

## CFP Host Board Assembly

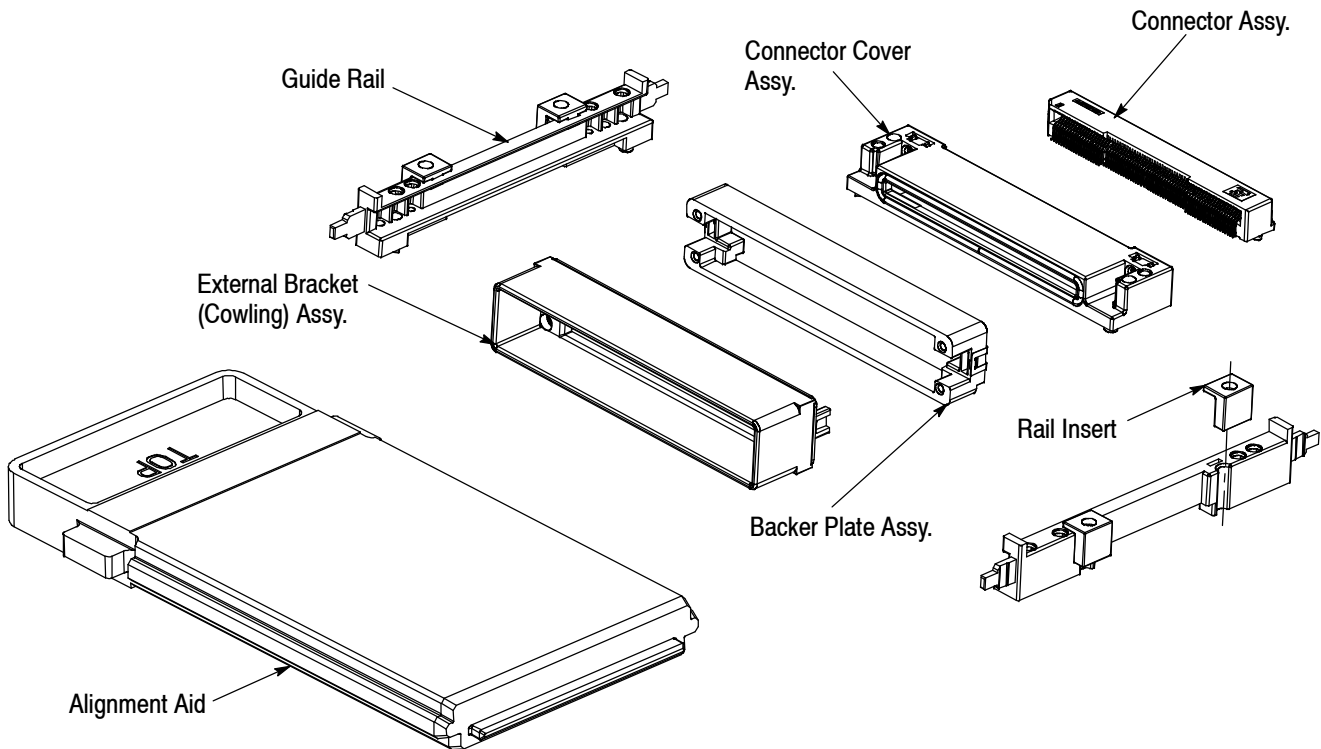


Figure 1

### 1. INTRODUCTION

CFP connector assembly 2057630-1, connector cover assembly 2057631-1, guide rail 2057592-2, backer plate assembly 2057930-1, external bracket assembly 2057626-1, and optional rail insert are used to interconnect CFP fiber optic transceiver modules to host printed circuit (pc) boards. The alignment aid 2110645-1 can be used to align the centerlines of the external bracket, backer plate and guide rails with the connector assemblies during installation. See Figure 1.

#### NOTE



*Dimensions in this instruction sheet are in millimeters. Figures and illustrations are for reference only and are not drawn to scale.*

### 2. DESCRIPTION

The connector assembly contains two rows of right-angle surface mount contacts and features an entry slot that accepts CFP straddle mount connectors housed within CFP transceivers.



*The soldering process will cause damage to the connector cover assembly.*

The connector cover is a metal frame that is screwed onto host pc boards. EMI gaskets on the front and bottom of the frame contain emissions from the connector, and the front surface of the frame acts as a positive stop for the insertion depth of the CFP transceivers. Internally threaded inserts in the cover assembly accept screws on the sides of the CFP transceivers to secure the connection.

Sets of two CFP guide rails accept keys on the sides of CFP transceivers and roughly align the transceivers with the connector before the transceivers reach the connector cover. A set of rails will only accept a transceiver with proper vertical orientation. Each rail may be used as either the right or left rail by reversing their orientation on the pc board. The rails are screwed to the host pc board after being positioned precisely on the pc board by two guide pins on the bottom of each rail. The arms protruding from the ends of the rails roughly align the backer plates and external brackets with the rails.

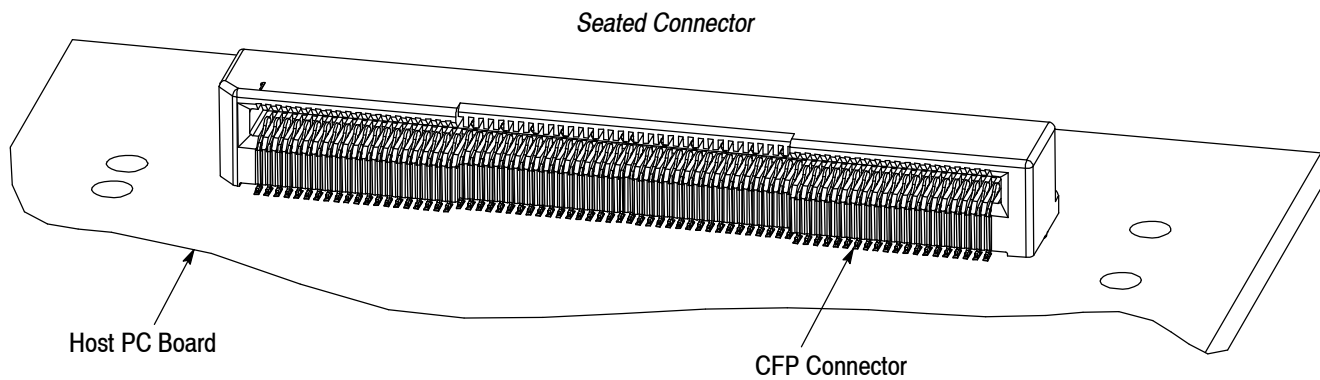


Figure 2

The guide rails contain features which allow for the use of optional components. Hemispherical slots on the outside of the rails allow screw or bolt attachment of the rails, through the host pc board, to any optional underlying structure. Small slots on the top of the rails accept tabs on optional rail inserts that provide attachment platforms for this purpose. Threaded holes in the rails and standoffs on the top of the rails allow for the attachment of optional riding heat sinks.

The backer plate assembly is a metal frame which roughly guides the CFP transceiver into the guide rails. The frame accepts screws inserted through the external brackets and the bezel or front panel. When the screws are tightened the normal force between the backer plate and external bracket hold both in position. Spring clips on the backer plate hold the backer plate on arms of the rail during installation.

The external bracket assembly is a metal frame which roughly guides CFP transceivers into the backer plate assembly. An EMI gasket on the rear of the assembly contains electro-magnetic emissions inside the front panel or bezel. The rectangular cowling at the front of the assembly provides a contact surface for EMI springs at the rear of CFP transceivers.

The alignment aid is a metal plug, which aligns the external bracket and backer plate to the rails and connector, to ensure proper fit of CFP transceivers once installation is complete. Alignment aid is optional, but recommended to ensure proper alignment of system components.

### 3. ASSEMBLY

Two assembly methods are preferred and listed below. Procedure "A" represents a standard installation while procedure "B" details the installation with optional heat sink.

#### 3.1. Procedure "A" - Standard Assembly

1. Install the connector assembly onto the host pc board according to Application Specification 114-13263. Refer to Figure 2. Solder the

connector to the pc board before seating the connector cover.

2. Place the connector cover assembly over the connector assembly such that the guide pins are inserted in the guide pin holes. Be careful to avoid damaging the soldered contacts. Fasten the cover assembly with two M3 screws. Refer to Figure 3. Take care to tighten the screws sufficiently to ensure compression of the bottom EMI gasket.

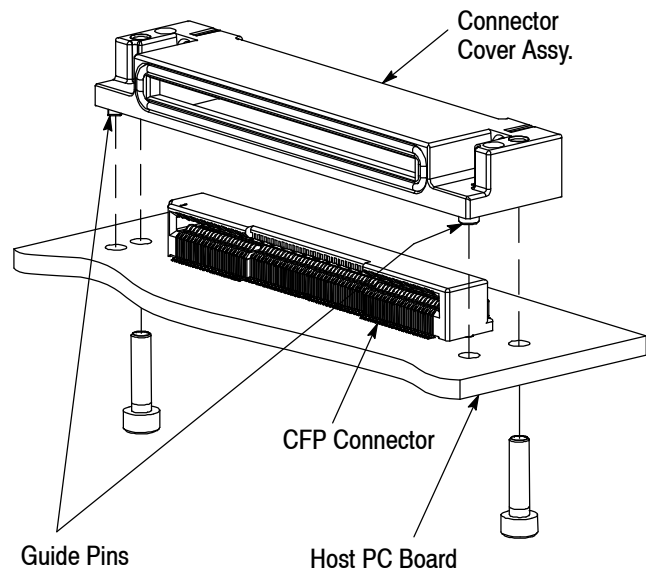


Figure 3

3. Place two rails on the host pc board such that the guide pins are inserted in the guide pin holes. Fasten the rails to the pc board with four M3 screws. Do not tighten the screws. Movement must be allowed prior to inserting the alignment aid. Refer to Figure 4. The installation can continue in either of two ways. See Section 3.1.

4. Insert the alignment aid until it stops against the receptacle cover. Tighten the rail mounting screws. See Figure 5.

5. Mount the pc board into the cabinet as required.

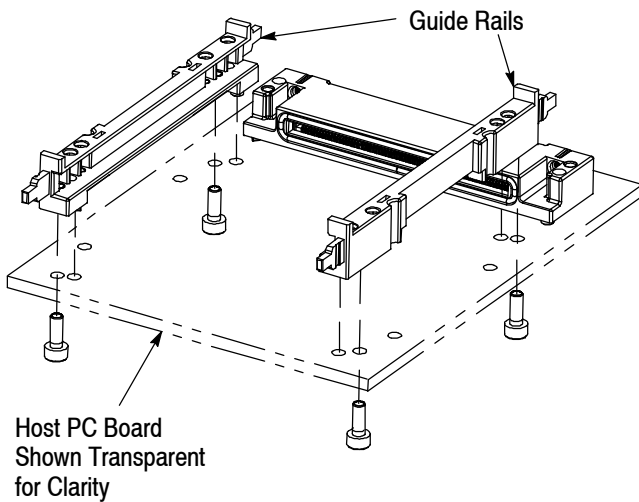


Figure 4

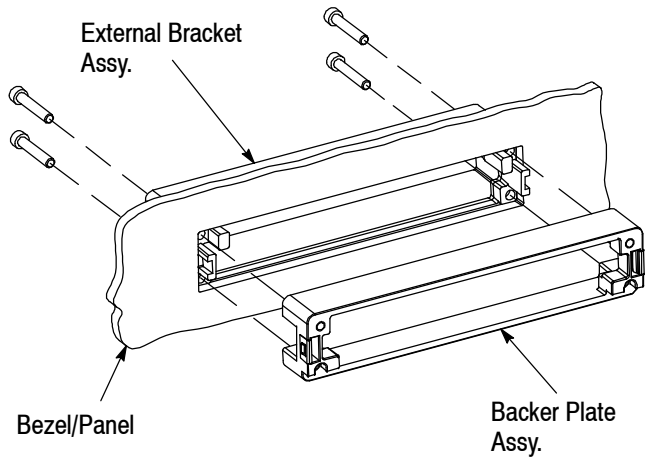


Figure 6

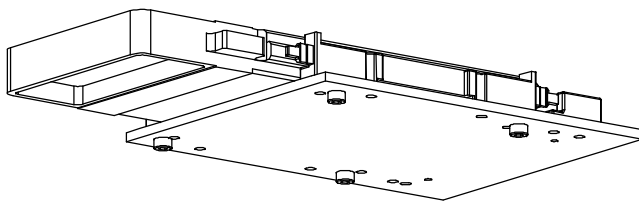
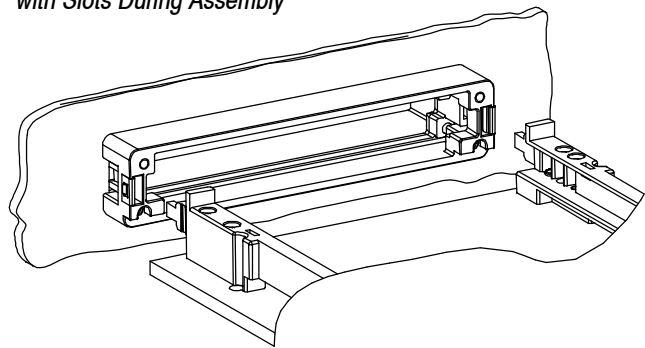


Figure 5

*Both Rails Must Be Aligned with Slots During Assembly*



*Tab Fits Through Both Slots when Assembled*

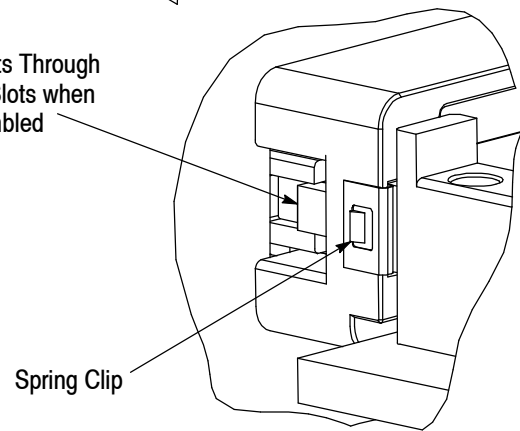


Figure 7

6. Mount an external bracket and backer plate loosely to a bezel/panel designed in accordance with Application Specification 114-13263. This should be done by inserting the external bracket into the bezel/panel opening such that the EMI gasket on the rear of the external bracket rests against outside of the bezel/panel, around the perimeter of the opening. The two arms on the rear of the external bracket will protrude through the opening. See Figure 6. The backer plate can then be fit over those arms. Insert four 2-56 UNC hex socket head cap screws through the clearance holes in the external bracket, and screw them loosely into the backer plate. The bracket and plate should be held together by the screws, but not so tightly that they cannot move in the bezel/panel or relative to each other. The rear bottom portion of the backer plate includes a clearance notch. This notch is oriented to the pc board side.

7. Close or install the bezel/panel onto the cabinet such that the arms on the ends of the guide rails fit through both the slot in the rear of the backer plate and the slots on the rear of the external bracket. Some minor adjustment of the bezel components assembled in Paragraph 6 may be required. The bezel/panel will not fit flush to the cabinet if the arms on the guide rail do not find both sets of slots. See Figure 7.

8. Insert alignment aid. The external bracket will only accept the aid if inserted with the proper orientation. Some adjustment may be required if the bezel and pc board components are not already in alignment. Insert until the aid stops against the connector cover, at which point only the handle will protrude significantly beyond the external bracket. See Figure 8.

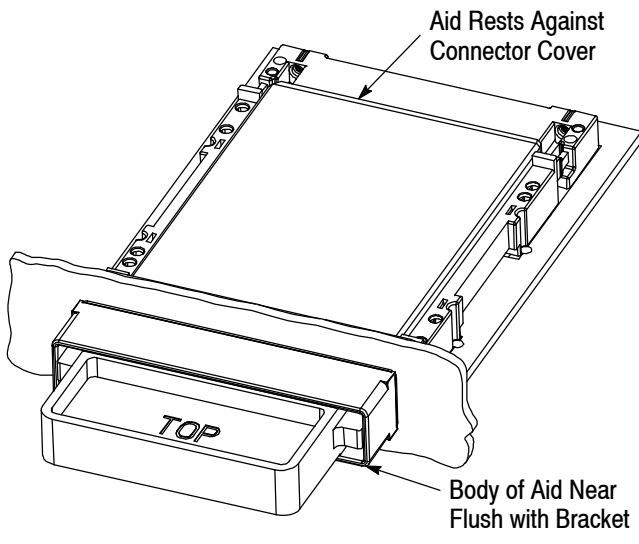


Figure 8

9. Tighten screws on the external bracket to fully compress the EMI gasket on the bracket and hold the proper alignment.

10. Remove the alignment aid.

### 3.2. Procedure “B” - Standard Assembly with Heat Sink

1. Install the connector assembly onto the host pc board according to Application Specification 114-13263. Refer to Figure 2. Solder the connector to the pc board before seating the connector cover.

2. Place the connector cover assembly over the connector assembly such that the guide pins are inserted in the guide pin holes. Be careful to avoid damaging the soldered contacts. Fasten the cover assembly with two M3 screws. Refer to Figure 3. Take care to tighten the screws sufficiently to ensure compression on the bottom EMI gasket.

3. Place two rails on the host pc board such that the guide pins are inserted in the guide pin holes. Loosely attach the four M3 screws. See Figure 4.

4. Design a bezel/panel in accordance with Application Specification 114-13263. Install the bezel/panel onto the cabinet or case.

5. Place the backer plate onto the guide rails, with the side of the plate that has the pc board clearance cut facing down toward the pc board. The arms of the rail fit through the slots on the plate. The spring clips on the backer plate will hold the backer plate on the rails during the rest of the assembly procedure. See Figure 9.

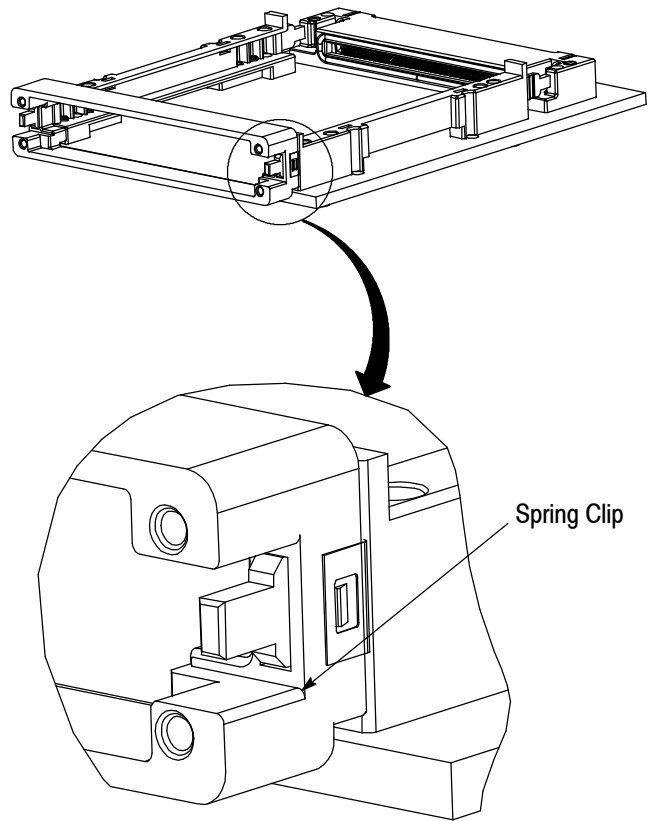


Figure 9

6. Insert the alignment aid until it stops on the receptacle cover. The backer plate will only accept the aid if inserted with the proper orientation. Tighten the four M3 screws. Remove the alignment aid. See Figure 10.

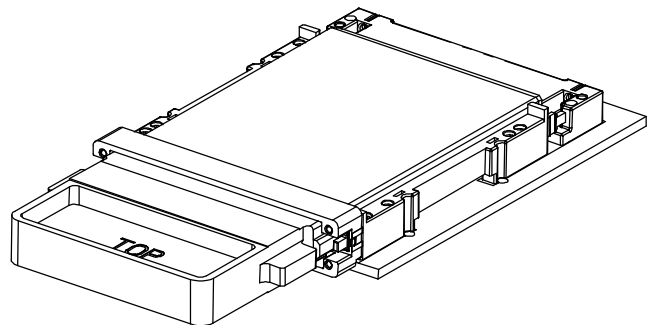


Figure 10

7. Install the pc board into the cabinet or case.

8. Mount an external bracket loosely to the bezel/panel. This should be done by inserting the external bracket into the bezel/panel opening such that the arms on the rear of the external bracket fit within the gaps on the bracket plate and around the tab on the rail arms. This is only possible when the external bracket is inserted with the proper

orientation. The EMI gasket on the rear of the external bracket should rest against outside of the bezel/panel, around the perimeter of the opening. Insert four 2-56 UNC hex socket head cap screws through the clearance holes in the external bracket, and screw them loosely into the backer plate. The bracket and plate should be held together by the screws, but not so tightly that they cannot move in the bezel/panel or relative to each other. Refer to Figure 11.

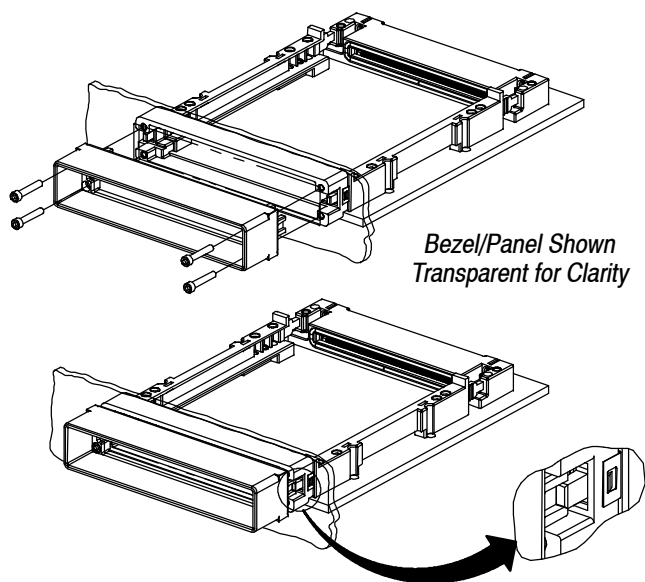


Figure 11

9. Insert the alignment aid. The external bracket will only accept the aid if inserted with the proper orientation. Some adjustment may be required if the bezel and pc board components are not already in alignment. Insert until the tool stops against the connector cover, at which point, only the handle will protrude significantly beyond the external bracket. See Figure 8.

10. Tighten the screws on the external bracket, to fully compress the EMI gasket on the bracket and hold proper alignment.

11. Remove the alignment aid.

12. Place heat sink mounting into host board assembly.

13. Secure heat sink mounting to guide rails by tightening shoulder screws.

## 4. REMOVAL

### 4.1. Bezel/Panel Components

The external bracket assembly can be removed from the bezel or panel by removing the screws and pulling

it from the bezel or panel. If the backer plate is not still attached to the guide rails, it must be prevented from falling and being damaged or damaging other equipment, when the external bracket is removed.

The backer plate assembly cannot be removed until either:

1. The bezel or front panel has been removed from the cabinet or...
2. The pc board is removed from the cabinet, with the backer plate still attached to the bezel/panel and external bracket or...
3. The pc board has been removed from the cabinet with the backer plate still attached to the guide rails.

If the backer plate assembly is attached to the bezel/panel, simply remove the external bracket as described previously, and lift the backer plate away from the bezel/panel. If the backer plate is attached to the guide rails, pull the backer plate straight back from the arms of the guide rails until the spring clip releases it.

### 4.2. Guide Rails

Once the backer plate and external bracket assemblies have been removed, the guide rails can be removed by removing the screws and lifting them from the pc board.

### 4.3. Connector Cover Assembly

Once the guide rails have been removed, the connector cover assembly can be removed by removing the screws and lifting the assembly from the pc board.

### 4.4. Connector

Use standard de-soldering methods to remove the CFP connectors from the host pc board.

**CAUTION** DO NOT re-use the connector after removal.



## 5. REPLACEMENT AND REPAIR

CFP connectors are not repairable. DO NOT use any defective or damaged products.

## 6. REVISION SUMMARY

- Updated document to corporate requirements
- Added new logo