

## IMR-4 Auxiliary Input / Output Interface Module

### **Introduction:**

The IMR-4 is designed to interface to the Audio Expansion Port™ of the Poly-Planar line of Audio Centers. It provides 2 Auxiliary inputs, a fixed level Pre-amp line output, and both front and rear variable line level outputs. All inputs and outputs are stereo (Left + Right). The Auxiliary input channels can be configured to accept line level, or high level (power amplifier output) signals. Differential input circuits are used to minimize interference, and to isolate grounding for connections from bridged mode amplifiers. Refer to the specification section for details on signal levels and limitations.

### **Uses**

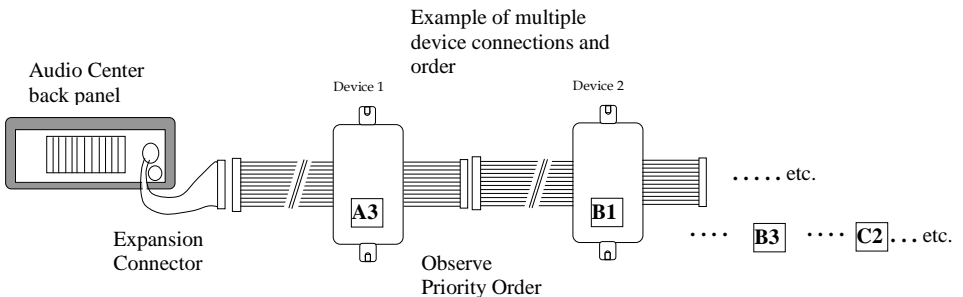
Some of the possibilities enabled with the IMR-4 include:

- Connect audio from TV, VCR or DVD
- Connect audio from portable MP3, cassette, or CD player
- Connect audio from VHF Radio or any other Boat electronics
- Provide output for external subwoofer
- Provide output for external powered loudspeakers
- Provide output for separate audio zone with independent volume
- Provide output for headphone connection (requires external headphone booster)

**INSTALLATION INSTRUCTIONS**

**Connecting to the Audio Center:**

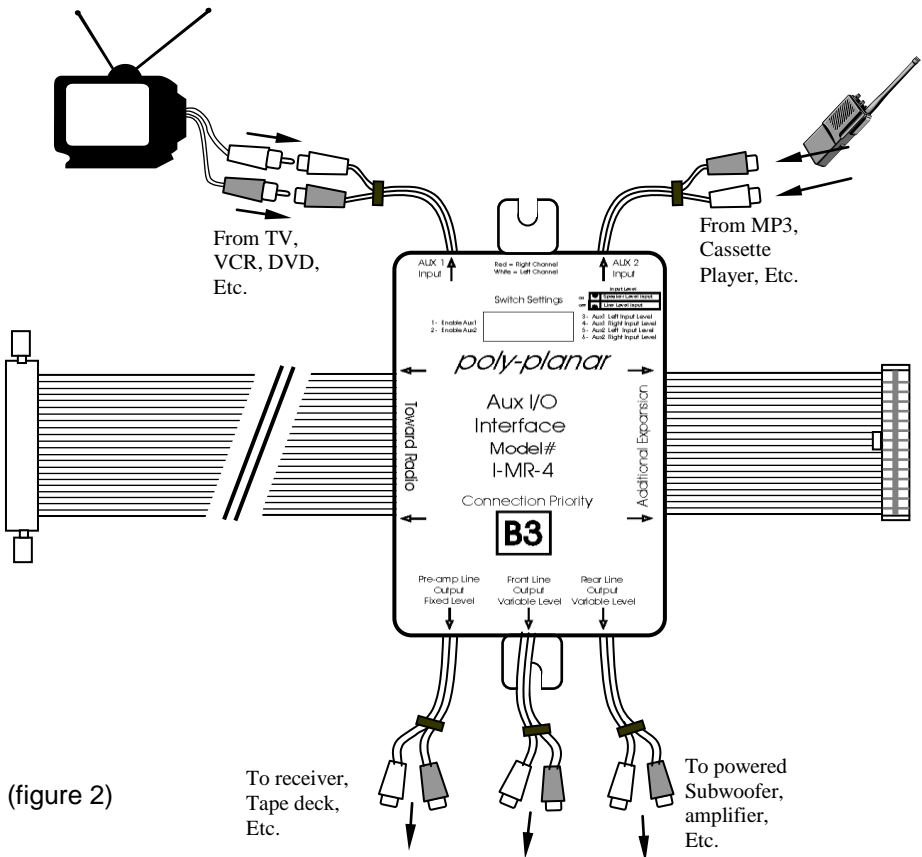
- 1) Gain access to the rear side of the Poly-Planar Audio Center.
- 2) Be sure to remove power from the Audio Center. This is important to avoid damage during connection. In addition, the Auxiliary input circuits will not become active unless power is removed from the Audio Center during connection.
- 3) You may already have other Expansion modules connected to your Poly-Planar Audio Center. Each Expansion Module is assigned a priority code in order to insure proper audio routing. Expansion Modules are designed to connect together in a bus fashion. The IMR-4 is a priority [B3] device meaning that it would connect after any [A] series devices, after a [B1] or [B2], but before a [B4], [C] or any subsequent designation. The order of the devices is important to insure proper functioning of all devices. If the IMR-4 is your only expansion device then it can connect directly to the Audio Center.
- 4) Connect the IMR-4 in the proper location making sure that the ears on the locking 26 pin connector are latched, and the blue protective tape is removed from any connectors that need to be used.



(figure 1)

**Connecting Audio Inputs and Outputs:**

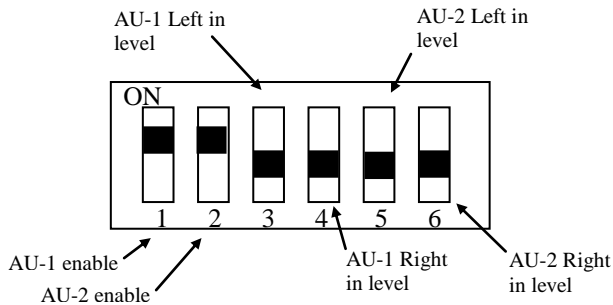
- 5) The connection pigtails use standard RCA type connectors. Remove the red and white caps before making a connection. Leave the caps in place on any unused connectors.
- 6) Good quality, shielded cables should be used for all connections to and from the IMR-4
- 7) It is recommended to use vinyl electrical tape around the RCA jacks for any permanent connections to protect contacts from moisture and to insure that the connection cannot vibrate loose.



(figure 2)

### Configuring the IMR-4

- 8) The IMR-4 has a bank of 6 DIP Switches. Access the switches by pulling back the clear adhesive tab over the rectangular access hole. Use a small screwdriver or pen tip to slide the switches on or off. Be sure to replace the tab after setting the switches. Settings are as follows:
- a. Switch 1 enables the AUX-1 input. Set this switch in the OFF (Down) position if you do not intend to connect any device to the AUX 1 input.
  - b. Switch 2 enables the AUX-2 input. Set this switch in the OFF (Down) position if you do not intend to connect any device to the AUX 2 input.
  - c. Switch 3 and 4 select the input sensitivity for the AUX-1 input. Set these switches in the OFF (Down) position if you are connecting a line level output device (line output from TV or MP3). Set these switches ON (Up) if connecting from a loudspeaker output (headphone jack or receiver speaker output).
  - d. Switch 5 and 6 select the input sensitivity for the AUX-2 input. Set these switches in the OFF (Down) position if you are connecting a line level output device (line output from TV or MP3). Set these switches ON (Up) if connecting from a loudspeaker output (headphone jack or receiver speaker output).



(figure 3)

## **Operation**

- 9) With the IMR-4 connected to the Audio Center, re-connect power, turn on the unit and press the SOURCE button until the display indicates AU-1 or AU-2. The SOURCE button will cycle through all available program sources in the following order TUNER -> CD PLAYER -> CD CHANGER -> AU-1 -> AU-2. If AU-1 or AU-2 does not appear then it is likely that switch 1 or 2 are in the off position. NOTE: after changing switch 1 or 2 it is necessary to reset the Audio Center by either removing all power from the unit, or pressing the RESET button through the tiny hole on the bezel behind the front panel.
- 10) The Line outputs are always active when the IMR-4 is connected and there are no special indicators on the Audio Center to control these output separately.

## **Mounting**

- 11) The IMR-4 should be mounted to a flat surface as close to the Audio Center as possible. It should be mounted in an area that is free from dripping water. There are 2 tabs on the plastic case that can be used for screw mounting, or the unit can be fixed using a durable double-stick foam tape.
- 12) The cables should be dressed as neatly as possible and should be kept clear of other vehicle wiring. Fold or coil any excess length of the gray flat-cable. Long runs of audio cables can be very sensitive to interference so care must be taken to route them away from high-current carrying wires

## Specifications

### 13) Aux 1 and Aux-2 Inputs

- a. Input Impedance: 10 Kohm (Line level input)  
1 Kohm (Speaker level input)
- b. Input Level: 0.5 – 1.5 VRMS (Line level input)  
1.5 – 7.0 VRMS (Speaker level input)
- c. Fixed Output Level: 1 VRMS
- d. Variable Output Level: 0 – 1 VRMS
- e. Output Minimum load: 300 ohm

## Troubleshooting

### 14) Audio Center will not select AU-1 (or AU-2) as desired

- a. Check to make sure the configuration switch is set to the ON position and all connectors on the gray ribbon cable are firmly seated.
- b. Reset the Audio Center by either pushing the reset switch using a pin, or by removing power to the unit. Remove power by either disconnecting the entire Audio Center 12 pin harness or disconnect the vehicle battery for 10 seconds.

### 15) AU-1 (or AU-2) appears on Audio Center although this input is unused or unwanted

- a. Set switch for unwanted Aux channel to OFF position.
- b. Reset the Audio Center by either pushing the reset switch using a pin, or by removing power to the unit. Remove power by either disconnecting the entire Audio Center 12 pin harness or disconnect the vehicle battery for 10 seconds.

- 16) Signal seems too loud and/or distorted when AU-1 or AU-2 program is selected
- a. The input signal level may not be properly matched to the input sensitivity of the IMR-4. If your source is connected using a line level output then try adjusting the volume from the source equipment. The level should be set such that AUX input has the same apparent loudness as the radio or CD source in the Audio Center.
  - b. If connected to a loudspeaker or headphone output, be sure that both input sensitivity switches are set to ON for the desired channel. For Aux 1 channel set switches 3&4 to ON, for Aux 2 set switches 5&6 to ON.
- 17) Signal is too quite when AU-1 or AU-2 program is selected
- a. Be sure that input sensitivity switches are set to the OFF position for the selected channel (AU-1 or AU-2)
  - b. Adjust the volume on your source equipment. Many devices use a variable output and require that the volume be set nearly to Maximum in order to achieve line level output. With most TVs it is possible to defeat the internal loudspeaker
- 18) Hum or noise interference is audible when AU-1 or AU-2 program is selected
- a. Be sure that both Left and Right audio cables are properly connected to your source. Leaving a cable unconnected will allow interference to enter the cable
  - b. If connecting to a Mono source, you should use a 'Y' adapter to send audio to both Left & Right channels of the IMR-4
  - c. Be sure that audio cable are routed away from vehicle main wire bundles or other cables carrying large currents.

- d. In some instances it may be necessary to connect your source equipment to the vehicle DC ground. Especially for AC powered devices such as many TVs and VCRs.
- 19) Signal is too quiet / too loud from external subwoofer or powered speakers
- a. Be sure that you have connected the output of the IMR-4 to the LINE level input of your woofer or amplifier. If input switch settings are available then set them to 'LINE' or 'low level input'
  - b. In order to achieve proper balance from an externally connected subwoofer or amplified speaker system you will need to adjust the gain control on the external device. With music playing at a moderate level, adjust the gain (volume) control until the desired sound balance is achieved.

## WARRANTY

Poly-Planar marine audio systems are warranted to be free of defects in materials and workmanship for a period of two years. Warranty is subject to proper installation and operation within published specifications. Poly-Planar will repair or replace, at its discretion, any unit returned prepaid to its factory and determined to be defective. Poly-Planar Inc. is not liable for consequential damages.