

Figure 1

## 1. INTRODUCTION

Distribution Patch Panel Enclosures 559542-[ ] (24-port), 559614-[ ] (48-port), shown in Figure 1, and 559552-[ ] (72-port) are used for housing singlemode and multimode fiber optic connections. The enclosure fits into standard 483-mm [19.0-in.] or 584-mm [23.0-in.] Electronic Industries Alliance (EIA) racks only. Read these instructions thoroughly before starting installation.

### NOTE



*Dimensions in this instruction sheet are in millimeters [with inches in brackets]. Figures are not drawn to scale.*

Reasons for reissue of this instruction sheet are provided in Section 5, REVISION SUMMARY.

## 2. DESCRIPTION (Figure 1)

The enclosure consists of a chassis and interchangeable front cover and back cover. The enclosure features a fixed patch panel, and two cutouts on each side for cable entrance and exit. The patch panel holds “snap-in” adapter plates and is marked by alphabet for connector identification.

Inside the front of the enclosure are three split fiber saddle rings; inside the back of the enclosure are two cable clamp brackets, two split fiber saddle rings, and a lug (mounted onto the floor of the chassis). The cable clamp brackets are used for securing the

breakout cable to the enclosure, and the lug is used for securing the central strength member (if present) to the enclosure. Cable routing within the enclosure is facilitated by the fiber saddles.

Two universal mounting brackets and four 12-24 UNF-2A pan head screws are included for mounting in the rack. Also included are two label cards and a danger label.

## 3. INSTALLATION

### 3.1. Mounting the Enclosure

#### CAUTION



*ALWAYS use safe lifting techniques. NEVER lift more than you can manage comfortably. Lifting guidelines are available from the Occupational Safety and Health Administration (OSHA).*

1. Unlatch and open the front cover, and set aside. Unlatch and open the back cover, and set aside.

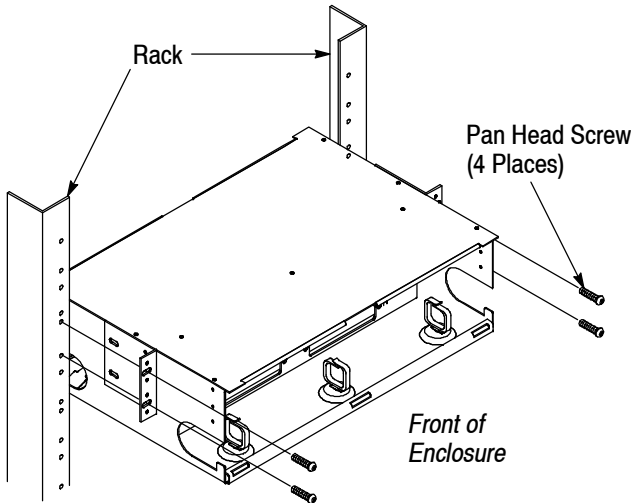
#### NOTE



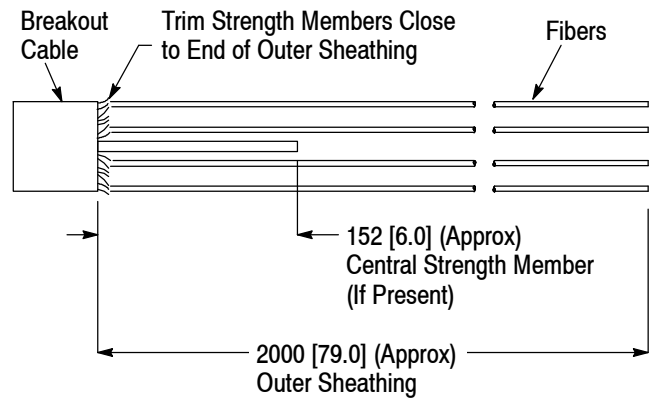
*The covers are not attached to the enclosure.*

2. The enclosure is assembled for mounting in a 483 [19.0] rack; mount the enclosure in the rack. See Figure 2. For a 584 [23.0] rack, remove the screws securing the brackets to the enclosure. Turn the brackets so that the long leg of the “L” is protruding, and secure the brackets to the enclosure using the screws. Mount the enclosure in the rack. See Figure 2.

### Mounting Enclosure



### Cable Stripping and Cutting Dimensions



**Note:** Not to Scale

Figure 3

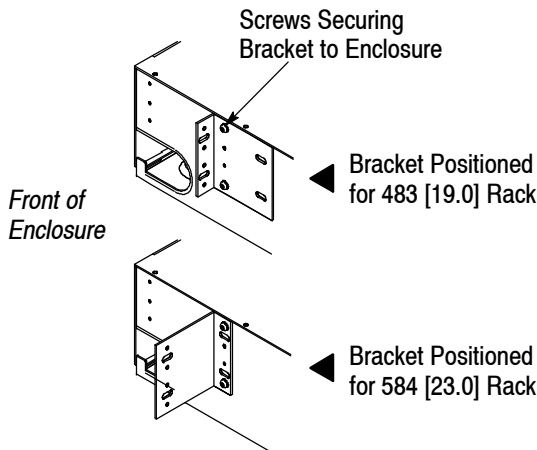


Figure 2

### 3.2. Preparing the Cable



**ALWAYS** wear eye protection when working with optical fibers. **NEVER** look into the end of a terminated or unterminated fiber. Laser radiation is invisible but can damage eye tissue. **NEVER** eat, drink, or smoke when working with fibers. This could lead to ingestion of fiber particles.



**BE VERY CAREFUL** to dispose of fiber ends properly. The fibers create slivers that can easily puncture the skin and cause irritation.

1. Strip the outer sheathing of the breakout cable, and if present, cut the central strength member to the dimensions shown in Figure 3.

2. Trim the strength members close to the end of the outer sheathing. Wipe the fibers with a clean, dry cloth. If necessary, use an alcohol pad to remove any oily residue from the fibers.

### 3.3. Installing the Adapter Plate onto the Patch Panel

1. Position the adapter plate over the front of the patch panel so that the split end of the lock pins align with the holes in the patch panel. Push the lock pins into the holes until the adapter plate is secure. See Figure 4.

2. Follow same procedure for remaining adapter plates.

### 3.4. Routing the Cable

Use the following guidelines when installing cable and routing the fiber in the enclosure. Whatever method is used, make sure that it not only meets the application needs, but also conforms to local codes and standards:

- Allow enough fiber in the enclosure for routing
- Coil excess fiber around split fiber saddle rings

### Installing Adapter Plate

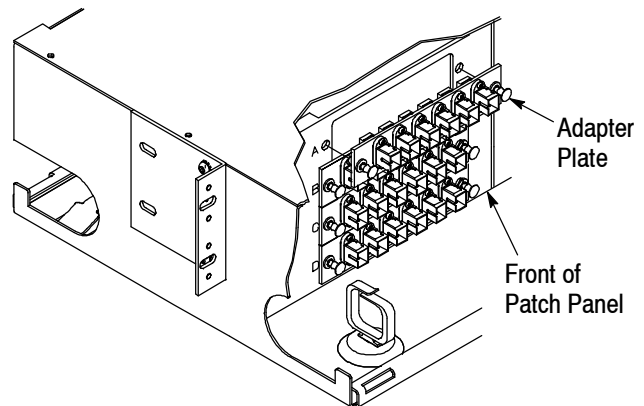


Figure 4

- Keep bend radii of cable and fiber as large as possible (always follow manufacturer's minimum bend radius)



**CAUTION** DO NOT exceed minimum bend radii for the cable or fiber. ALWAYS avoid placing fiber under tension or torsion.

These instructions reflect a typical installation where cable or fiber is routed through only one side of the enclosure, however cable or fiber can be routed through both sides of the enclosure. Follow the same procedure for both.

**A. Securing the Breakout Cable**

1. Route the cable through the cutout in the back of the enclosure and closest to the adapter plate to be used. Make sure that at least 2000 [79.0] of fiber is inside the enclosure. Lay the cable over the cable clamp bracket, and secure the cable to the bracket using cable ties. See Figure 5.
2. If a central strength member is present, loosen the mounting screw in the lug, and pivot the lug so that the opening faces the cable. Tighten the

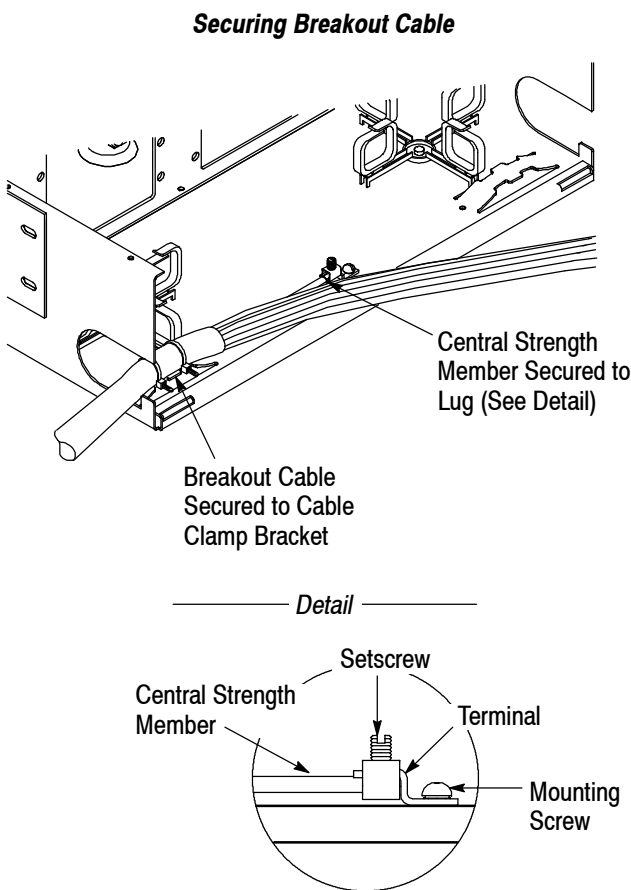


Figure 5

mounting screw. Loosen the setscrew, and insert the central strength member into the lug so that the central strength member butts against the terminal. Tighten the setscrew firmly. See Figure 5.

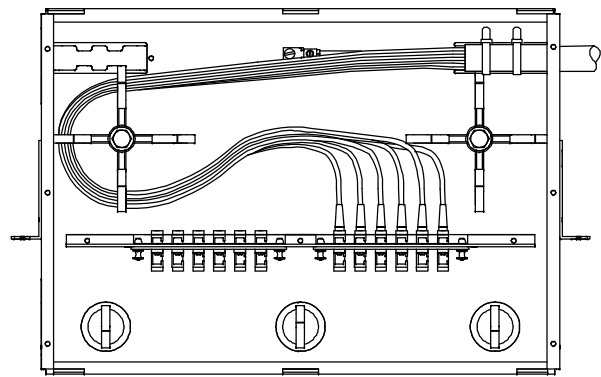
**B. Routing Fiber**

1. Separate the first group of 12 fibers to be located on the first two adapter plates. Terminate these fibers onto connectors according to the instructions provided with the connectors.
2. Dress the fiber around the split fiber saddle ring at the opposite side of the enclosure. Join the connectors to the coupling bushings at the back of the adapter plate. See Figure 6, Detail A.
3. Separate the next group of 12 fibers to be located on the next two adapter plates. Terminate these fibers onto connectors according to the instructions provided with the connectors.

**Routing Fiber**

**Detail A**

**Back of Enclosure**



**Detail B**

**Back of Enclosure**

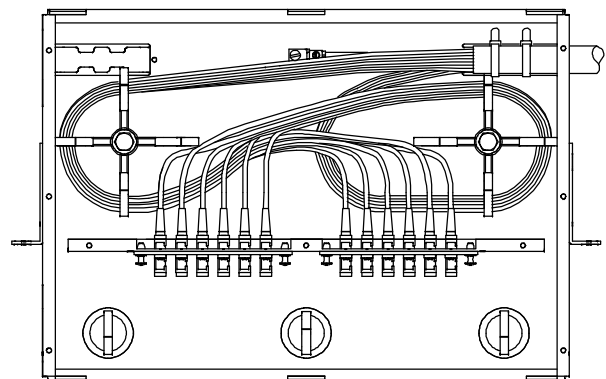


Figure 6

4. Dress the fiber around the other split fiber saddle ring. Join the connectors to the coupling bushings at the back of the adapter plate. See Figure 6, Detail B.
5. If applicable, continue separating groups of 12 fibers and terminating the fibers until the adapter plates are completely loaded.
6. If necessary, fiber can be routed through the back of the enclosure and joined to the front the adapter plate, or routed through the front of the enclosure and joined to the back of the adapter plate. In this case, route the fiber through either opening between the side of the enclosure and the patch panel. Refer to Figure 7.

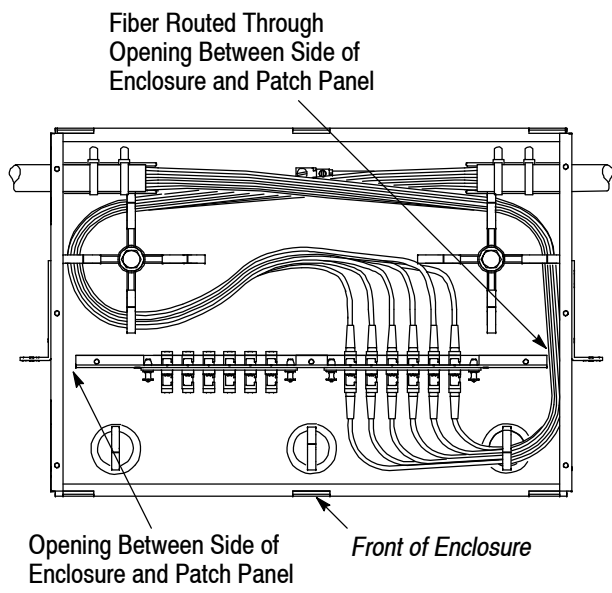


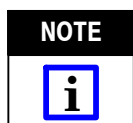
Figure 7

### C. Routing Jumper Cable

1. Route the jumper cable through the cutout (either or both sides) in the front of the enclosure.
2. Dress the cable through the split fiber saddle rings, and join the connectors to the coupling bushings at the front of the adapter plate. See Figure 8.

#### 3.5. Inspecting and Closing the Enclosure

1. Record connector positions using the label cards, then install one label card onto the front cover and one label onto the back cover.



*Some enclosures contain a label holder installed onto the front of the enclosure.*

### Routing Jumper Cable

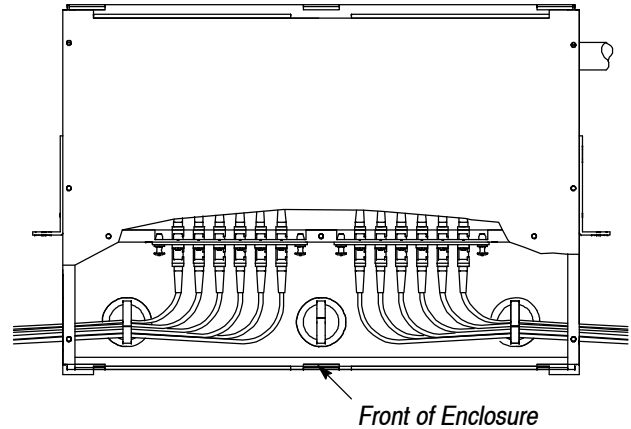


Figure 8

2. Install the danger label onto the front cover.
3. Inspect installation according to the following:
  - enclosure is secure to rack (pan head screws are tight)
  - cable is not nicked or broken
  - cable is secured to cable clamp bracket
  - center strength member (if present) is fully inserted into lug and setscrew is tight
  - there are no sharp bends or kinks in the fibers
  - there are no fibers under tension
  - connectors are undamaged
  - all connectors are fully joined to coupling bushings
4. Install the front and back covers onto the enclosure, close the covers, and inspect closing according to the following:
  - covers are fully latched
  - no cable or fibers are pinched in covers

### 4. REPLACEMENT AND REPAIR

The enclosure is not repairable if damaged. Order additional enclosures through your representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 1-717-986-7605, or write to:

CUSTOMER SERVICE (038-035)  
 TYCO ELECTRONICS CORPORATION  
 PO BOX 3608  
 HARRISBURG PA 17105-3608

### 5. REVISION SUMMARY

Revisions to this instruction sheet include:

- Updated document to corporate requirements.