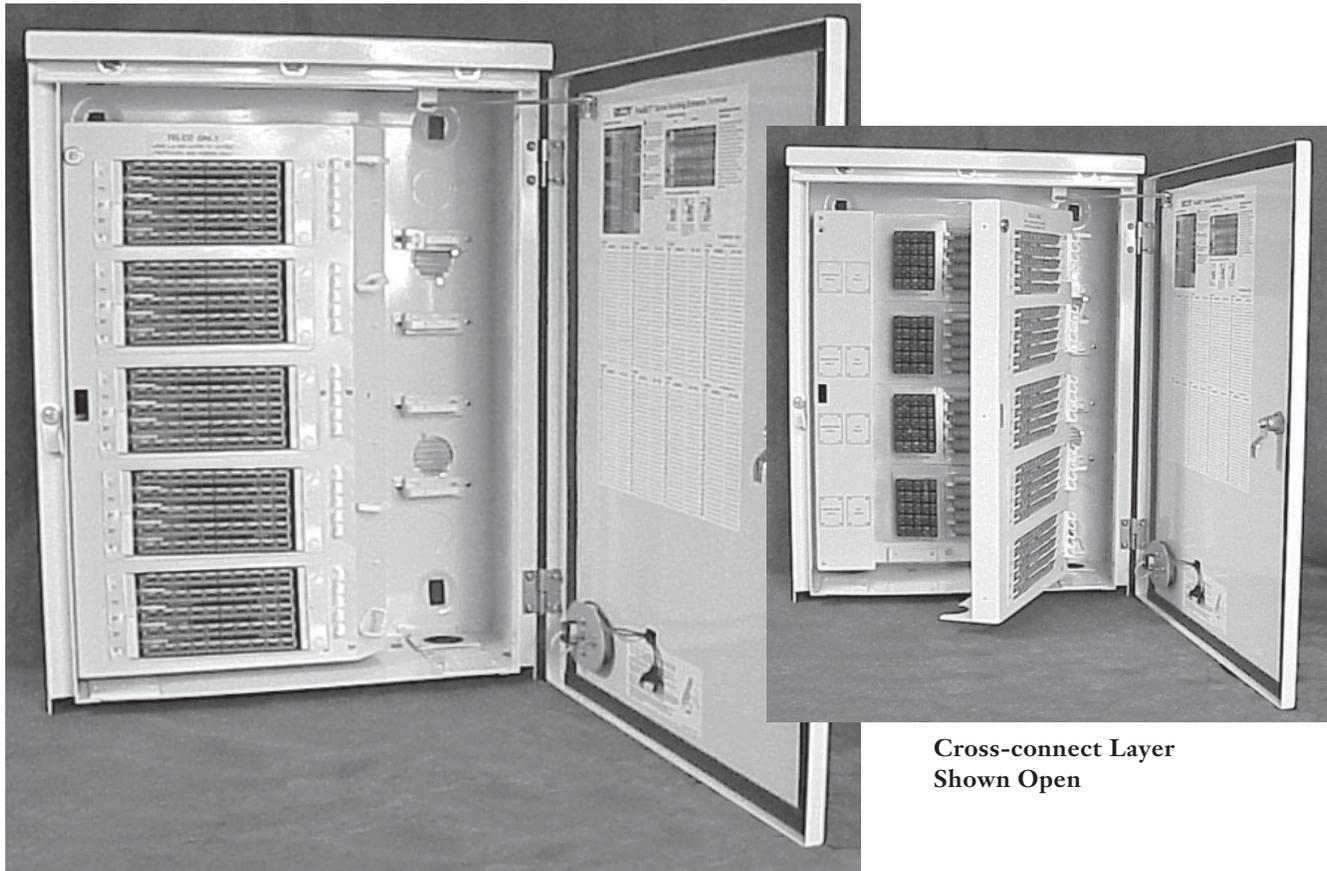


Figure 1

### 1. General

**1.1** This instruction describes the installation of the FlexBET™ or FX-Series for indoor or outdoor use. The FlexBET series of enclosures, manufactured by Corning Cable Systems, consists of modular components that can be added as required to decrease initial cost and to provide flexibility in meeting various applications and network architecture.

**1.2** This document is being reissued to change the assembly procedure for addition of a 50-pair double-sided Insulation Displacement Contact (IDC) module.

### 2. Description

**2.1** The FlexBET Series is a family of modular, layered building entrance terminals (BETs). The main layer is the BET layer where 25-pair protector block assemblies can be added up to a maximum of four protector block assemblies in the 100-pair BET layer or a maximum of two protector block assemblies in the 50-pair BET layer.

**2.2** An optional layer (Cross-connect Layer as seen in Figure 1) is available when cross-connect or multiplexing capabilities are required. The Cross-connect Layer can be equipped with various input/output options. For cross-connect purposes, modular 50-pair double-sided IDC connector modules can be added up to a maximum of four

double-sided cross-connect modules in the 100-pair Cross-connect Layer or to a maximum of two in the 50-pair Cross-connect Layer. Cross-connect ratios of 1:1 or 1:2 can, therefore, be achieved on the Cross-connect Layer. When multiple inside wires (IWs) need to be combined into one pair, a 50-pair multiplexing block (MUX block) can be added to the Cross-connect Layer. This multiplexing block consists of ten series of five IDC connectors, each series being electrically joined, thus providing four output pairs for each input pair.

**2.3** The protector block assembly combines a 25-pair protector block and a 25-pair toolless sealed IDC block. The protector block assembly features Corning Cable Systems unique, patented, sealed 5-pin protector field. Each protector block assembly is equipped with a 26 AWG splice tail (raw-ended or preconnectorized) and a ground cable. The protector block assembly is easily secured in the BET layer using the provided fasteners.

**2.4** The FlexBET units are available in 50-pair or 100-pair housings, indoor or outdoor. Both the BET layer and the Cross-connect Layer are common to the outdoor and indoor housing. The indoor units come equipped with an inside cover and can be

stacked vertically up to 300 pairs. The outdoor units come equipped with a weatherproof enclosure and can be stacked up to 200 pairs.

**2.5** For outdoor applications, optional skirts are available in two sizes. The short (18-in. high) version is used in stacking applications and the long (33-in.) version is used when single units are deployed.

### 3. Installer Precaution

**⚠ WARNING:** Do not install this unit or work with telephone wiring during a lightning storm. Telephone lines can carry high voltages from lightning which can cause electric shock resulting in severe injury or death.

**⚠ NOTE:** Do not use sprays (insecticides, cleaning solvents, etc.), inside protector compartment, due to the possibility of incompatibility of materials that could result in damage and subsequent failure of the product.

### 4. Components

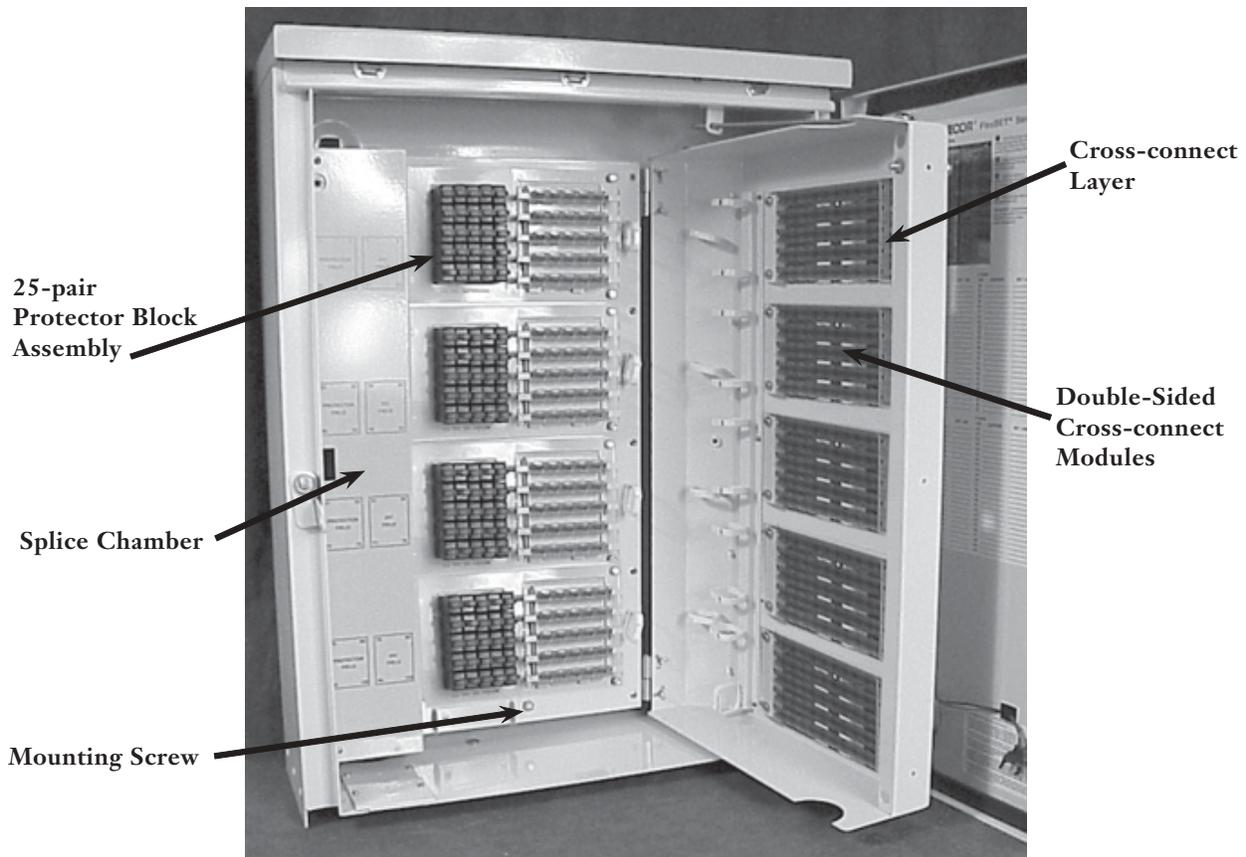


Figure 2

## 5. Mounting

**5.1** The outdoor housing can be mounted directly to the wall using the keyholes provided. Indoor housings are mounted via a wall mounting bracket only. A template is provided for easy installation.

**5.2** Following standard configurations, select a vertical surface near approved electrical ground and subscriber wiring but away from down spouts, permanent water sprinklers, or other water sources.

**In order to maintain door clearance, do not mount the unit flush against a wall or another object on the left or right side.** Mount the BET approximately 33 in. above the ground. If the unit is being mounted in conjunction with the skirt, mount the skirt first; then mount the BET.

**5.3 Skirt (Optional)** — Remove the front covers from the skirt. Position the skirt directly below the BET location. Mark screw locations on the mounting surface. Drive in the upper screws halfway, position the skirt on the screws, level the unit, and tighten the screws. Drive in the lower mounting screws to secure the unit.

Align the holes at the top of the skirt with the studs at the bottom of the BET. Secure the skirt to the BET using the nuts provided. Anchor cables to the strain-relief bar as required. Replace the front covers of the skirt and close the cabinet door.

**5.4 Direct Wall Mount Method (Outdoor enclosures)** — Open the unit and remove the inner components from the housing by removing the mounting screw (Figure 2) at the bottom of the BET layer. Push in the door stop and remove the cabinet door. Use the template provided with the unit to position the screws (hardware is not included). Drive in the upper screws halfway, position the cabinet on the screws, level the unit, and then tighten the screws. Drive in the lower mounting screws to secure the unit. Cover all mounting holes with sealant to prevent water intrusion.

Hang the BET layer on the bracket inside the cabinet. Slide the BET layer along the bracket until the BET locks into position. Use the mounting screw previously removed to secure the BET to the enclosure. Replace the cabinet door.

**5.5 Wall Mounting Bracket Method (Indoor units)** — Using the template provided, mark screw locations. Position the wall mounting bracket on the template, mounting holes facing down (Figure 3), and drive in the screws. Hang the unit on the bracket and slide the unit until it locks into position. Secure the unit with the lower mounting screw. If securing the mounting bracket to the same stud used by the lower mounting screw, use the middle hole on the bracket.

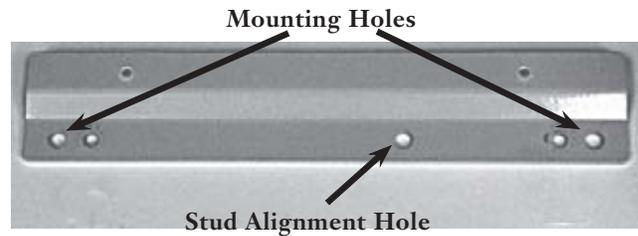


Figure 3

## 6. Grounding the Unit

To ground the unit, first connect local ground to the ground bus bar located within the skirt. If each FlexBET housing must be grounded separately, connect a separate ground wire from the ground lug (Figure 4) in the splice chamber to the approved local ground. If local practices permit ground to be “daisy-chained” from housing to housing, connect a #6 AWG wire from the multipoint ground bar in the skirt to the ground lug in the splice chamber.



Figure 4

## 7. Provider Cable Installation

7.1 Remove slide plate from base of BET (Figure 5, step 1) by loosening the screws.

7.2 Place cable through the cold shrink and the split conduit fitting (step 2). Align the top groove of the split conduit with the slide plate slot and slide the conduit and cable into the cabinet (step 3).

7.3 Replace slide plate and tighten the screws on inside surface of slide plate (step 4).

7.4 Place cold shrink over conduit fitting and pull on tab to remove plastic spiral core, allowing rubber to shrink over the cable (steps 5 and 6).

7.5 Install the bond clamp (not provided) onto the cable sheath, and ground the cable sheath by attaching the provided bonding braid to the bond clamp. (All ground wire must meet requirements of national electric code and/or applicable local practices.)

7.6 Splice the distribution cable to the wiring harness within the splicing chamber according to local standard practices. Secure finished splices to the back of the splice chamber with the provided cable ties.

**IMPORTANT:** For 25- and 50-pair cable only, place two or three wraps of B-sealant tape around the cable 1 inch below the conduit fitting to increase the cable diameter and allow the cold shrink to grip the cable tightly.

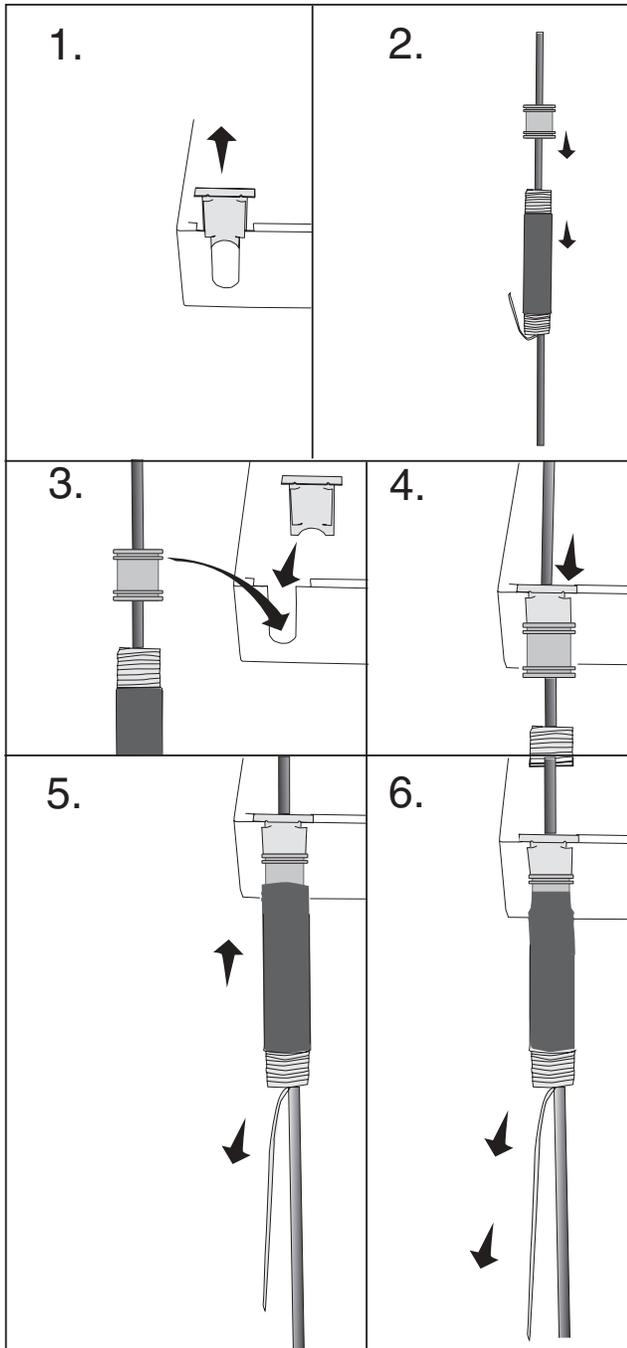


Figure 5

## 8. Subscriber Wiring

8.1 Route subscriber cables through the slit gasket provided at the base of the enclosure. Dress cables through the wire rungs provided. Be sure to add sufficient slack for opening and closing the Cross-connect Layer (if provided).

**NOTE:** The subscriber wire must be installed when the Cross-connect Layer is closed to ensure the minimum slack required.

8.2 Strip back the outer cable jacket to the length required to terminate the tip and ring pairs to the IDC termination. Route the wire pairs through the wire slots to the appropriate IDC termination.

8.3 Using your fingertip, pull the IDC lever up to approximately a 45-degree angle, exposing the white tip and orange ring holes (Figure 6).

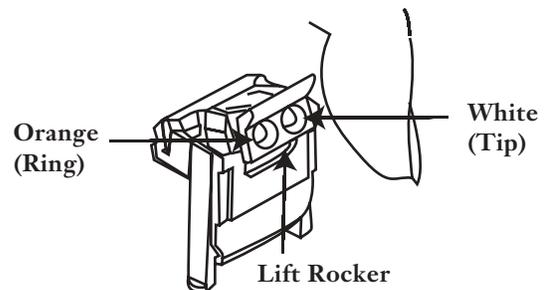


Figure 6

8.4 Insert the insulated wires in the tip and ring holes as shown in Figure 6. Visually verify through the transparent lever that both wires are inserted fully (Figure 7). Push the lever down to make the electrical connection.

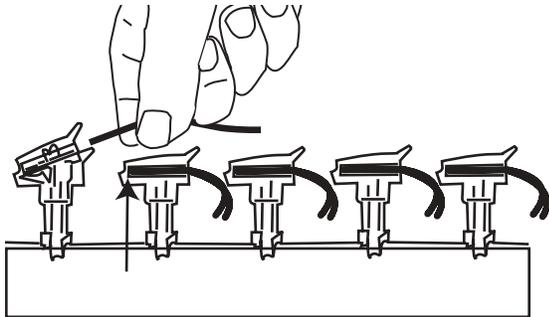


Figure 7

8.5 Fill in the line identification list.

## 9. Jumper Wiring

9.1 The Cross-connect Layer is equipped with modular 50-pair double-sided IDC blocks that provide cross-connection between the BET layer and the subscriber wiring. A 50-pair double-sided IDC block can be provided for each 25-pair protector block assembly to allow a 1:1 or 1:2 cross-

connect ratio. The 1:2 cross-connect ratio refers to the number of possible terminations only. It does not provide two outputs for every BET line. However, the 1:2 cross-connect ratio features the ability to install incremental subscriber wiring upon installation and to maintain service by simply jumpering wires between the BET layer and the Cross-connect Layer.

9.2 To install a jumper wire, locate the BET line that is to be connected. Using your fingertip, pull the IDC lever to approximately a 45-degree angle, exposing the white tip and orange ring holes. Insert wires in the tip and ring holes (Figure 6). Visually verify through the transparent lever that both wires are inserted fully (Figure 7). Push the lever down to make the electrical connection.

9.3 **Routing jumper wires** — Dress the jumper wire straight through the wire rung to the right of the IDC field on the BET layer as shown in Figure 7. Then, dress the jumper wire down through the first row of wire rungs and up through the second row of wire rungs on the Cross-connect Layer (Figure 8). Terminate the wires on the appropriate IDC connector.

**IMPORTANT:** *Recommended wire routing method must be followed to ensure proper slack management.*

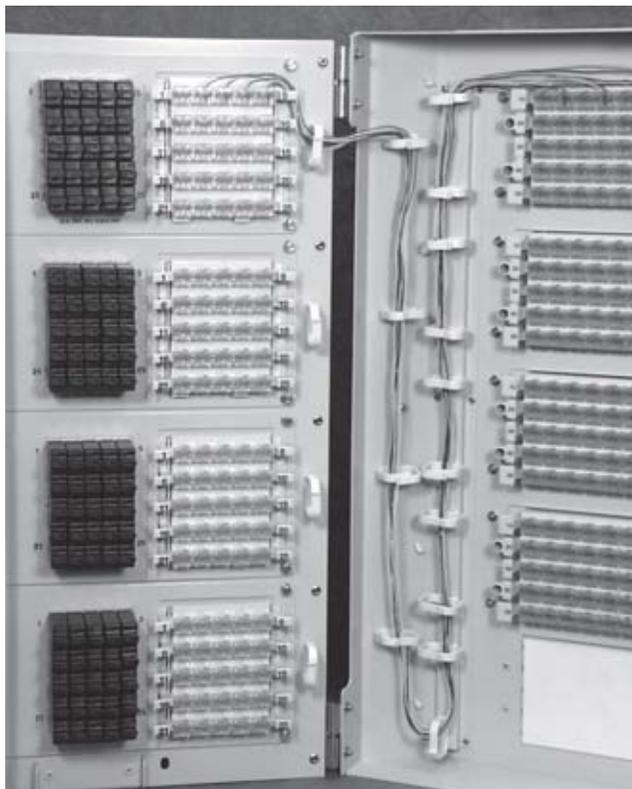


Figure 8

## 10. Expanding the FlexBET Unit

10.1 **Installing a Protector Block Assembly** — Remove packaging materials from the protector block assembly. Feed the modular splicing connector and ground cable through the wide slot in the splice chamber. Slide the protector module into position as shown in Figure 9. Secure the panel by tightening the screws provided.

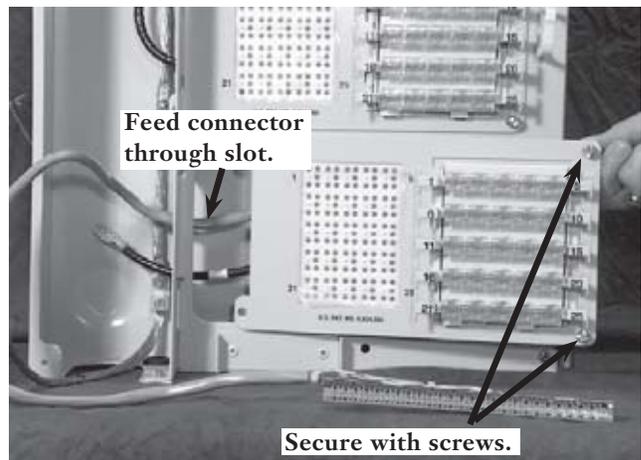


Figure 9

Remove the nut on the ground stud provided in the splice chamber, just above the protector block assembly. Place the ground strap on top of the ground harness and lockwasher. Attach the locknut (previously removed) and secure the ground connection (Figure 10). Splice the cable according to local standard practices.



Figure 10

**10.2 Installing a 50-pair Double-Sided IDC Module** — Remove the blank panel from the Cross-connect Layer by loosening the locknuts on the backside of the Cross-connect Layer (Figure 11).

Insert the double-sided cross-connect module from the back onto the studs on back of the Cross-connect Layer. **Verify that all wire ports are facing up.** Secure the cross-connect panel using the locknuts previously removed (Figure 12).

**10.3 Stacking Outdoor Enclosures** — Remove the rain cap from the top of the existing enclosure by loosening the wing nuts located inside the top of the unit. Align the studs on the bottom of the stacking enclosure with the holes on the top of the existing enclosure.

Attach the upper enclosure to the lower enclosure using the wing nuts previously removed. Anchor the upper enclosure to the wall using the keyholes provided.



Figure 11

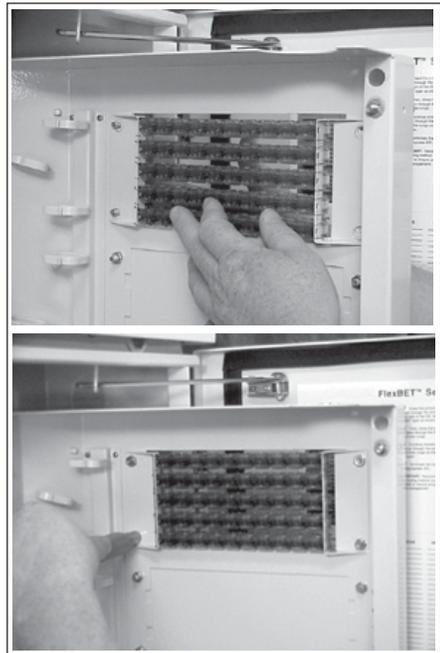


Figure 12

Cables may be routed through the holes at the top of the enclosure or by removing the slide plate at the top and bottom of enclosures (a conduit kit is not required for stacking).

**NOTE:** *On earlier models of this product that have two upper slide plates, reseal the slide plates with B-sealant tape to prevent water intrusion.*

If local practices permit ground to be “daisy-chained” from housing to housing, connect the ground lug at the bottom of the upper FlexBET enclosure to the ground lug at the top of the lower FlexBET enclosure using a #6 AWG ground. Otherwise, connect a separate local ground to the lug provided in the splice chamber of the upper BET. Repeat Sections 8 and 9 for wiring, as appropriate.

Close the doors of all enclosures and secure.

## 11. Test Probe

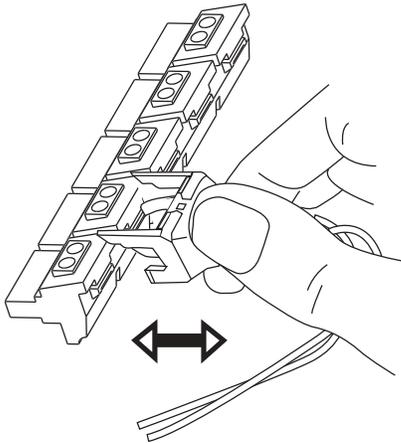


Figure 13

**11.1** Disconnect the line to be tested by lifting the lever, pulling the wires out of the connector and closing the lever back to its closed position.

**11.2** Position the test clip squarely over the connector (Figure 13), having the long location legs straddle the front of the toolless IDC block. Push down firmly to engage the test clip, ensuring that the white tip and orange ring holes align with the test clip.

**11.3** Unplug the test jack on the test probe. Plug a working phone into the jack or attach test equipment to the tip and ring terminals provided.

**11.4** Use local practices to test the line. If no problem exists, the fault is in the customer wiring. If the problems persists, the fault is in the telephone company wiring.

**11.5** Disconnect test equipment from the test probe and reinsert the jack previously removed. Grip the body of the toolless IDC test clip and pull squarely away from the connector. Never remove by pulling wires. Wrap wire slack around the probe and secure test clip in the docking station.

**11.6** Before re-connecting the line tested, trim 1/4-inch off each wire in order to ensure a clean reconnection. Insert insulated wires into the white tip and orange ring holes and firmly push the toolless IDC lever closed to make the reconnection.

## 12. Multiplexing Block (Optional)

The multiplexing block (MUX block) can be used to combine multiple inside wires into one pair. Each MUX block consists of ten series of five IDC modules electrically joined. To use the MUX block, route one wire from the front of the double-sided IDC to one of the series of five IDC modules. Terminate the wire in the position farthest to the left as shown in Figure 14. The remaining positions may be used to common internal wires on the same line.

### Inside Wire Routing

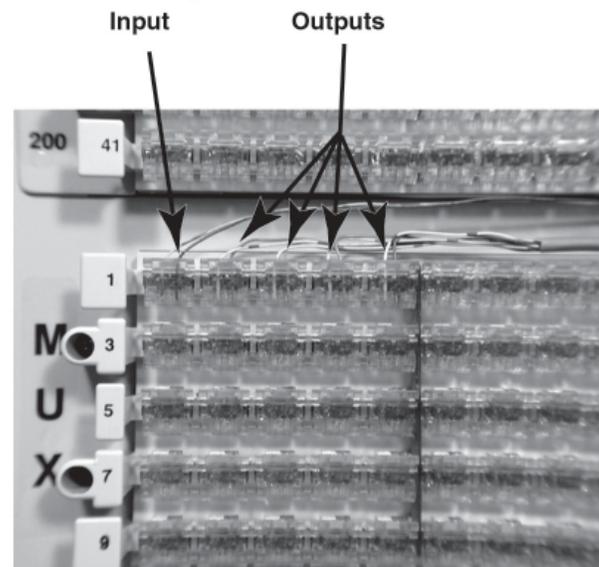


Figure 14

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### Customer Service and Information

Telephone: \_\_\_\_\_

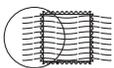
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