2 Channel Line Output Converter Wiring Diagram: PAC LPA-2.2 User Guide

The PAC LPA-2.2 2 Channel Line Output Converter User Guide provides detailed information on how to use the L.O.C.PRO ADVANCEDTM to add amplifiers to an audio system that does not have RCA outputs or when replacing an OEM radio and retaining the factory amplified system. The Line Output Converter (LPA) features variable gain controls with clipping indicators, selectable ground isolation, and load select features to ensure a pure, noise-free signal for any type of audio system. The user guide includes a quick start guide, features and wiring information, example installation, specifications, and two methods for setting the output gain of the LPA using equipment that is readily available. The guide also provides technical support information for customers who need additional help or information. The 2 channel line output converter wiring diagram is included to help users understand how to connect the LPA to their audio system.

LPA-2.2 2 Channel Line Output Converter
LPA-2.4 4 Channel Line-Output Converter
User Guide
LOG PRO ADVANCED
Line Output Converter
Line Output Converter Gain Level Set-Up

Quick Start Guide

The L.O.C.PRO ADVANCEDTM can be used to add amplifiers to an audio system that does not have RCA outputs or when replacing an OEM radio and retaining the factory amplified system. Variable Gain Controls with Clipping Indicators, Selectable Ground Isolation and Load Select features ensure a pure, noise-free signal for any type of audio system.

This Quick Start Guide will get you going, but if you need additional help or information, please visit our website or contact Technical Support.

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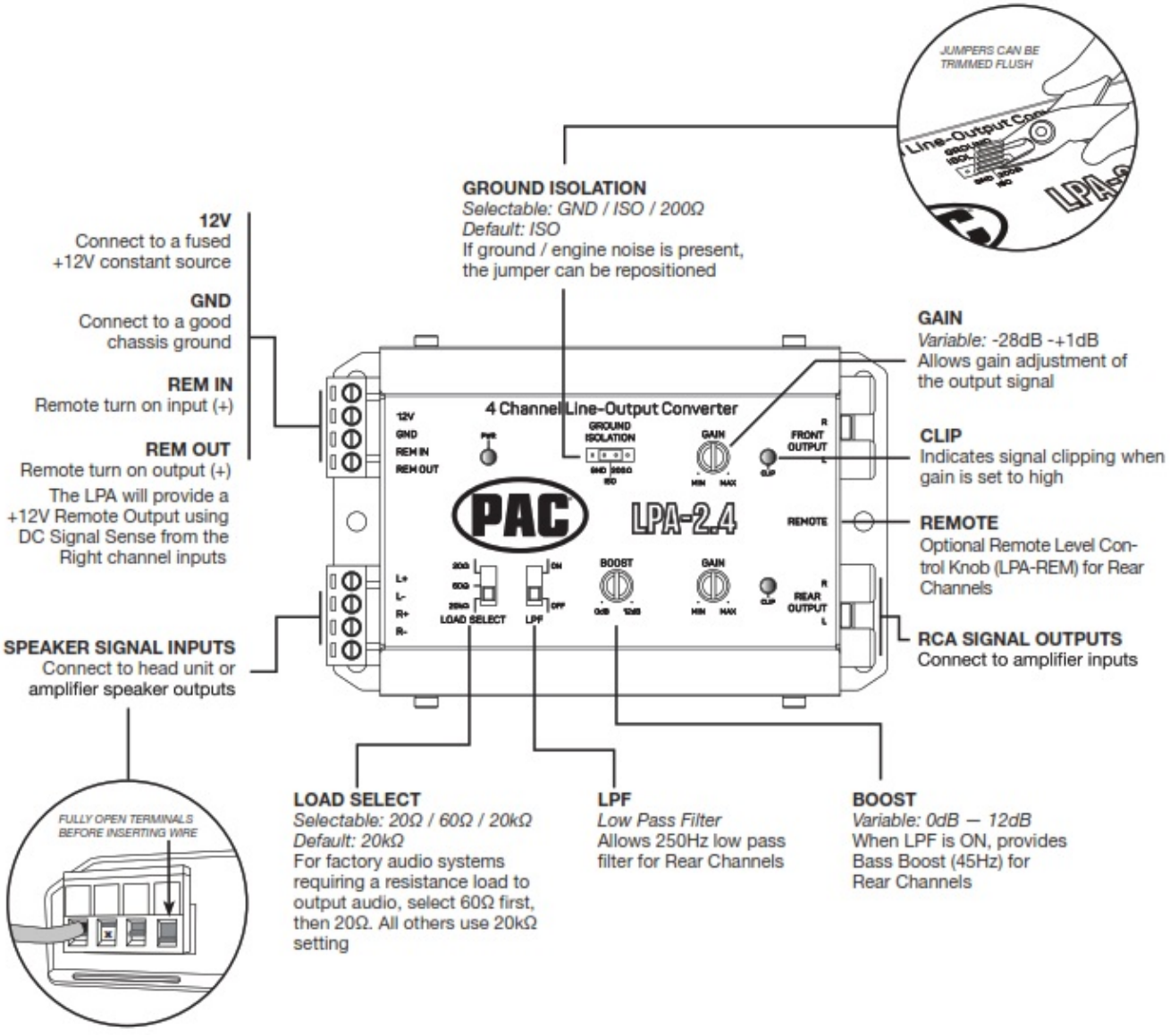
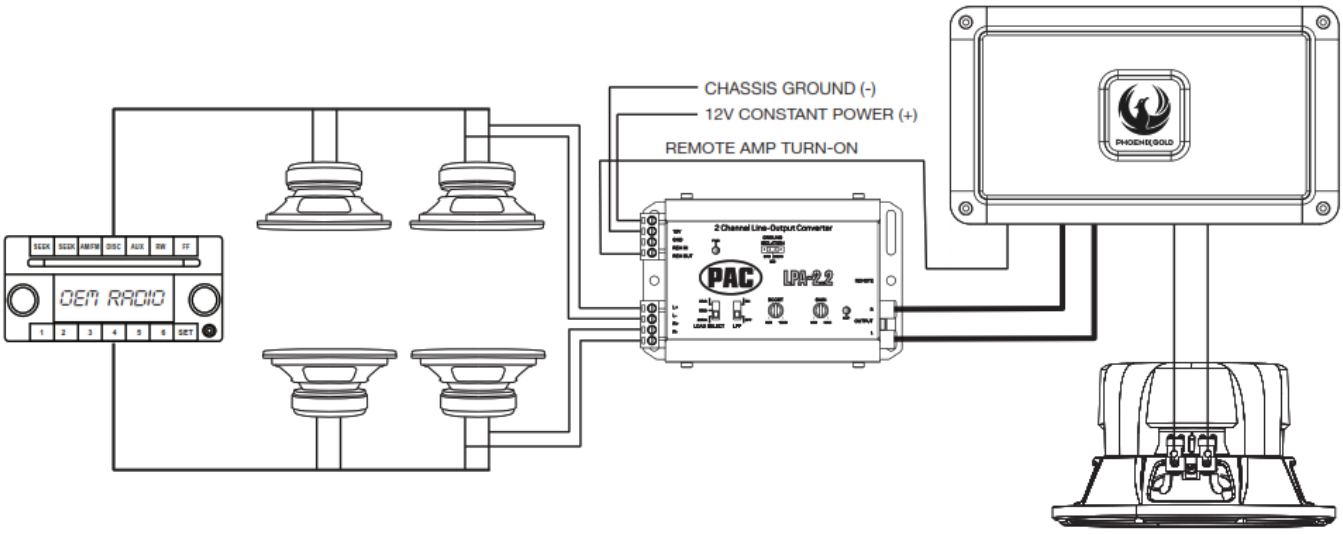
Features & Wiring Information



Example Installation

Speaker level input from radio to RCA level output for an aftermarket amplifier is the most commonly used configuration for the L.O.C.PRO ADVANCED. This will create RCA-level outputs from a radio that only has speaker-level outputs.

In the example below, the Positive(+) and Negative(-) wires of two speakers are “tapped” and connected to the SPEAKER SIGNAL INPUTS of the LPA. The speakers will continue to play as normal. The REM OUT is connected to the amplifier’s turn-on. When the radio is turned on the LPA will automatically turn on the amplifier. Lastly, the RCA SIGNAL OUTPUTS from the LPA are connected to the aftermarket amplifiers’ inputs.



For more installation examples, tech tips, and updates, visit the L.O.C.PRO ADVANCED product pages on [PAC-Audio.com]

https://catalog.pac-audio.com/catalog/lpa/

Specifications

Model Number	LPA-2.2	LPA-2.4
Channels	2 IN — 2 OUT	2 IN — 4 OUT
Operating Voltage	9V-16V	9V-16V
Max Input Level (20kHQ Load Setti ng)	40V / 400W 0 4 Ohms	40V / 400W 0 4 Ohms
Auto Turn On	DC Offset / Remote	DC Offset / Remote
Output Voltage MAX 13.8V	9.5V RMS	9.5V RMS
Turn On Trigger (DC-Offset)	3V-7V	3V-7V
Load Input Impedance	200, 60Q, 20K0	20n, 60Q, 201CQ
Output Impedance	<1200	<1200
Variable Gain Adjustment	-28dB—+1dB	-28dB—+1dB
Signal To Noise	>110dBA 0 6.4V Output	>110dBA 0 6.4V Output
THD+N	<0.01%	<0.01%
Input Sensitivity	0.5V-40V	0.5V-40V
Frequency Response	10Hz-20kHz	10Hz-20kHz
Current Draw (Max)	40mA	40mA
Low Pass Filter	<250Hz	<250Hz
Bass Boost	0dB to +12dB	0dB to +12dB
Clip Indicator	YES	YES
Remote Level Control	OPTIONAL (PN: LPA-REM)	OPTIONAL (PN: LPA-REM)
Chassis Type	Stamped Steel	Stamped Steel
Terminal Gauge	18AWG / Quick Connect	18AWG / Quick Connect

Advanced method –
Required items:

- Digital Multi-Meter
- Test track media 0 1kHz and 100Hz. (Download from PAC-Audio website's LPA section)
- Maximum 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 LPA using equipment that is readily available.
Amplifiers usually have 4-6v max line-level input ratings but this can vary. This max line-level input will be the target setting you will read on the multi-meter.
Perform the following procedure for each LPA you are installing.

1. Start with gain adjustment levels on LPA set to a minimum.
2. Set the head unit's audio setting to the center (flat) position such as Bass, treble, balance, and fader. Turn off

any loudness or other signal processing features (preset EQ).

3. Turn the source unit to maximum volume and start the test track (1 kHz for mid/high or full range, 100Hz for sub). If Bluetooth is used as the source, make sure the device volume is set to maximum.
4. Choose either left or right channel – With multi-meter, test output of LPA front channels. Probe with negative on RCA shield and positive in center of RCA output.
5. Slowly adjust the gain level on LPA until you reach the target voltage of the amplifier. Turn down the LPA gain level if the clipping light turns on.
6. Repeat steps for rear channels (if connecting to a different amplifier, adjust to that amplifier's voltage requirements).
7. Turn the volume down and system off.
8. Connect RCAs, and set gains on amplifiers to a minimum.
9. Turn the system on and fine-tune the gain of the amplifier by following the amplifier's instruction manual.

Example scenarios:
Amplifier 1 (Mid/High frequency) has a maximum 4v input voltage, so you will be targeting a 4-volt output voltage from the LPA. Amplifier 2 (Sub frequency) has a maximum 6v input voltage, so you will be targeting a 6-volt output volt-age from the LPA.

Basic method —

1. Start with gain adjustment levels on LPA and amplifiers set to a minimum.
2. Turn the head unit to 3/4 maximum volume and play a test track (Random Noise) or 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 the front channel gain of LPA until just a hint of distortion is audible, and then back down again just under that threshold and the distortion goes away.
4. Repeat steps 1-3 for rear channels.

Technical Support
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TLPA-GAIN-ADJ 040721

SPECIFICATION

Model Number	Channels	Operating Voltage	Max Input Level (20kHQ Load Setting)	Auto Turn On	Output Voltage MAX	Turn On Trigger (DC-Offset)	Load Input Impedance	Output Impedance	Variable Gain Adjustment	Signal To Noise	THD+N	Input Sensitivity	Frequency Response	Current Draw (Max)	Low Pass Filter	Bass Boost	Clip Indicator	Remote Level Control	Chassis Type	Terminal Gauge
LPA-2.2	2 IN — 2 OUT	9V-16V	40V / 400W 0 4 Ohms	DC Offset / Remote	MAX 13.8V	3V-7V	200, 60Q, 20K0	<1200	-28dB —+1dB	>110dBA 06.4V Output	<0.01%	0.5V-40V	10Hz-20kHz	40mA	<250Hz	0dB to +12dB	YES	OPTIONAL (PN: LPA-REM)	Stamped Steel	18AWG / Quick Connect
LPA-2.4	2 IN — 4 OUT	9V-16V	40V / 400W 0 4 Ohms	DC Offset / Remote	MAX 13.8V	3V-7V	20n, 60Q, 201CQ	<1200	-28dB —+1dB	>110dBA 06.4V Output	<0.01%	0.5V-40V	10Hz-20kHz	40mA	<250Hz	0dB to +12dB	YES	OPTIONAL (PN: LPA-REM)	Stamped Steel	18AWG / Quick Connect

FAQS

Where can I find more installation examples, tech tips, and updates for the L.O.C.PRO ADVANCED product?

You can find more installation examples, tech tips, and updates for the L.O.C.PRO ADVANCED product on the PAC-Audio.com website.

Is a remote level control available for the LPA-2.2 2 Channel Line Output Converter?

Yes, a remote level control is available for the LPA-2.2 2 Channel Line Output Converter (PN: LPA-REM).

Does the LPA-2.2 2 Channel Line Output Converter have a clip indicator?

Yes, the LPA-2.2 2 Channel Line Output Converter has a clip indicator.

What is the maximum input level of the LPA-2.2 2 Channel Line Output Converter?

The maximum input level of the LPA-2.2 2 Channel Line Output Converter is 40V / 400W 0 4 Ohms.

How do I set the output gain of the LPA using equipment that is readily available?

There are two methods for setting the output gain of the LPA using equipment that is readily available. The advanced method requires a digital multi-meter, test track media 0 1kHz and 100Hz, and the maximum amplifier Line-level input voltage specification. The basic method requires playing a test track or familiar song and slowly adjusting the front channel gain of LPA until just a hint of distortion is audible, and then backing down again just under that threshold.

How do I set the output gain of the LPA using equipment that is readily available?

The most commonly used configuration is to connect speaker level input from the radio to RCA level output for an aftermarket amplifier. In this configuration, the Positive(+) and Negative(-) wires of two speakers are “tapped” and connected to the SPEAKER SIGNAL INPUTS of the LPA. The REM OUT is connected to the amplifier’s turn-on. Lastly, the RCA SIGNAL OUTPUTS from the LPA are connected to the aftermarket amplifiers’ inputs.

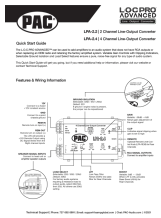
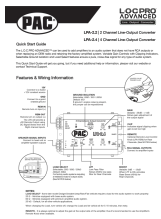
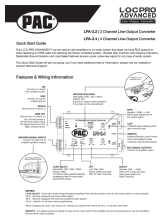
What features does the LPA-2.2 2 Channel Line Output Converter have?

The LPA-2.2 2 Channel Line Output Converter has variable gain controls with clipping indicators, selectable ground isolation, and load select features to ensure a pure, noise-free signal for any type of audio system.

What is the PAC LPA-2.2 2 Channel Line Output Converter used for?

The PAC LPA-2.2 2 Channel Line Output Converter is used to add amplifiers to an audio system that does not have RCA outputs or when replacing an OEM radio and retaining the factory amplified system.

Documents / Resources

	PAC LPA-2.2 2 Channel Line Output Converter [pdf] User Guide LPA-2.2, 2 Channel Line Output Converter, LPA-2.2 2 Channel Line Output Converter, LPA-2.4 4 Channel Line-Output Converter
	PAC LPA-2.2 2 Channel Line-Output Converter [pdf] User Guide LPA-2.2 2 Channel Line-Output Converter, LPA-2.2, 2 Channel Line-Output Converter, Line-Output Converter, Converter, LPA-2.4, 4 Channel Line-Output Converter
	PAC LPA-2.2 2 Channel Line-Output Converter [pdf] User Guide LPA-2.2, LPA-2.4, LPA-2.2 2 Channel Line-Output Converter, LPA-2.2, 2 Channel Line-Output Converter, Line-Output Converter, Converter

References

- PAC – Connecting cars and technology. Your total installation solution.