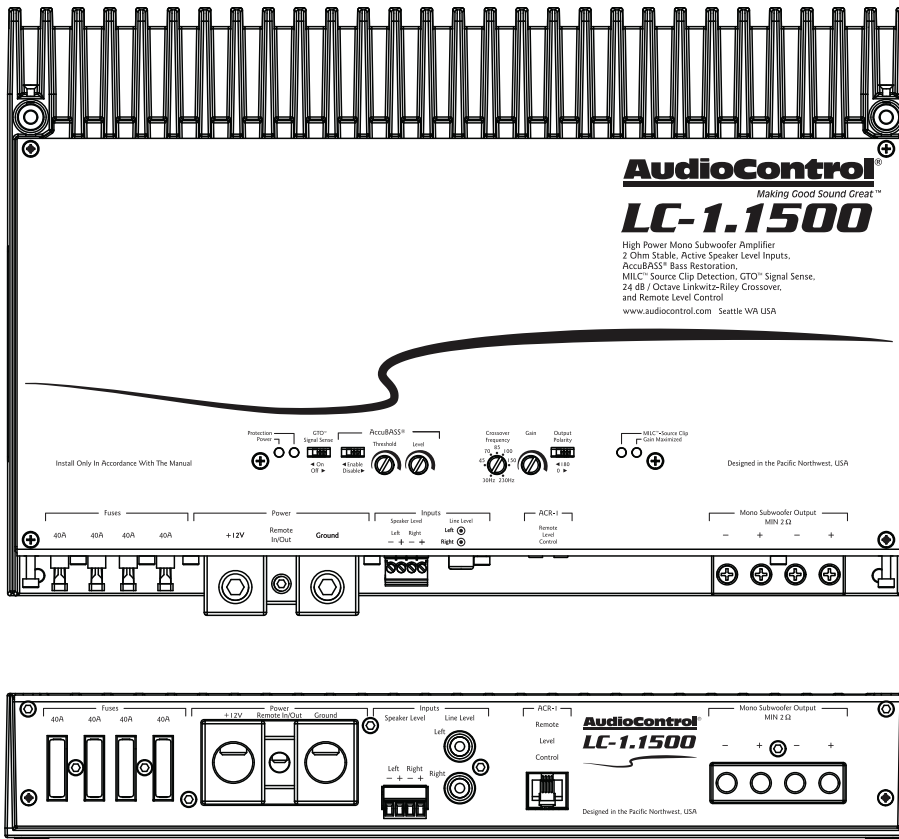


AudioControl®

Making Good Sound Great™

Features

- High Power Mono Subwoofer Amplifier
- High Current Design
- 1500 Watts @ 2 Ohm
- MILC™ Maximum Input Level Control (Patent Pending)
- 24 dB/Octave Linkwitz-Riley Alignment Crossover
- GTO Signal Sense
- PFM Subsonic Filter
- Line-Level RCA Inputs and Active Speaker-Level Inputs
- Solid One-Piece Aluminum Chassis
- Optional wired ACR-1 Remote Control for Subwoofer Level
- AccuBASS® Bass Restoration
- Filled with home-grown audio goodness



LC-1.1500

HIGH-POWER SUBWOOFER AMPLIFIER

Quick Start Guide

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as mufflers, silencers, exhaust pipes, or other apparatus (including amplifiers) that produce heat.
9. **WARNING:** Improper installation may lead to permanent injury or death. Installation of the apparatus must be done with great care by qualified personnel, to prevent damage to fuel lines, power and other electrical wiring, hydraulic brake lines, and other systems, that might compromise vehicle safety.
10. Provide +12V and Ground wiring of sufficient size to ensure adequate current to the amplifier. For the LC-1.1500 this means 0 to 2 gauge wire.
11. Use rubber grommets to protect wiring whenever passing wires through metal openings or bulkheads.
12. Only use attachments/accessories specified by the manufacturer.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as the power input terminals are damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

14. This apparatus shall not be exposed to dripping or splashing, and no object filled with liquids, shall be placed on the apparatus.
15. Fuses shall be replaced only with the correct type and fuse value, and only when the apparatus is powered off.
16. Exposure to high sound pressure levels may lead to permanent hearing loss. Take every precaution to protect your hearing.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.



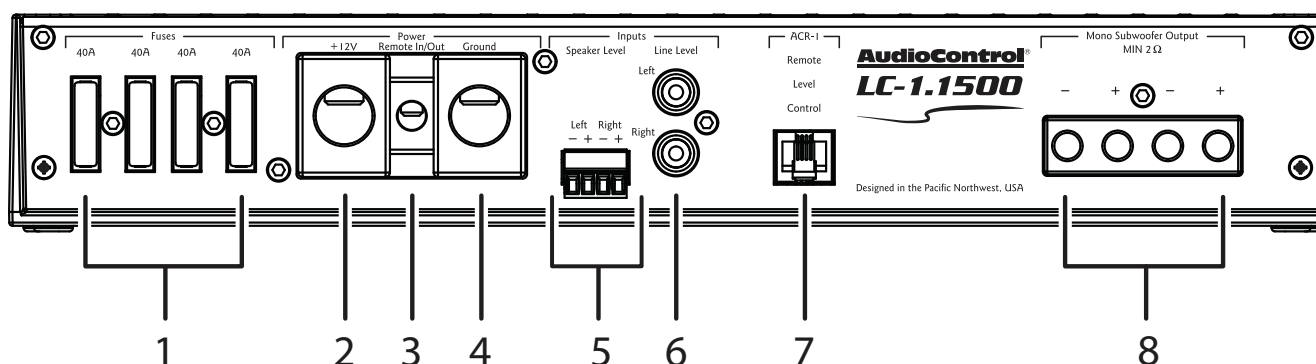
The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution: to reduce the risk of electric shock, do not disassemble the apparatus, other than to remove the top panel to access the controls. There are no user-serviceable parts inside. Refer servicing to qualified personnel.



Recycling notice: If the time comes and this apparatus has fulfilled its destiny, do not throw it out into the trash. It has to be carefully recycled for the good of mankind, by a facility specially equipped for the safe recycling of electronic apparatus. Please contact your local or state recycling leaders for assistance in locating a suitable nearby recycling facility. Or, contact us and we might be able to repair it for you.

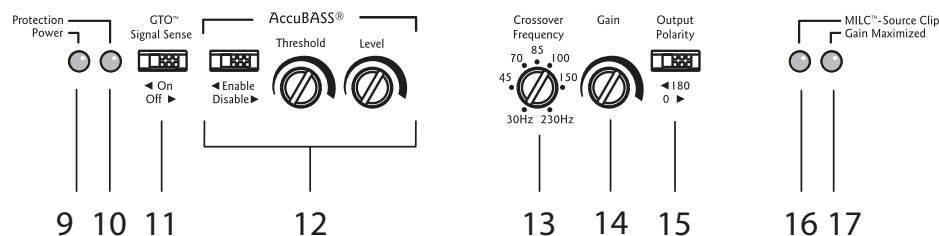
Connection Panel Features



- 1. Fuses 40A** – Replace the fuses only with the exact same style and Ampere rating. Disconnect 12V power before changing or inspecting the fuses.
- 2. Power Input Terminal +12V** – This screw terminal connects to the +12V battery binding post of the vehicle. Use quality insulated wiring of the recommended wire gauge, such as wire gauge 2 or thicker. Thinner wire may cause an overheating hazard due to the large currents involved.
- 3. Remote Power Input Terminal** – This screw terminal connects to the 12V remote trigger output of some head units. When the head unit is turned on, then the LC-1.1500 amplifier will turn on. Alternatively, you can use the GTO feature of the amplifier so it will turn on when an audio signal is detected at the speaker-level or line-level inputs.
- 4. Power Input Terminal Ground** – This screw terminal connects to a good ground connection on the vehicle.
- 5. Speaker-Level Inputs** – The LC-1.1500 amplifier is supplied with a standard 4-conductor plug that allows for easy installation and removal. The speaker-level output from amplifiers and factory installed radios can connect here, so the LC-1.1500 will receive the audio signals and do its subwoofer thing. The left and right audio signals are summed internally to produce a mono subwoofer signal. Make sure that you follow the plus and minus polarity markings on the LC-1.1500 and match it to the polarity of the speaker wiring. Do not use the RCA Line-level inputs if you are using the speaker-level inputs.

- 6. RCA Analog Line-Level Inputs** – The line-level output from the head unit or factory installed radios can connect here, so the LC-1.1500 will receive the line-level audio signals. The left and right signals are summed internally to produce a mono subwoofer signal. Do not use the speaker-level inputs if you are using the RCA line-level inputs.
- 7. Remote Control Connector** – This connects to the optional ACR-1 remote control and allows you to remotely control the output level.
- 8. Speaker-Level Output Terminals** – These screw terminals connect with speaker wire to the subwoofer, or multiple subwoofers. Make sure that the average combined speaker impedance does not dip below 2 Ohm. The LC-1.1500 has four connections (2 plus and 2 minus).

Control Panel Features



9. Power LED – If you have connected your battery power, vehicle ground, and turn-on lead (or GTO signal sensing) correctly, then this light should be green to indicate the power is ON. An internal blue glow will also emanate from the heatsink area to indicate that the power is ON. There are times when this blue glow will flash, such as during power-up, and when the protection circuits have detected a problem.

10. Protection LED – The LC-1.1500 amplifier has built in diagnostic codes to tell you exactly what is going wrong should the amplifier detect a problem. (See specs page for a list of diagnostic codes.)

If the protection LED should come on, read the red codes quickly before turning off the system and investigating. Shorts, like crushed-velvet hot pants, are not a good thing. Note that the blue power codes mentioned in the table are for the internal blue glow from behind the heatsink area, and not the power LED which is green. You might not notice the subtle blue glow at first, unless you are in the dark or the shade.

11. GTO Signal Sense – In the ON position, the LC-1.1500 amplifier will turn on gracefully when it detects an incoming audio signal, and it will turn off after a period of time when the audio signal fades away to silence. In some situations, factory installed audio systems may turn on or “wake up” due to convenience features like door chimes, alarms, and cell phone signals that trigger the source unit in the vehicle to come on. To prevent these from turning your audio system on unexpectedly, you can bypass the GTO circuit by moving the GTO switch to the OFF position and use a switched 12-volt signal connected to the Remote In terminal instead.

12. AccuBASS®

Enables/Disable – Turns the AccuBASS® circuit on or off. The renowned AccuBASS® will work wonders on the lower bass of the speaker outputs.

AccuBASS® Threshold – Selects the level at which the AccuBASS® will begin to work.

AccuBASS® Level – Adjusts the level of the AccuBASS®.

13. Crossover Frequency – Since component speakers (like woofers) are designed to reproduce certain frequency ranges, a crossover allows you to match the speaker to the appropriate frequency range. Most manufactures list a recommended crossover frequency as part of the speaker specifications. Choosing the correct crossover point will provide increased speaker reliability and optimum sound quality. The LC-1.1500 amplifier comes with an adjustable-frequency 24/dB Octave Linkwitz-Riley crossover. Adjust the crossover frequency on the LC-1.1500 amplifier to match the value specified by your subwoofer's manufacturer. If you do not know this value, start out with the crossover selector turned all the way to the left (counter clockwise) and adjust it until you find a position that suits your subwoofer system best.

14. Gain Control – This control allows you to adjust the overall volume output level in the normal way, with counterclockwise decreasing the volume, and clockwise increasing. Note that if you have fitted the optional ACR-1 gain control, it should first be set to maximum, before setting this gain control. The setting procedure is given on the next page, and involves nerves of steel, a steady hand, grit, determination, and the thought that you are making the world a better place for deep bass.

15. Polarity – This switch allows you to select the polarity of the subwoofer, either 0 degrees (in-phase) or 180 degrees (out of phase).

16. Source Clip LED – The LC-1.1500 amplifier features our MILC™ (Maximum Input Level Control) patent-pending level-setting circuit that prevents clipping and damaging distortion. It calculates when the waveform of an incoming audio signal is clipping, and if it is, this LED will fulfill its prime objective and shine forth.

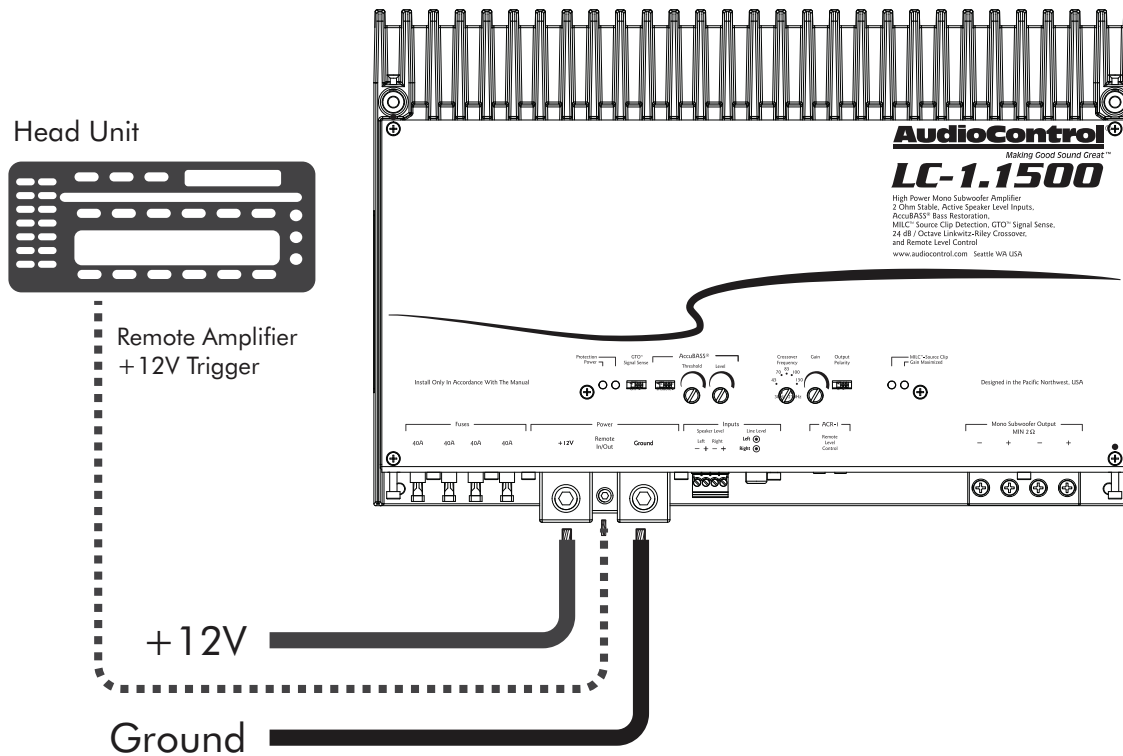
With this advanced feature, you are able to optimize the level of the incoming audio signal until the Source Clip LED is just-prior to lighting. If the LED comes on during normal operation, you should adjust the level of the audio signals before they reach the LC-1.1500.

17. Gain Maximized LED – This LED indicates when the LC-1.1500 amplifier gain has been maximized for optimum performance.

Quick Start

1. It only takes a few steps to get your LC-1.1500 amplifier up and running!
2. Undo the +12V and Ground connections to the car battery before making any connections to the amplifier.
3. When making connections, designate red RCA plugs as right, and designate white, black, or grey plugs as left. This is a good idea for all signal connections made in your audio system. The key is consistency. Stick with the same color coding and you'll reduce possible problems.
4. Use quality interconnect cables. We know from experience that really cheap cables can cause a multitude of problems. They tend to break inside or corrode, causing a loss of signal or hum. They also have poor shielding.
5. Connect the +12V input terminal of the unit to the +12V terminal of the vehicle battery. Use 2 gauge insulated wire or thicker.
6. Connect the Ground terminal of the unit to the chassis of the vehicle. Use 2 gauge insulated wire or thicker.
7. Connect the remote power terminal of the unit to the remote turn-on switch of your source unit. Alternatively, you can skip this connection and use the GTO Signal sensing which is explained later in this manual.
8. Connect your audio inputs to the unit – either speaker-level or line-level RCA... not both.
9. Run the optional ACR-1 remote to the front of the vehicle to adjust the bass level on the fly.
10. Connect your subwoofer (2 Ohms minimum load).
11. When all connections are made, reconnect the vehicle battery.
12. Adjust your input source gain using the Patent Pending MILC. This will indicate if the incoming audio signals are clipping.
13. Set the LC-1.1500 crossover to the frequency recommended by the subwoofer manufacturer.
14. The optional ACR-1 adjusts the overall output level.
15. Enjoy the drive!

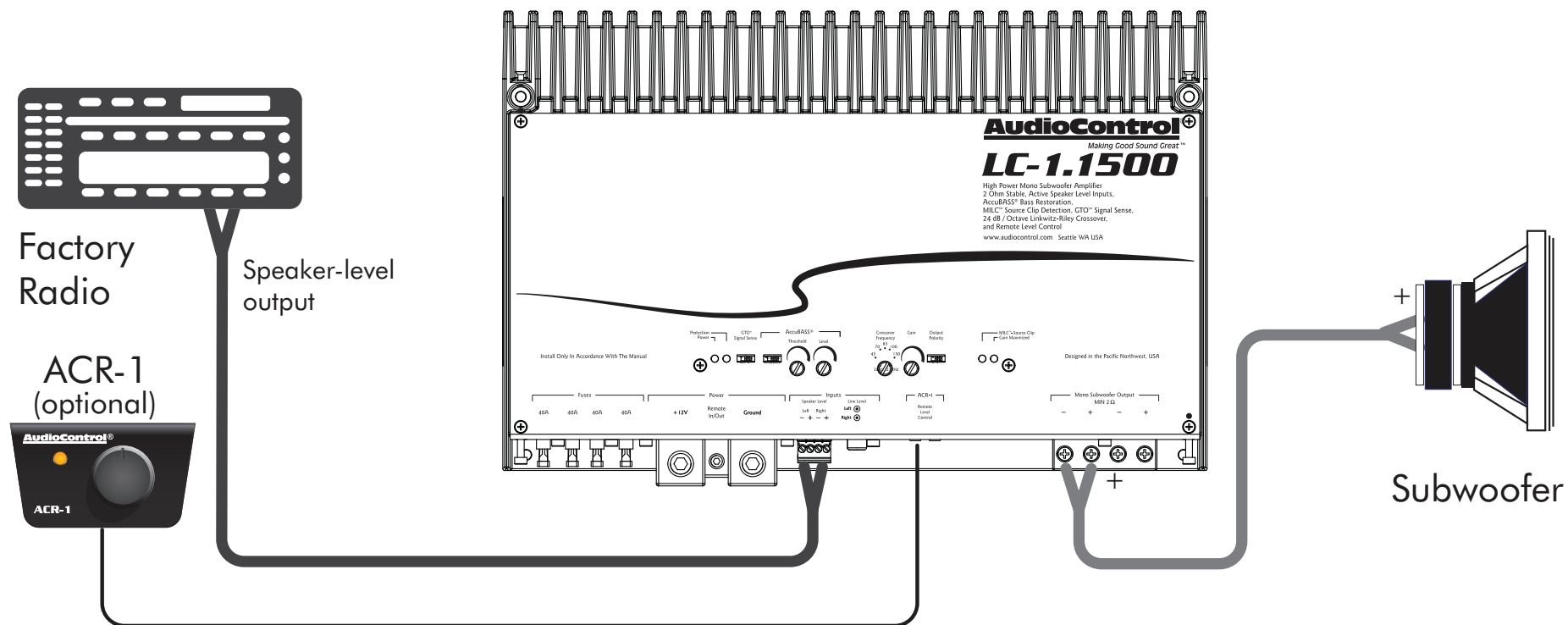
Power Connections

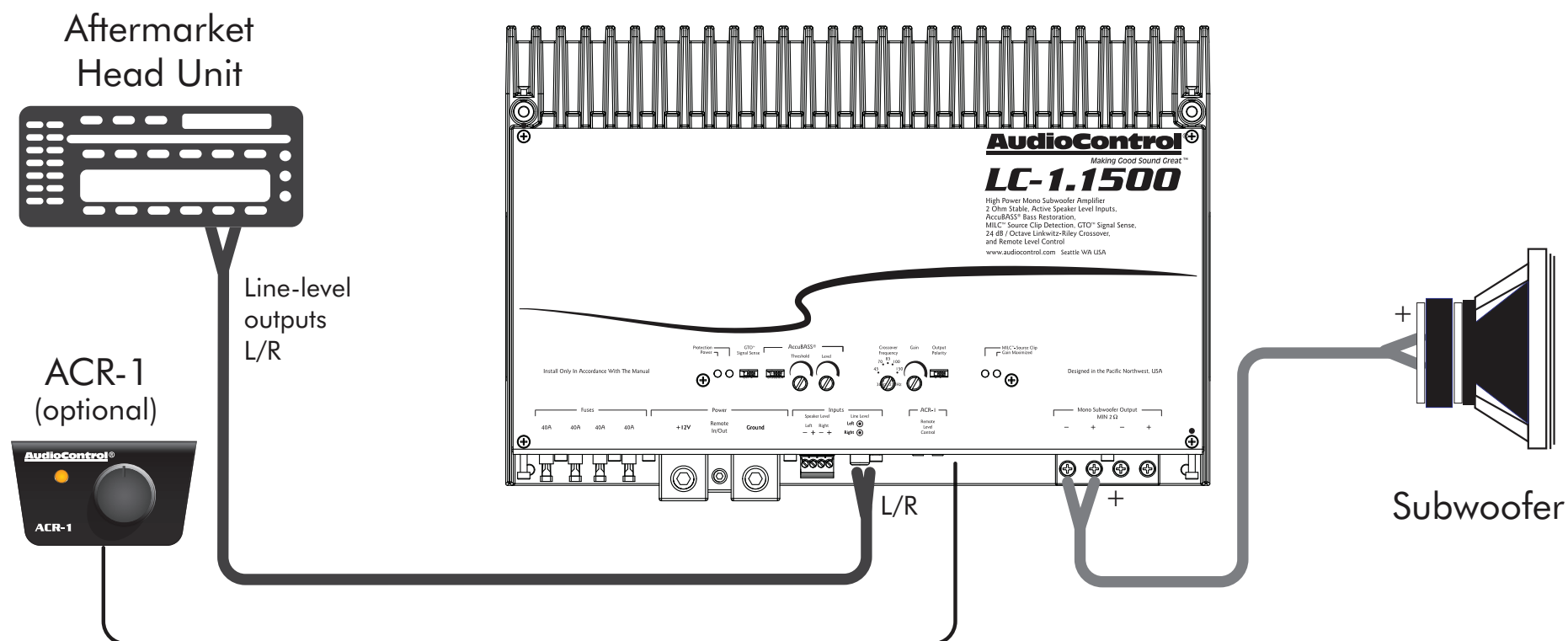


In this example, the head unit has a +12V trigger output that is connected to the LC-1.1500 remote input terminal. When the head unit is turned on, it will turn on the LC-1.1500 amplifier.

Alternatively, the GTO signal sense feature can be used to gently turn on the LC-1.1500 amplifier when an audio input signal is detected. (The connection to the LC-1.1500 remote input terminal is not required when using the GTO signal sense.)

System #1: Adding a Subwoofer to a Factory Radio using Speaker-Level Inputs



LC-1.1500**System #2: Adding a Subwoofer to an Aftermarket Head Unit
using Line-Level Inputs**

ACR-1 Dash Control Installation



The optional AudioControl ACR-1 dash control is a remote level control for your LC-1.1500 amplifier. It may be mounted under the dash using its own enclosure, or through a custom hole in the dash. The level control knob should be within reach of the driver, and in a spot where the LED is plainly visible. Disconnect the vehicle battery +12V and Ground connections before installation.

Dash Bracket Installation: The dash control mounts with two screws, which attach to the underside of the dashboard. Slide under the dash and place the dash control in its mounting position, mark the two best mounting holes, drill pilot holes, and secure with two screws.

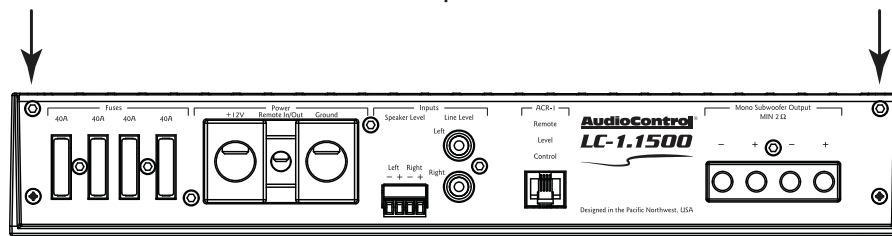
Custom Installation: For that custom, finished look, the dash control can be flush-mounted directly on the dashboard (or anywhere else). Disassemble the ACR-1 from its enclosure.

Top Lid Removal

The top lid must be removed to gain access to the controls, and then put back on again to protect the controls from dust bunnies.

Removal Procedure

1. Locate the two screws that hold the straight edge of the lid onto the connector side of the amplifier.



2. Use the supplied hex key to loosen both screws just enough until this edge of the lid can lift freely up just a little. (There is no need to remove the screws all the way, in case you lose them.)
3. Slide the lid toward the heatsink fins just a tad, before further lifting the straight edge of the lid about 2", then disengage the remaining two points of contact (under the wavy edge).
4. Place the lid in a safe and handy place, ready for the time when you have finished adjusting the controls to your immense satisfaction.

Specifications

All specifications are measured at 14.4 VDC (standard automotive voltage). As technology advances, AudioControl reserves the right to continuously change our specifications, like our Pacific Northwest weather, although we are working on changing that as well.

The LC-1.1500 Amplifier

Power Output (RMS)850 Watts @ 4 Ohms
1500 Watts @ 2 Ohms
 Input Voltage (RCA) Range 500mV to 6V RMS
 Speaker-Level Input Voltage Range3V to 40V RMS
 Total Harmonic Distortion < 0.01%
 S/N Ratio 102 dBa, Ref 750 Watts @ 4 Ohms
 Damping Factor.....670 @ 10 Volts, 4 Ohms Output, 100 Hz
 Bass Processing AccuBASS®
 Recommended Power / Ground Wire Gauge 0 to 2 Gauge
 Fuse Rating4 X 40 Amps
 Crossover...24 dB/Octave Linkwitz-Riley, Adjustable From 30 - 250 Hz
 PFM Subsonic Filter 24 Hz
 Weight7.2 lbs
 Dimensions..... 12" W X 8.0" D X 2.1" H

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Warranty

For details of the limited warranty for your LC-1.1500, please visit the following page on our website: <http://www.audiocontrol.com/warranty>
 Please keep your receipt in a safe place.

Power (Blue) Codes	(These are the blue LEDs inside the unit)
Power Up	● ● ● ● ○ ○ ● ● ● ● ○ ○ ● ● ● ●
Reset Boot	● ● ● ○ ○ ● ● ○ ○ ● ● ● ○ ○ ● ●
Protection Activated	● ○ ● ○ ● ○ ● ○ ● ○ ● ○ ● ○ ● ○ ● ○
Protection (Red) Codes	(This is the red Protection LED on the unit)
1 Short	● ○ ○ ○ ● ○ ○ ○ ● ○ ○ ○ ● ○ ○ ○
2 Repeated Short	● ○ ● ○ ○ ○ ○ ○ ● ○ ● ○ ○ ○ ○ ○
3 Under Voltage	● ○ ● ○ ● ○ ○ ○ ● ○ ● ○ ● ○ ○ ○
4 Over Voltage	● ○ ● ○ ● ○ ● ○ ○ ○ ○ ○ ○ ○ ○ ○
5 DC Offset	● ○ ● ○ ● ○ ● ○ ● ○ ○ ○ ○ ○ ○ ○ ○
6 Thermal Heatsink	● ○ ● ○ ● ○ ● ○ ● ○ ● ○ ○ ○ ○ ○ ○
7 Thermal Transformer	● ○ ● ○ ● ○ ● ○ ● ○ ● ○ ● ○ ○ ○ ○ ○

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