Changing a GainMaker Amplifier to a GainMaker Node Installation Instructions

Overview

Audience

These installation instructions are intended for all cable system operators or installers who want to upgrade their existing GainMaker™ System Amplifier to a GainMaker Node.

Introduction

An existing GainMaker System Amplifier can be upgraded to a GainMaker Node by installing a GainMaker Node upgrade kit. Refer to the GainMaker Ordering Matrix for part numbers.

Tools Required

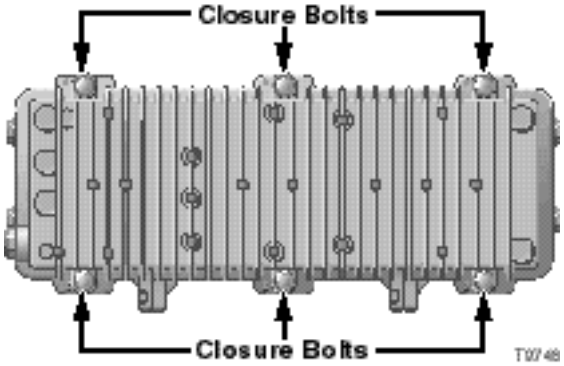
Before you start, make sure you have the following tools.

- Torque wrench with 1/2 –inch socket
- Screwdriver appropriate for the type of screws on the amplifier module cover
  - T-15 Torx bit screwdriver
  - Phillips-head screwdriver

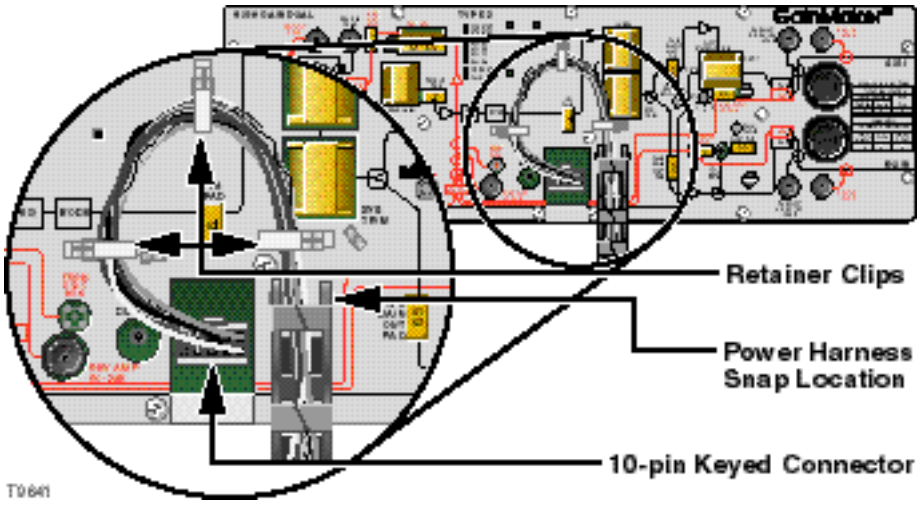
Upgrading an Existing Housing Lid

Follow these steps to upgrade an amplifier housing with the newer housing lid.

1. Using a torque wrench, loosen the six closure bolts in the housing lid, and open the housing.



2. Disconnect all power sources from the housing.
3. Unplug the 10-pin keyed connector of the power supply cable from the amplifier module.



4. Remove the power cable from the white plastic retainer clips.
5. Disconnect the power cable harness from the holes in the amplifier module cover.
6. Firmly grasp the housing lid.

7. Using a Phillips-head screwdriver, remove the locking screw from the housing hinge. The housing lid will now swivel completely open, allowing it to be removed from the housing base.

> ⚠ **WARNING:**
>
> **It is possible for the housing lid to separate from the housing base during this procedure and fall to the ground, possibly causing injury or damage to persons or property below.**

Important: Place the old housing lid in a safe place until it can be disposed of properly.

8. Firmly grasp the configured GainMaker Node housing lid and assemble to the housing bottom, swiveling it into place on the housing hinge.

> ⚠ **WARNING:**
>
> **It is possible for the housing lid to separate from the housing base during this procedure and fall to the ground, possibly causing injury or damage to persons or property below.**

9. Use a Phillips-head screwdriver to replace the locking screw and tighten from 5 in-lb to 8 in-lb (0.57 Nm to 0.90 Nm).

Upgrading the GainMaker RF Amplifier Module

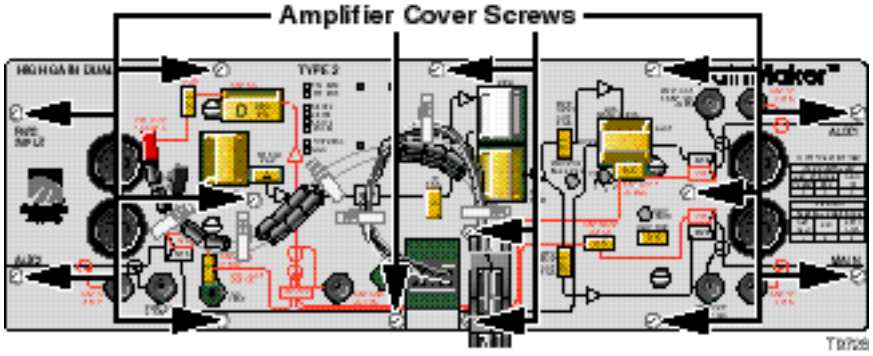
Follow these steps to upgrade the RF amplifier module to a GainMaker Node launch amplifier module.

> ⚠ **WARNING:**
>
> **Protect yourself from electric shock and your system from damage! Take precautions when working with this equipment. Certain components can deliver an electrical shock or cause burns. Disconnect power before attempting this procedure.**

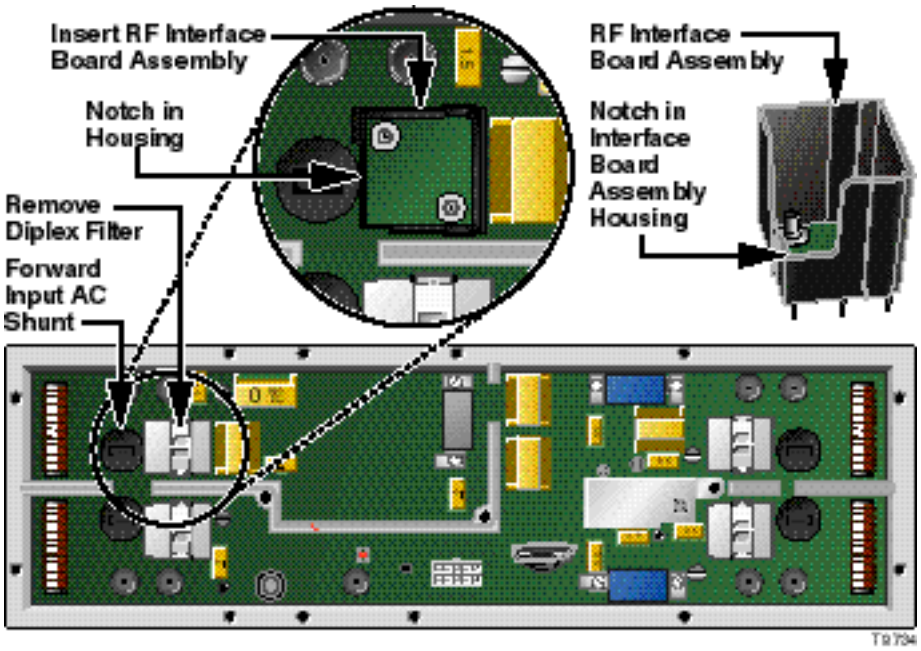
> ⚠ **CAUTION:**
>
> **RF connectors and housing seizure assemblies can be damaged if AC shunt power directors are not removed from the system amplifier before removing the amplifier module from the housing.**

1. Using a T-15 Torx bit screwdriver or Phillips-head screwdriver, loosen the amplifier cover screws, and then remove the cover.

   Note: The screws are captive to the cover, so they will not become lost.

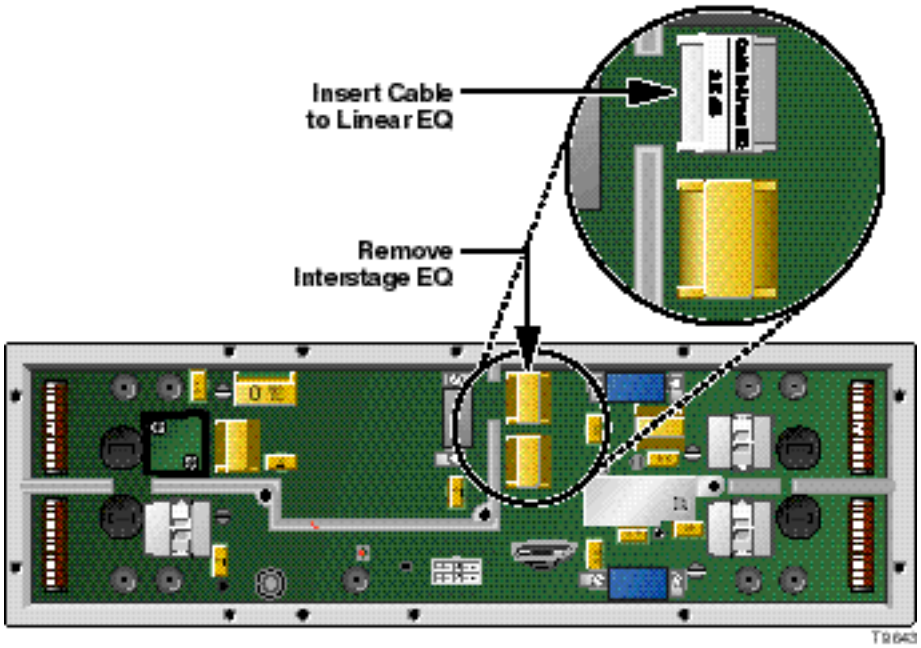


2. Remove the input diplex filter (detailed below) and replace with the RF interface board assembly.



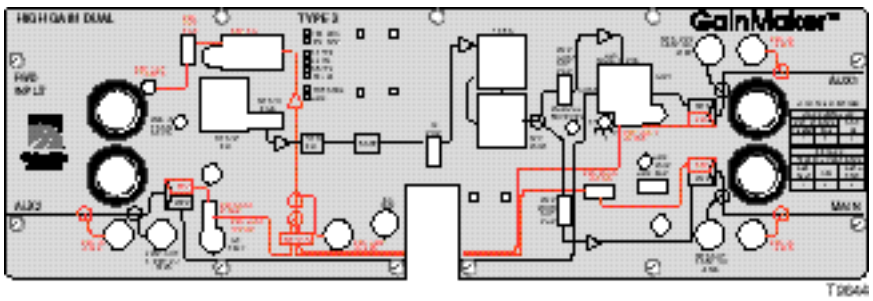
Important: Be sure the interface board is oriented in the exact position (with the notch facing outward) as shown in the illustration. If the board is positioned in any other direction, the cover will not fit properly.

3. Remove the existing interstage equalizer (yellow cover) and replace with the cable to linear equalizer (white cover) provided with the upgrade kit. (The EQ is keyed so that it cannot be installed incorrectly.)



4. Using either a Phillips-head or T-15 Torx bit screwdriver, secure the new GainMaker Node cover to the amplifier module (provided with the kit) by tightening the amplifier cover screws from 10-in-lb to 12 in-lb (1.3 Nm to 1.4 Nm).

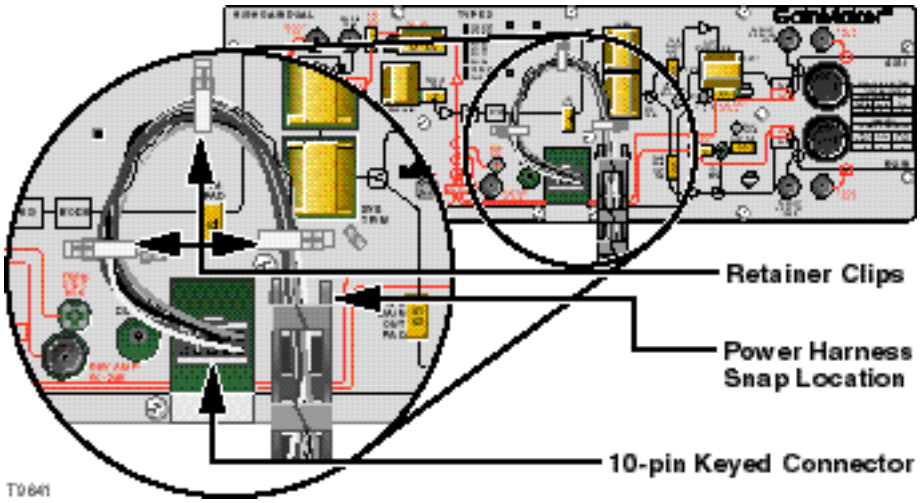
Important: The cover should lie completely flat on the amplifier chassis. Make sure none of the amplifier accessories prevent the cover from lying flat.



Routing the Cables

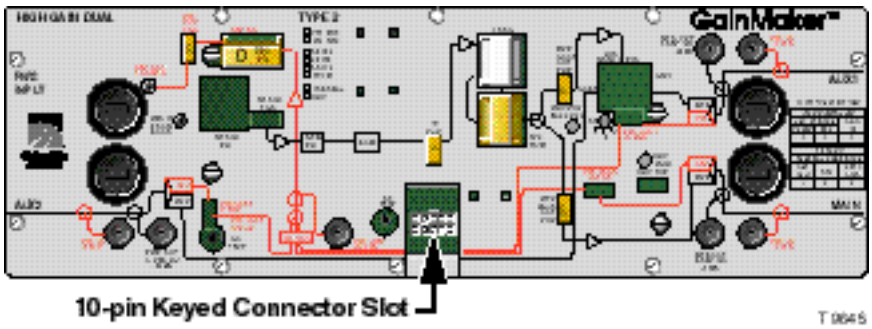
Follow these instructions to route the cables.

1. Once the amplifier cover is secure, snap the power cable harness from the GainMaker Node lid into the holes in the amplifier module cover. Be sure the power cable harness locking tabs are fully seated under the cover. See the illustration below for power cable harness snap location.



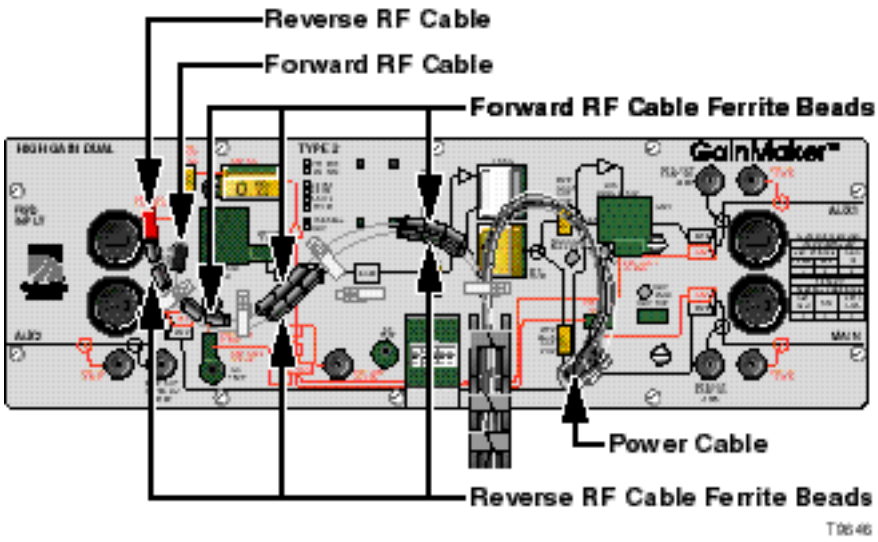
2. Route the power cable through the white plastic retainer clips on the module cover.

3. Plug the 10-pin keyed connector of the power cable into the 10-pin keyed connector slot. See illustration below.



Note: The connector can be attached only one way. Be sure it installs securely to the module.

4. Plug the red tipped RF cable (reverse) into the slot labeled **REV TO XMTR** and the black tipped RF cable (forward) from the GainMaker Node lid into the slot labeled **FWD IN FROM RCVR** on the module cover.



Important: Make sure the ferrite beads are in the exact location as shown in the illustration above.

5. Proceed to **Closing the GainMaker Node Housing**.

Closing the GainMaker Node Housing

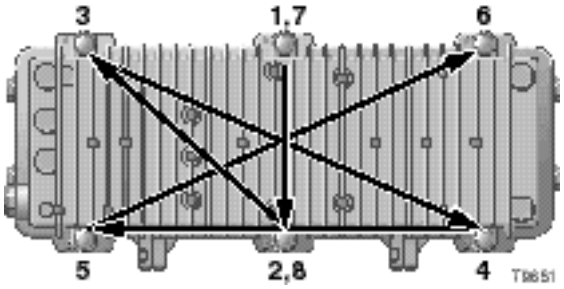
Follow these steps to close the GainMaker Node housing.

1. Inspect the housing gaskets and all mating surfaces. Wipe off any dirt and debris.

> ⚠ **CAUTION:**
>
> **Avoid moisture damage and RF leakage! Follow steps 2 and 3 exactly to ensure a proper seal.**

2. Close the housing and finger-tighten all closure bolts.
3. Using a torque wrench, tighten the bolts from 5 ft-lb to 12 ft-lb (6.8 Nm to 16.3 Nm).

   Important: Follow the numbered sequence shown below to tighten the bolts.



Important: Please refer to the *GainMaker Node Installation and Operation Guide*, part number 744490, for proper setup and balancing of fiber routing paths.

For Information

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.

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