LPA-E.4 | 4 Channel Line-Output Converter

L·O·C PRO ADVANCED™
Line Output Converter

Quick Start Guide

The L.O.C.PRO ADVANCED™ 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.

Features & Wiring Information

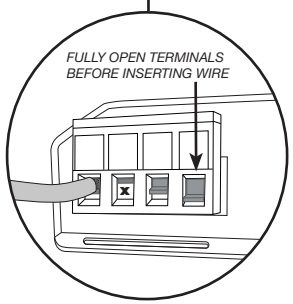
12V
Connect to a fused +12V constant source

GND
Connect to a good chassis ground

REM IN
Remote turn on input (+)

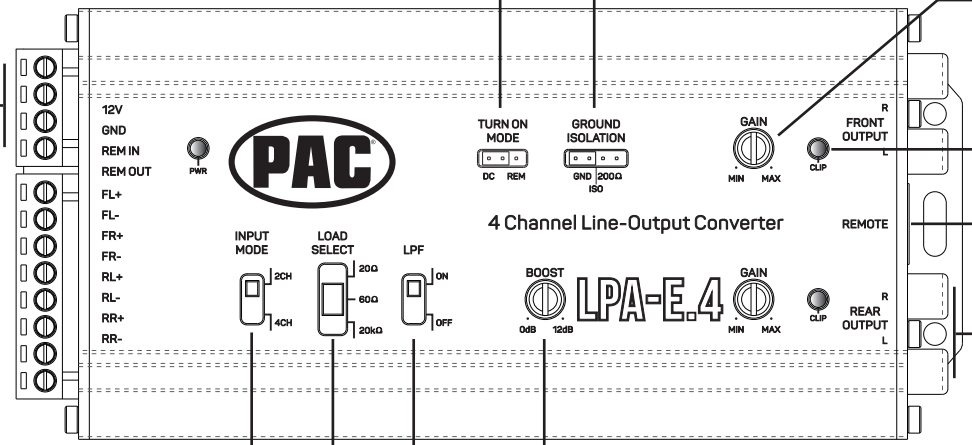
REM OUT
Remote turn on output (+)
The LPA will provide a +12V Remote Output using DC Signal Sense from the FR and RR channel inputs

SPEAKER SIGNAL INPUTS
Connect to head unit or amplifier speaker outputs
Use FL and FR for 2CH mode



TURN ON MODE
Selectable: DC / REM
Default: DC
Select DC if using speaker inputs for turn on, or REM if using REM IN

GROUND ISOLATION
Selectable: GND / ISO / 200Ω
Default: ISO
If ground / engine noise is present, the jumper can be repositioned



GAIN
Variable: -28dB -+ 1dB
Allows gain adjustment of the output signal

CLIP
Indicates signal clipping when gain is set to high

REMOTE
Remote Level Control Knob (LPA-REM) for Rear Channels

RCA SIGNAL OUTPUTS
Connect to amplifier inputs

INPUT MODE
Selectable: 2CH / 4CH
Set to 2CH if only using FL and FR inputs. Set to 4CH if using all inputs

LOAD SELECT
Selectable: 20Ω / 60Ω / 20KΩ
Default: 20KΩ
For factory audio systems requiring a resistance load to output audio, select 60Ω first, then 20Ω. All others use 20kΩ setting

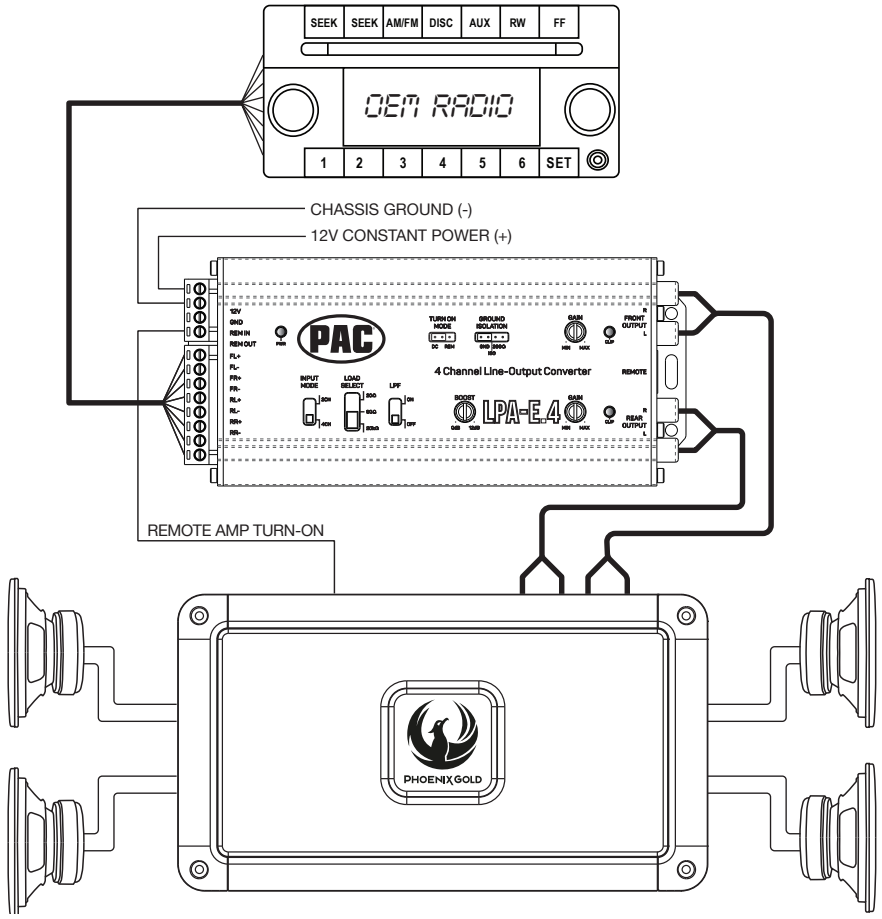
LPF
Low Pass Filter
Allows 250Hz low pass filter for Rear Channels

BOOST
Variable: 0dB — 12dB
When LPF is ON, provides Bass Boost (45Hz) for Rear Channels

Example Installation

Speaker level input from a 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 4 speaker outputs from the factory radio are disconnected from the speakers and connected to the SPEAKER SIGNAL INPUTS of the LPA. The REM OUT is connected to the amplifiers turn-on. When the radio is turned on the LPA will automatically turn on the amplifier. The RCA SIGNAL OUTPUTS from the LPA are connected to the aftermarket amplifiers inputs. The speaker outputs from the aftermarket amplifier are then connected to the speakers.



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

Specifications

Model Number	LPA-E.4
Channels	4 IN — 4 OUT
Operating Voltage	9V—16V
Max Input Level (20kHΩ Load Setting)	40V / 400W @ 4 ohms
Auto Turn On	DC Offset / Remote
Output Voltage MAX @ 13.8V	9.5V RMS
Turn On Trigger (DC-Offset)	3V—7V
Load Input Impedance	20Ω, 60Ω, 20KΩ
Output Impedance	<120Ω
Variable Gain Adjustment	-28dB—+1dB
Signal To Noise	>110dBA @ 6.4V Output
THD+N	< 0.01%
Input Sensitivity	0.5V—40V
Frequency Response	10Hz—20kHz
Current Draw (Max)	110mA
Low Pass Filter	<250Hz (Rear Channels)
Bass Boost	0dB to +12dB (Rear Channels)
Clip Indicator	YES
Remote Level Control	0dB—30dB
Chassis Type	Aluminum Extrusion
Terminal Gauge	18AWG / Quick Connect

Technical Support

Phone: 727-592-5991
Email: support@aampglobal.com
Chat: PAC-Audio.com

L·O·C PRO ADVANCED
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Line Output Converter Gain Level Set-Up

Advanced method –

Required items:
- Digital Multi-Meter
- Test track media @ 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 your 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 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 source unit to maximum volume and start test track (1kHz for mid/high or full range, 100Hz for sub). If Bluetooth is used as 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 gain level on LPA until you reach the target voltage of the amplifier. Turn down the LPA gain level if 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 volume down and system off.
8.Connect RCAs, set gains on amplifiers to minimum.
9.Turn system on and fine tune the gain of 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 voltage from the LPA.

Basic method –

1. Start with gain adjustment levels on LPA and amplifiers set to minimum.
2. Turn head unit to ¾ maximum volume and play 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 front channel gain of LPA until just a hint of distortion is audible, and then back down gain just under that threshold and the distortion goes away.
4. Repeat steps 1-3 for rear channels.