L.O.C.PRO™ LP6-4

Line Output Converter

The professional way to integrate your new amplifier or radio.

Installation Instructions

Before You Start

Replacing your radio? PAC also produces RadioPRO™ which is a radio replacement solution, with steering wheel control retention built-in. This greatly expedites the installation of a new radio into your vehicle.
To see if there is a RadioPRO™ interface for your vehicle, visit www.pac-audio.com and search "Radio PRO".

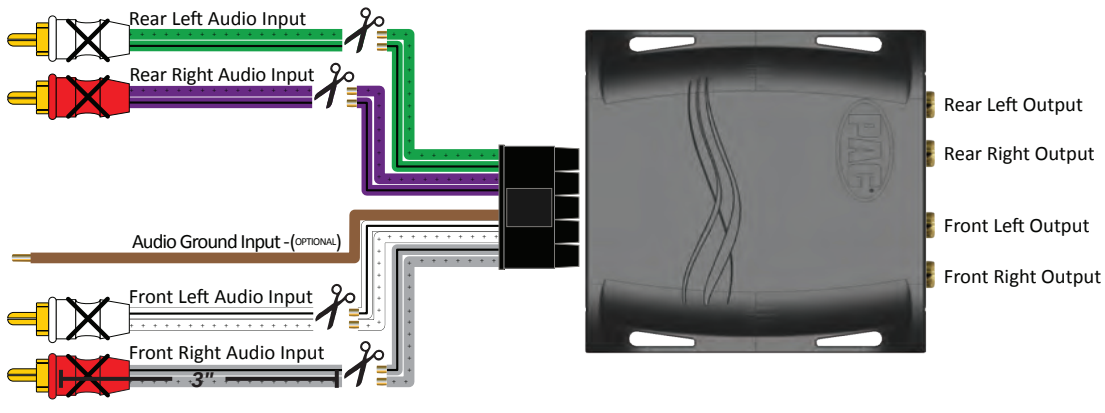
General Overview

The L.O.C.PRO™ LP6-4 can be used for either replacing an OEM radio and retaining the factory amplified system or adding amplifiers to a system that does not have RCA outputs. Level matching is achieved using precision stereo gain dials and will enable proper adjustment of audio output of the radio for optimum system performance. Differential inputs also allow for use in OEM BOSE and other premium system scenarios.

Speaker Level Input to RCA Level Output

Speaker level input to RCA level output is the most commonly used configuration for the LP6-4.
Use this when you need to create RCA level outputs from a source that only has speaker level outputs.
The RCA input connectors on the main harness will not be utilized for this type of installation, we suggest cutting them off the harness 3 inches from the RCA end so they can be saved and used for a future installation.
After all the connections are made on the remaining wires, skip to the level adjustment section of this manual.

Cut away RCA ends for wired speaker level inputs

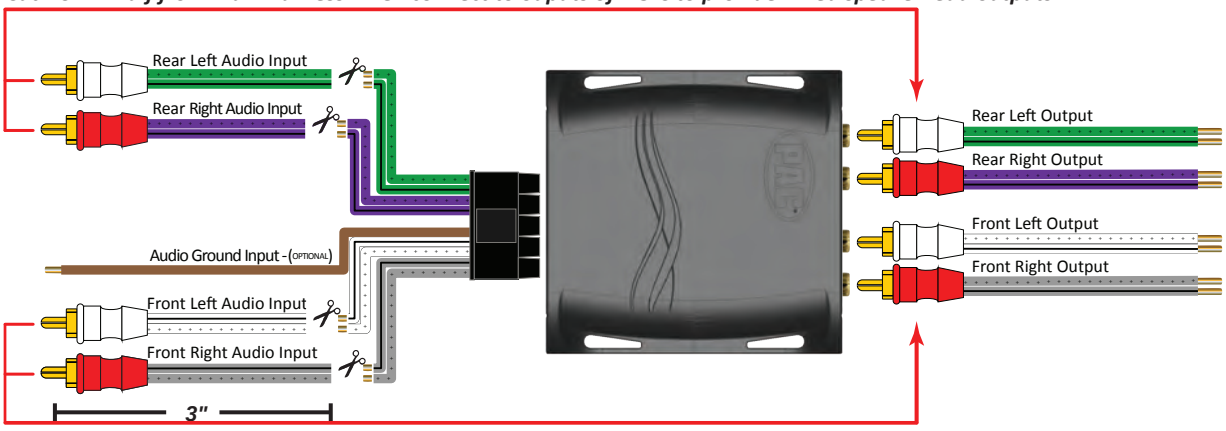


Note: If using large RCA connectors that are difficult to insert into housing, unsnap the L.O.C.PRO™ cover and remove end panel insert around RCA outputs.

Speaker Level Input to Speaker Level Output

Speaker level input to speaker level output is most commonly used when replacing an OEM radio and retaining the factory installed amplifiers. Use this when you need to match levels from a source that only has speaker level outputs and an amplifier with speaker level inputs. The RCA input connectors on the main harness will be used for this type of installation, we suggest cutting them off the harness 6 inches from the RCA end so they can be used for wired speaker level output. After all the connections are made, skip to the level adjustment section of this manual.

Cut RCA in half from main harness. Then connect to ouputs of L.O.C to provide wired speaker lead outputs.



Level Adjustment

New School –

Required items: Digital Multi-Meter, Test track media @ 1kHz and 100Hz. Max Amplifier Line-level Input Voltage Specification (i.e., 4vrms, 8vrms, etc.) Proper level adjustment is crucial for obtaining the best possible sound quality. Following the guidelines below will enable you to properly set the output gain of the LP6-4 using equipment that is readily available. Although this device can be set by ear (Old School), we recommend using a multi-meter and test tracks for pinpoint accuracy and the least chance of noise.

Amplifiers usually have 2, 4 or 8v max line-level input ratings but this can vary. This max line-level input will be your target setting you will read on the multi-meter. Perform the following procedure for each amplifier you are installing.

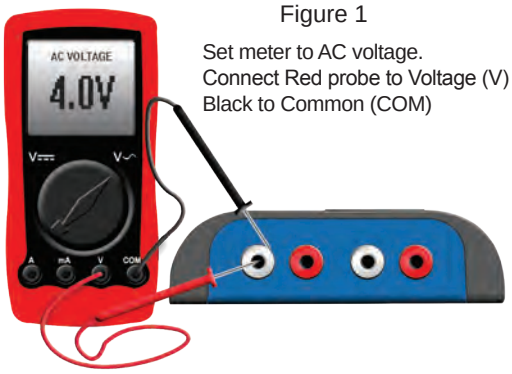
Example:

Amplifier 1 *(Mid/High frequency)* has a maximum 4v input voltage, so you will be targeting a 4 volt output voltage from the LP6-4.

Amplifier 2 *(Sub frequency)* has a maximum 2v input voltage, so you will be targeting a 2 volt output voltage from the LP6-4.

1. Start with gain adjustment levels on LP6-4 and amplifiers set to minimum.
2. Turn source unit to ¾ maximum volume and start test track *(1kHz for mid/high or full range, 100Hz for sub).*
3. Choose either left or right channel - With multi-meter, test output of LP6-4 front channels. Probe with negative on RCA shield and positive in center of RCA output. *(figure 1)*
4. Slowly adjust level on LP6-4 until you reach the target voltage of the amplifier. *(figure 2)*
5. Repeat steps for rear channels *(if connecting to a different amplifier, adjust to that amplifier's voltage requirements)*
6. Turn volume down and system off.
7. Connect RCAs, set gains on amplifiers to minimum
8. Turn system on and fine tune gains of amplifier *(if needed)*.

Figure 1

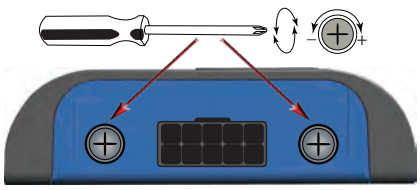


Set meter to AC voltage.
Connect Red probe to Voltage (V)
Black to Common (COM)

Old School –

1. Start with gain adjustment levels on LP6-4 and amplifiers set to minimum.
2. Turn source unit to ¾ maximum volume and play a familiar song that has dynamic attributes. *For example, if your volume goes to 40 you will turn it up to 30 and play a song that has some quiet sections and some really loud sections.*
3. Slowly adjust front channel gain of LP6-4 until just a hint of distortion is audible, and then back down gain just under that threshold and the distortion goes away. *(figure 2)*
4. Repeat steps 1-3 for rear channels.

Figure 2

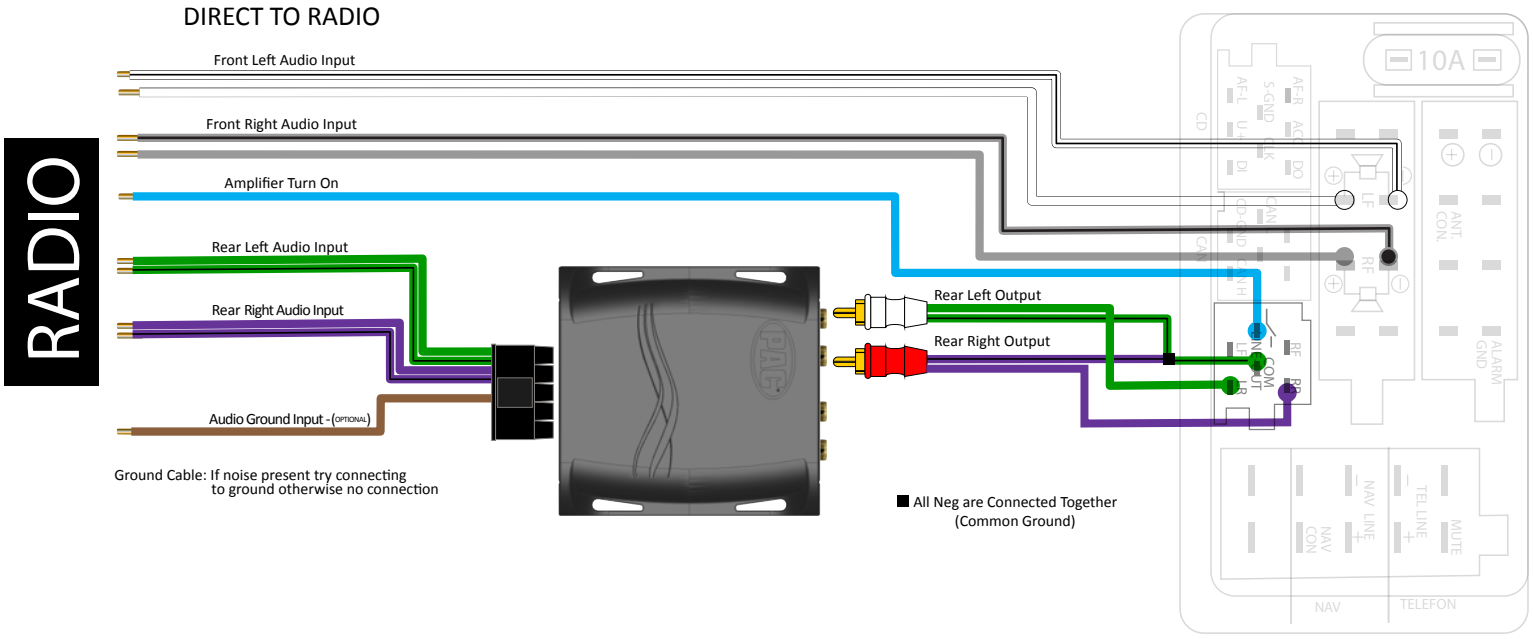


Audi Amplifier Integration

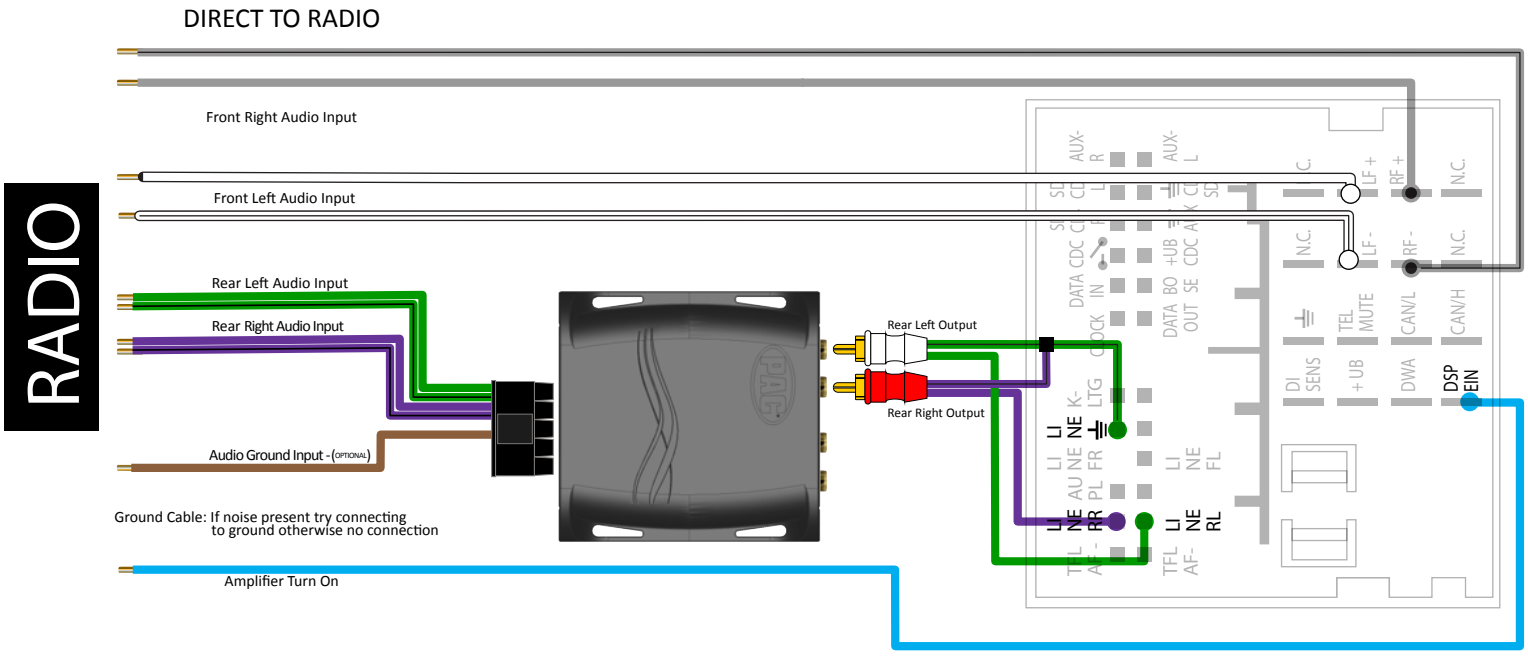
Symphony/Concert

In the Symphony/Concert amplified systems, only the rear speakers that are amplified. The front speakers are not amplified so they will wire up normally to the radio with the high level speaker wires. For integrating into the rear amplifier you will need the LP6-4. The positive outputs on the LP6-4 you will only need to use the rear channels on the LP6-4 to complete the integration on the factory amp.
You will only need to use the rear channels on the LP6-4 to complete the integration on the factory amp.

Older (VW) Style Harness



Newer (VW) Style Harness

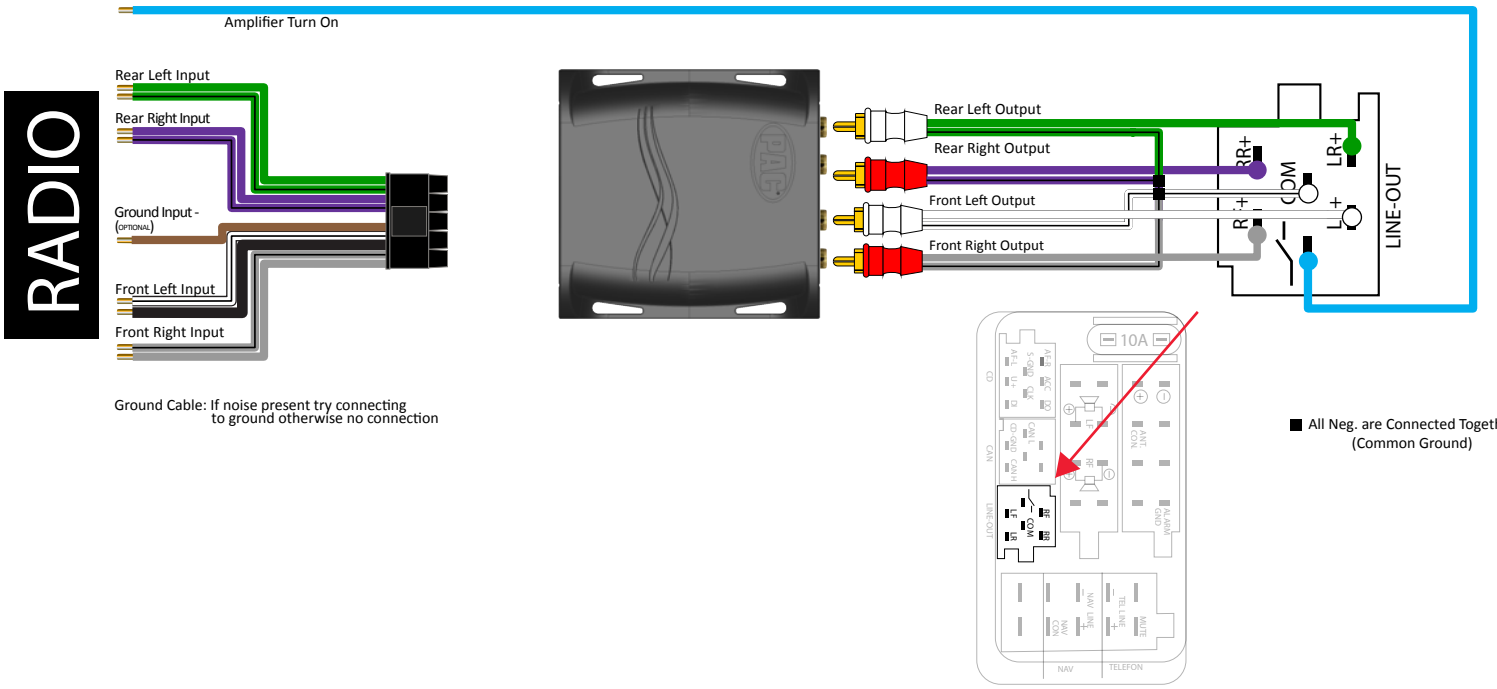


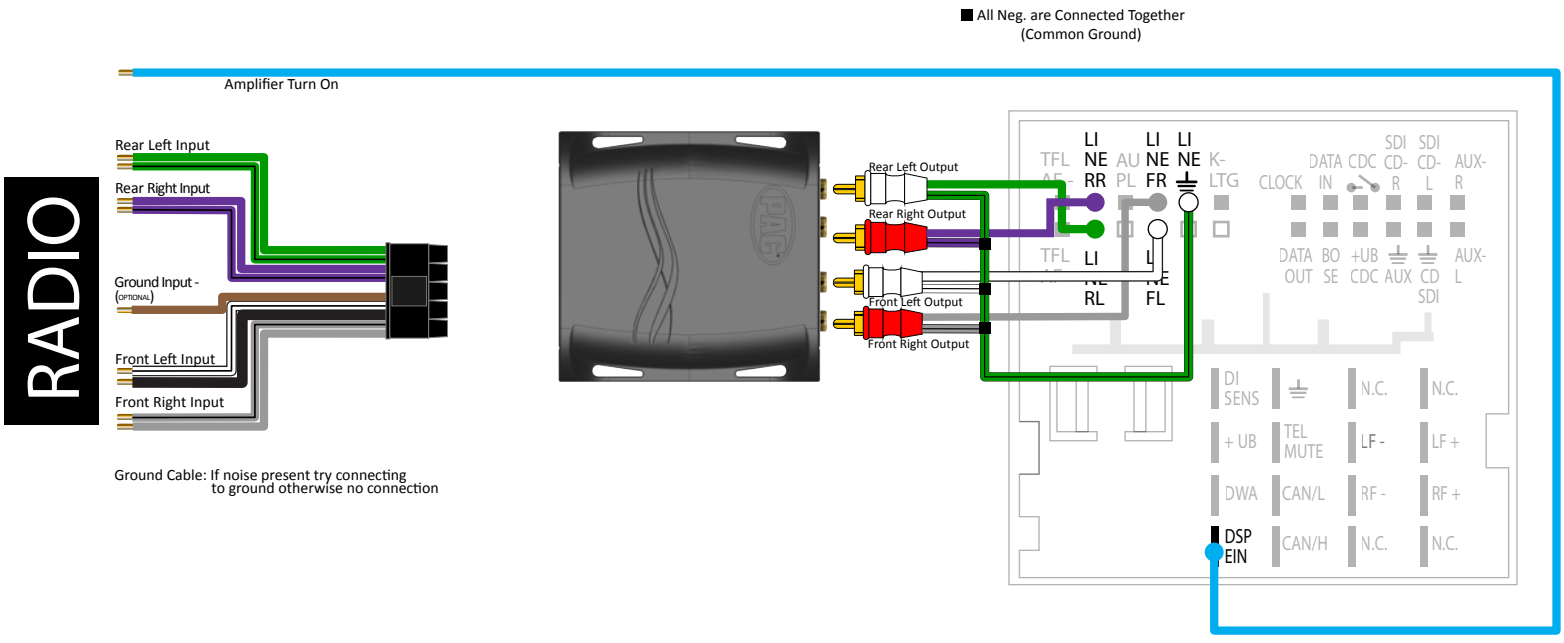
Audi Amplifier Integration

BOSE

With BOSE amplified systems all the speakers that are amplified. For integrating into the amplifier you will need the LP6-4.

Older (VW) Style Harness



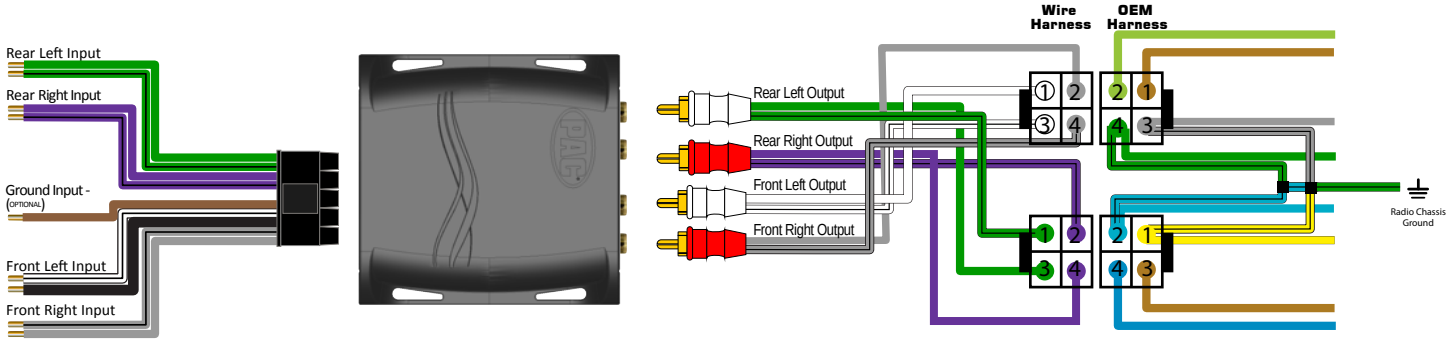


Pre 1985 General Motors Bose

INSTALLATION NOTES:

Cut away shield wires (clear or uninsulated wire) from factory side as illustrated in diagram and connect to chassis radio ground.

RADIO

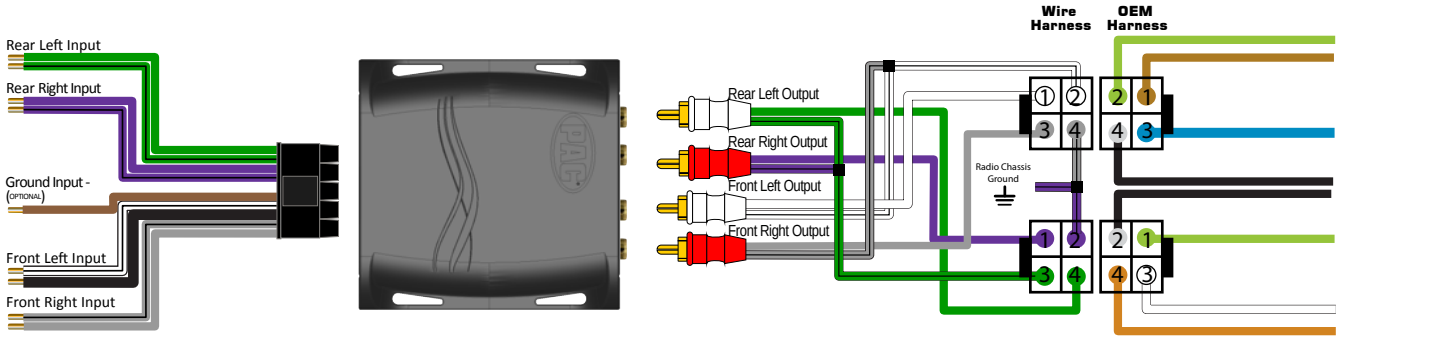


Ground Cable: If noise present try connecting to ground otherwise no connection

■ All Neg. are Connected Together (Common Ground)

1985-1989 Corvette / Bose

RADIO

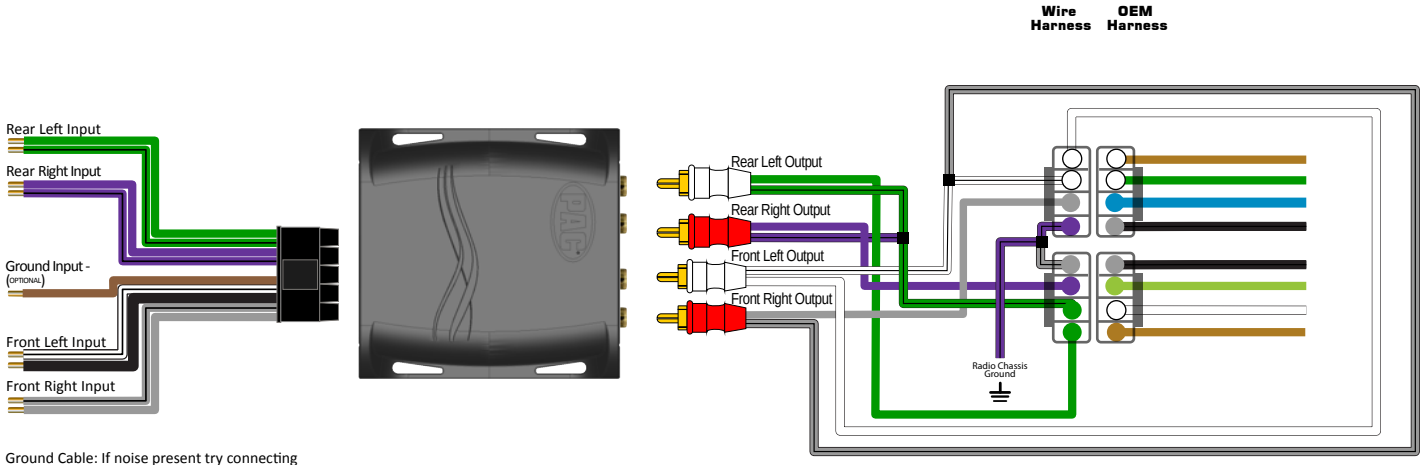


Ground Cable: If noise present try connecting to ground otherwise no connection

■ All Neg. are Connected Together (Common Ground)

1990-1997 General Motors Bose

RADIO

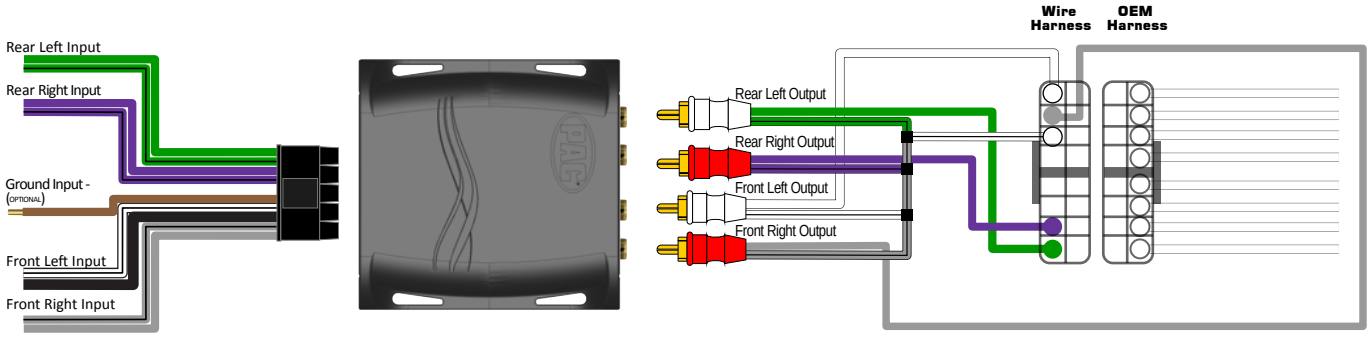


Ground Cable: If noise present try connecting to ground otherwise no connection

■ All Neg. are Connected Together (Common Ground)

Common Audio Signal Ground

RADIO



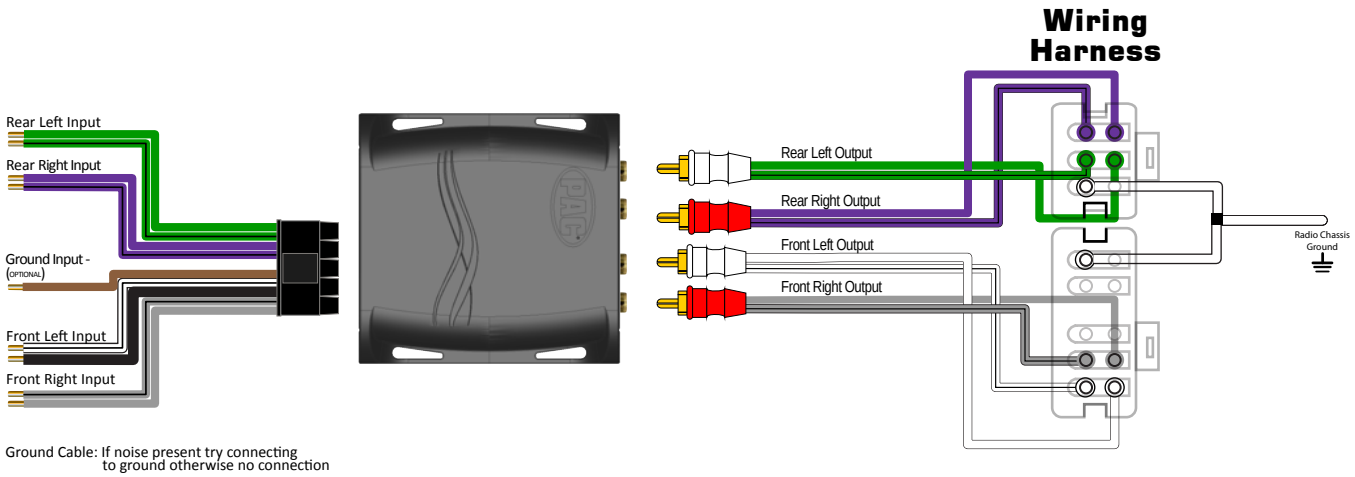
Ground Cable: If noise present try connecting to ground otherwise no connection

■ All Neg. are Connected Together (Common Ground)

PREMIUM OEM INTERFACING

1989-1994 Nissan or Infinity Bose Sound System

RADIO

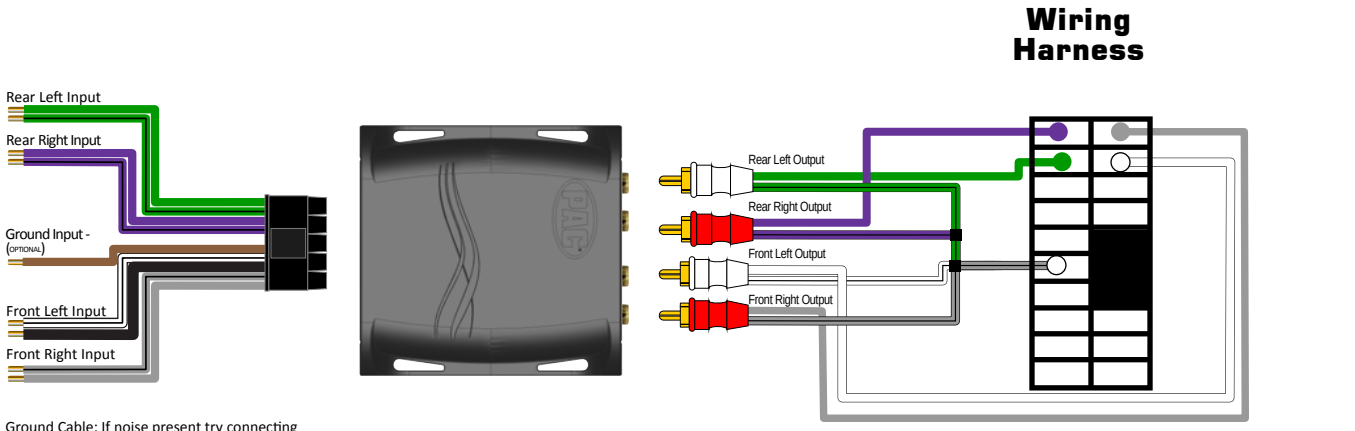


Ground Cable: If noise present try connecting to ground otherwise no connection

■ All Neg. are Connected Together (Common Ground)

1992-1999 Toyota or Lexus Premium Sound System

RADIO



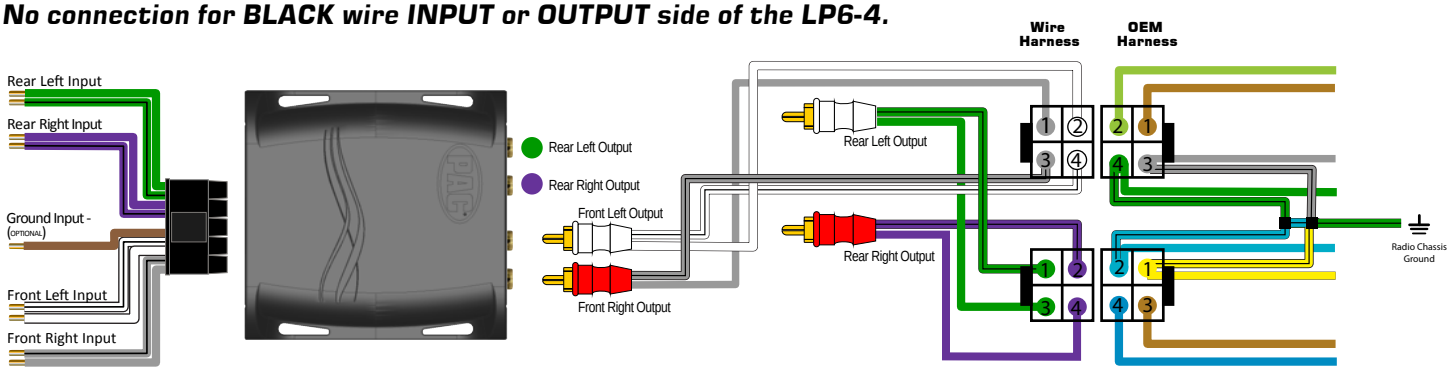
Ground Cable: If noise present try connecting to ground otherwise no connection

■ All Neg. are Connected Together (Common Ground)

1985 -1990 General Motors Delco Bose Premium Sound System

INSTALLATION NOTES: Cut away shield wires (clear or uninsulated wire) from factory side as illustrated in diagram and connect to chasis radio ground.
No connection for BLACK wire INPUT or OUTPUT side of the LP6-4.

RADIO



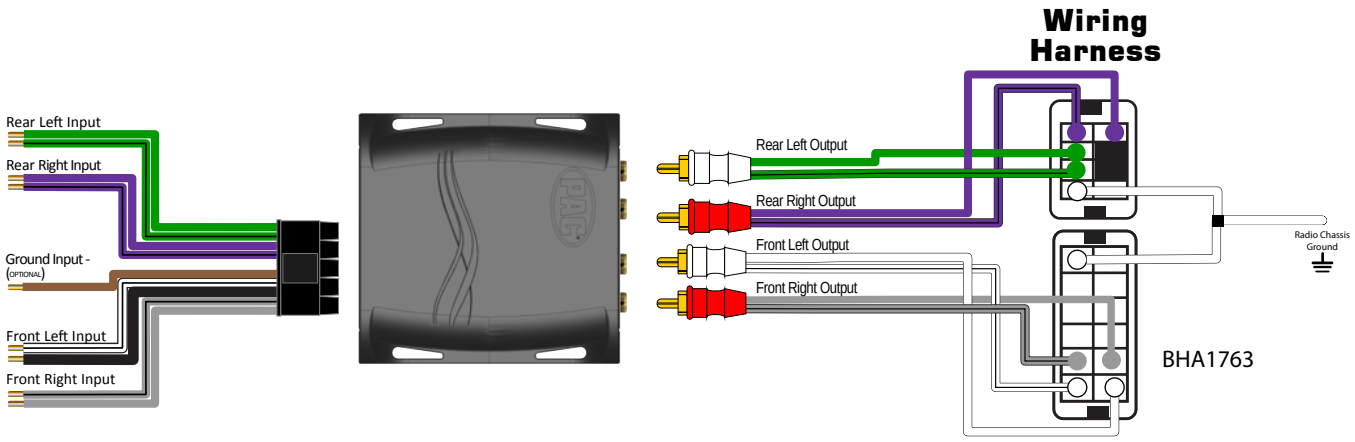
Ground Cable: If noise present try connecting to ground otherwise no connection

■ All Neg. are Connected Together (Common Ground)

PREMIUM OEM INTERFACING

1995-2004 Nissan or Infinity Bose Sound System

RADIO



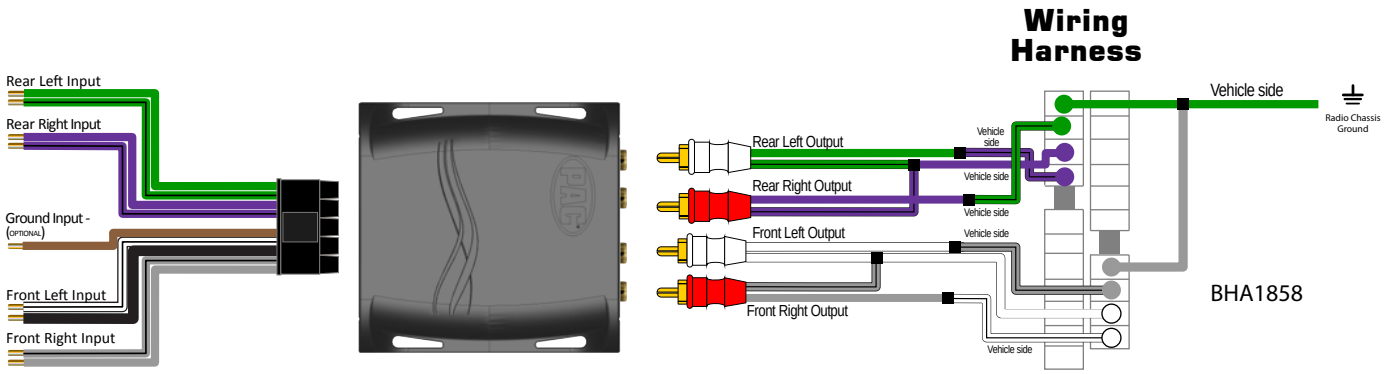
Ground Cable: If noise present try connecting to ground otherwise no connection

■ All Neg. are Connected Together (Common Ground)

2000-2002 GM Fullsize Truck & SUV Including Cadillac, Delco Bose Premium Sound System

INSTALLATION NOTES: No connection fro BLACK wire INPUT or OUTPUT side of the LP6-4.

RADIO



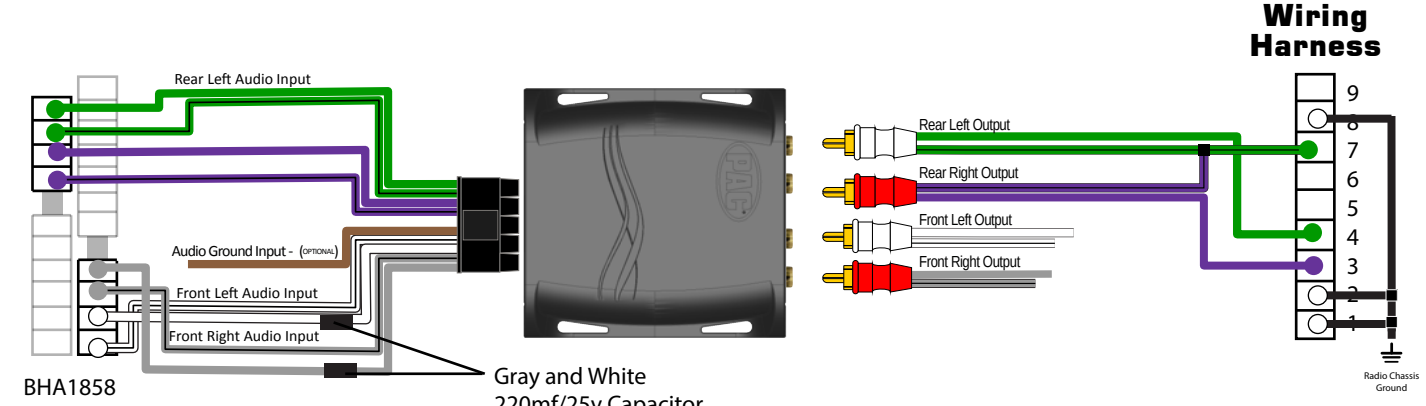
Ground Cable: If noise present try connecting to ground otherwise no connection

NOTE: Vehicle harness colors do not match up color for color

1997-2004 Corvette Delco Bose Premium Sound System

INSTALLATION NOTES: No connection for BLACK wire INPUT or OUTPUT side of the LP6-4.

RADIO



■ All Neg. are Connected Together (Common Ground)