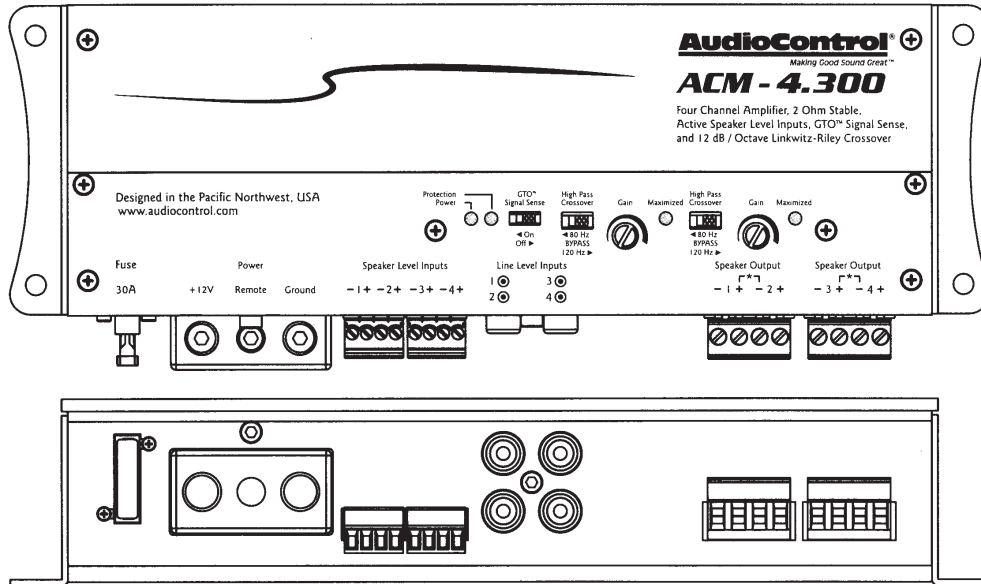


# AudioControl®

*Making Good Sound Great™*



## Features

- Compact High Power 4-Channel Amplifier
- High Current Design
- 4x50 Watts @ 4 Ohms, 4x75 Watts @ 2 Ohms
- 2x150 Watts @ 4 Ohms, Bridged Mono
- 12 dB/Octave Linkwitz-Riley Alignment Crossover
- GTO™ Signal Sense (Great Turn On)
- 4 Line-Level RCA Inputs
- 4 Active Speaker-Level Inputs for OEM integration
- Filled with home-grown audio goodness

## **ACM - 4.300**

COMPACT HIGH POWER 4-CHANNEL 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 ACM-4.300 this means 8 gauge wire or thicker.
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.

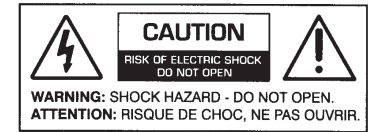


The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.



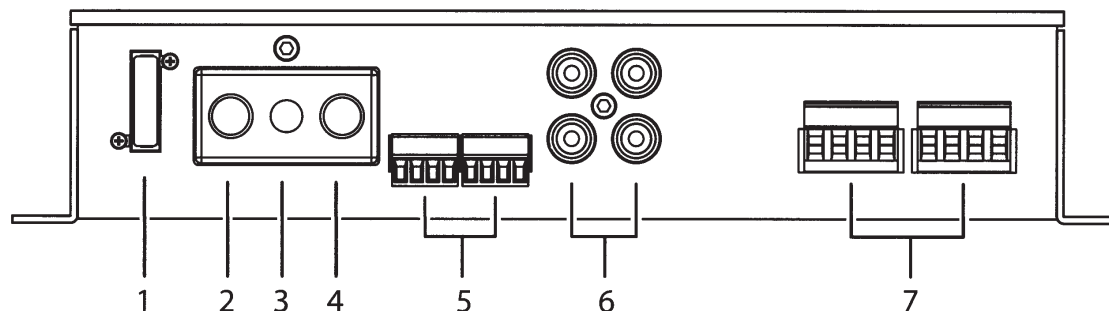
The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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



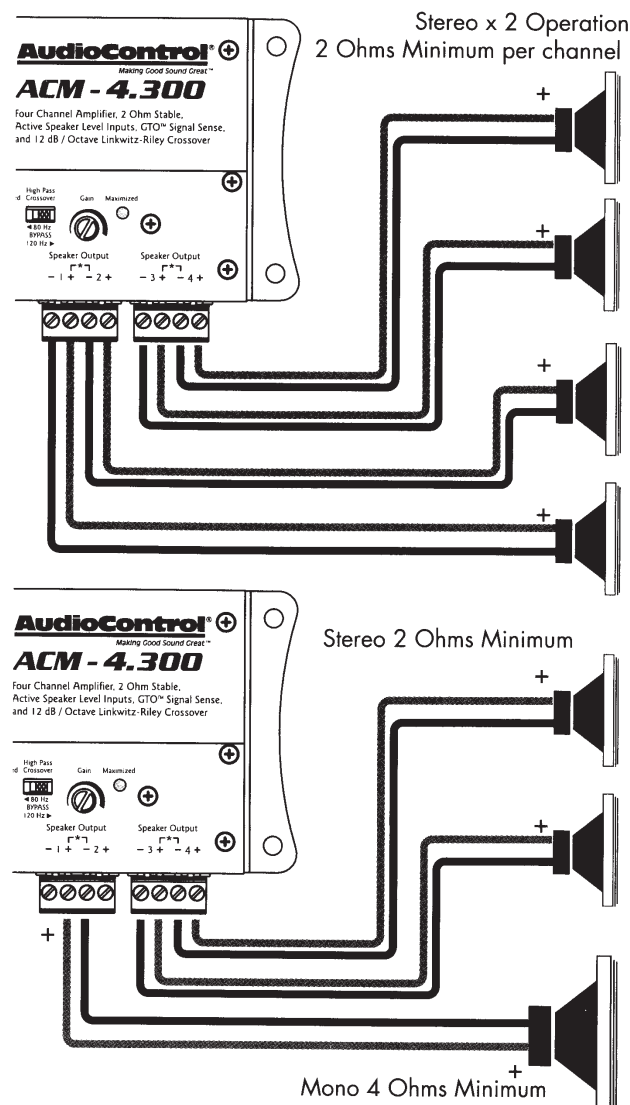
1. **Fuse 30A** – Replace the fuse only with the exact same style and Ampere rating. Disconnect 12V power before changing or inspecting the fuse.
2. **Power Input Terminal +12V** – This screw terminal connects to the +12V battery binding post of the vehicle. Use quality insulated wiring of the recommended wire gauge, such as wire gauge 8 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 ACM-4.300 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 ACM-4.300 amplifier is supplied with 2 standard 4-conductor plugs that allows for easy installation and removal. The speaker-level output from amplifiers and factory installed radios can connect here. Make sure that you follow the plus and minus polarity markings on the ACM-4.300 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 outputs from the head unit or factory installed radios can connect here, so the ACM-4.300 will receive the line-level audio signals. Do not use the speaker-level inputs if you are using the RCA line-level inputs.

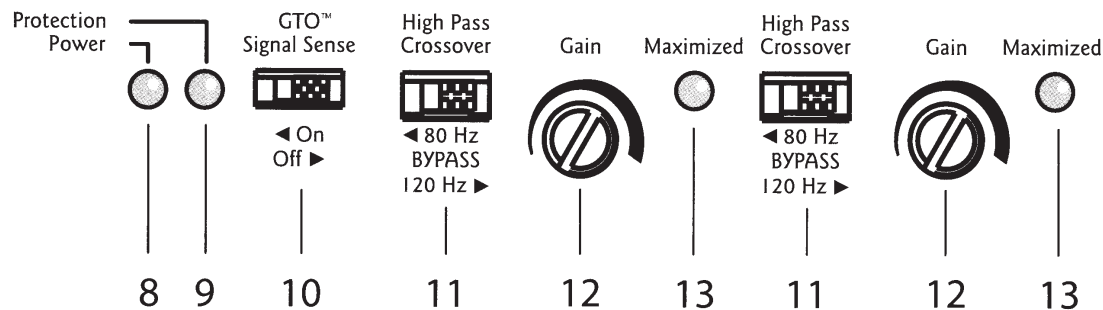
**7. Speaker-Level Output Terminals** – These screw terminals connect with speaker wire to your loudspeakers. Make sure that the average combined speaker impedance does not dip below 2 Ohms per channel. Make sure that you follow the plus and minus polarity markings on the ACM-4.300 and match it to the polarity of your loudspeakers.

**In Stereo operation**, connect one loudspeaker to each channel as shown. The minimum impedance is 2 Ohms per channel.

**In Bridged Mono operation**, connect one loudspeaker to the inner 2 screw terminals (Channel 1+ and Channel 2-) as shown. The mono loudspeaker will receive the power from each channel, and both channel inputs must be fed an input signal. The minimum impedance is 4 Ohms. Connect stereo speakers to channels 3 and 4 as shown, or another Mono speaker.



## Control Panel Features



8. **Power LED** – If you have connected your battery power, vehicle ground, and turn-on lead (or GTO™ signal sensing) correctly, then this light should turn on to indicate the power is ON.
9. **Protection LED** – The ACM-4.300 amplifier has built in diagnostic codes to tell you exactly what is going wrong should the amplifier detect a problem. If the protection LED should come on, read the flashing codes quickly before turning off the system and investigating. (See the specs page for a list of diagnostic codes.)
10. **GTO™ Signal Sense** – In the ON position, the ACM-4.300 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 switch to the OFF position and use a switched 12-volt signal connected to the Remote In terminal instead.


11. **High Pass 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 ACM-4.300 amplifier has selectable 12 dB/Octave Linkwitz-Riley crossover points at 80 Hz, 120 Hz, and a “bypass” option. The amplifier receives the frequency range above the crossover point. Select the crossover frequency on the ACM-4.300 amplifier to best match the value specified by your loudspeaker’s manufacturer. If you do not know this value, select the position that suits your system best.

- 12. Gain Controls** – These controls allows you to adjust the overall volume output level, with counterclockwise decreasing the volume, and clockwise increasing. One control is for channels 1 and 2, and the other for 3 and 4. 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.
- 13. Gain Maximized LEDs** – These LEDs indicates when the ACM-4.300 amplifier gain has been maximized for optimum performance for channels 1/2 and 3/4.

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## Quick Start

Here are a few general steps to get your ACM-4.300 amplifier up and running:

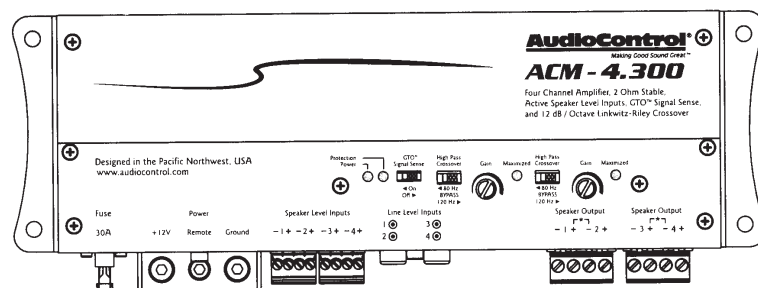
1. Undo the +12V and Ground connections to the car battery before making any connections to the amplifier.
2. Pick a mounting location that will provide access to the controls and connections, provide plenty of good ventilation, and also protect the amplifier from heat, moisture, and dirt.
3. The ACM-4.300 amplifier needs to be securely mounted using the four mounting holes located in each corner.
4.  Before drilling any holes, take every precaution to prevent any damage to fuel lines, power and other electrical wiring, hydraulic brake lines, and other systems, that might compromise vehicle safety.
5. When making connections, designate red RCA plugs as right, and designate white, black, or grey plugs as left. This is a good idea for consistency.
6. Use quality interconnect cables.
7. Connect the +12V input terminal of the unit to the +12V terminal of the vehicle battery, using 8 to 4 AWG.
8. Connect the Ground terminal of the unit to the chassis of the vehicle, using the same wire gauge as the +12V power wire.
9. 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.
10. Connect your audio inputs to the unit – either speaker-level or line-level RCA... not both.
11. Connect your loudspeakers (minimum impedance of 2 Ohms stereo, or 4 Ohms bridged mono).
12. When all connections are made, reconnect the vehicle battery.
13. Adjust your gain settings to maximise your signal level.
14. Set the ACM-4.300 crossovers to the frequency recommended by the loudspeaker manufacturer.
15. Enjoy the drive!

## Power Connections

Head Unit



Remote Amplifier  
+12V Trigger



+12V

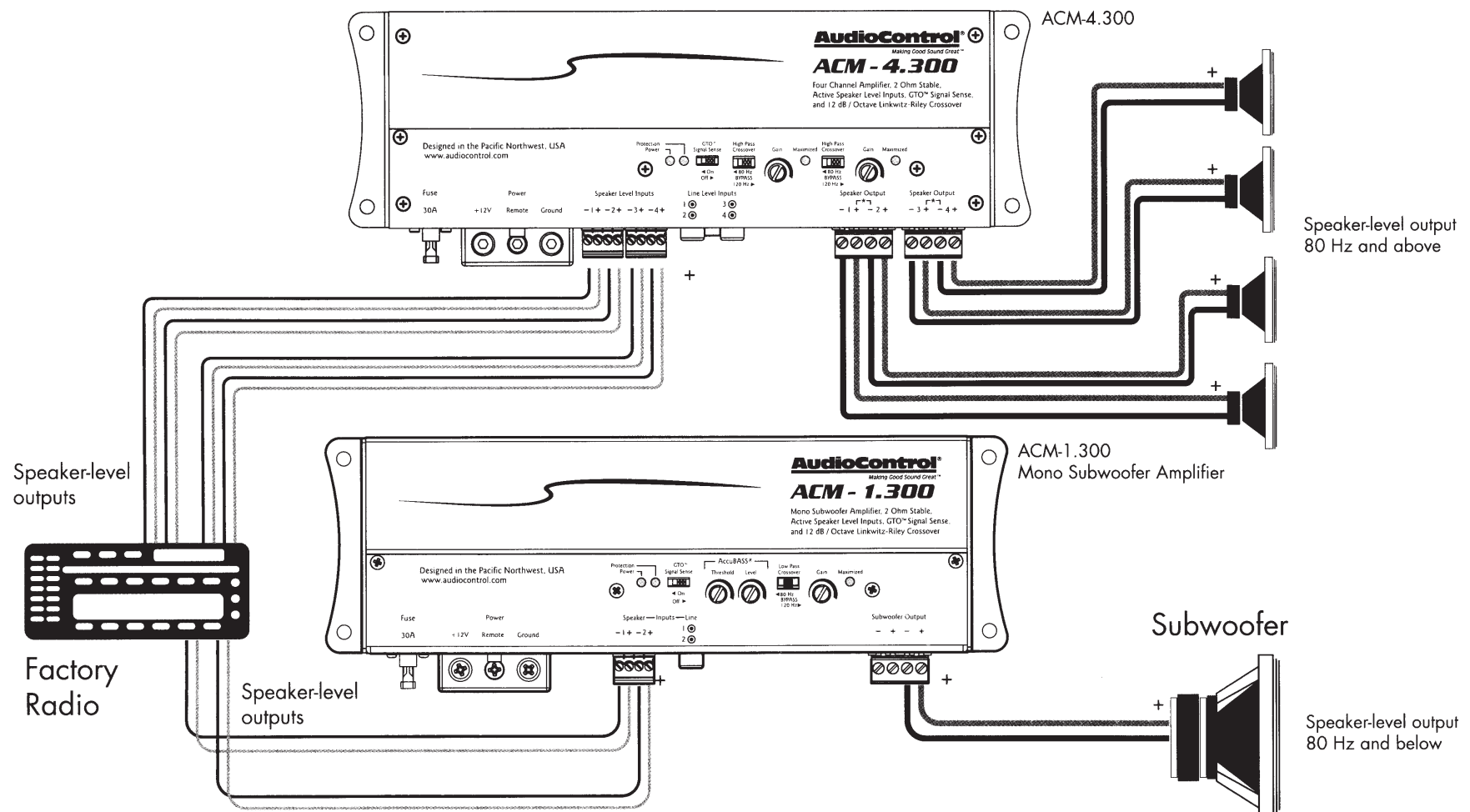
Ground

In this example, the head unit has a +12V trigger output that is connected to the ACM-4.300 remote input terminal. When the head unit is turned on, it will turn on the ACM-4.300 amplifier.

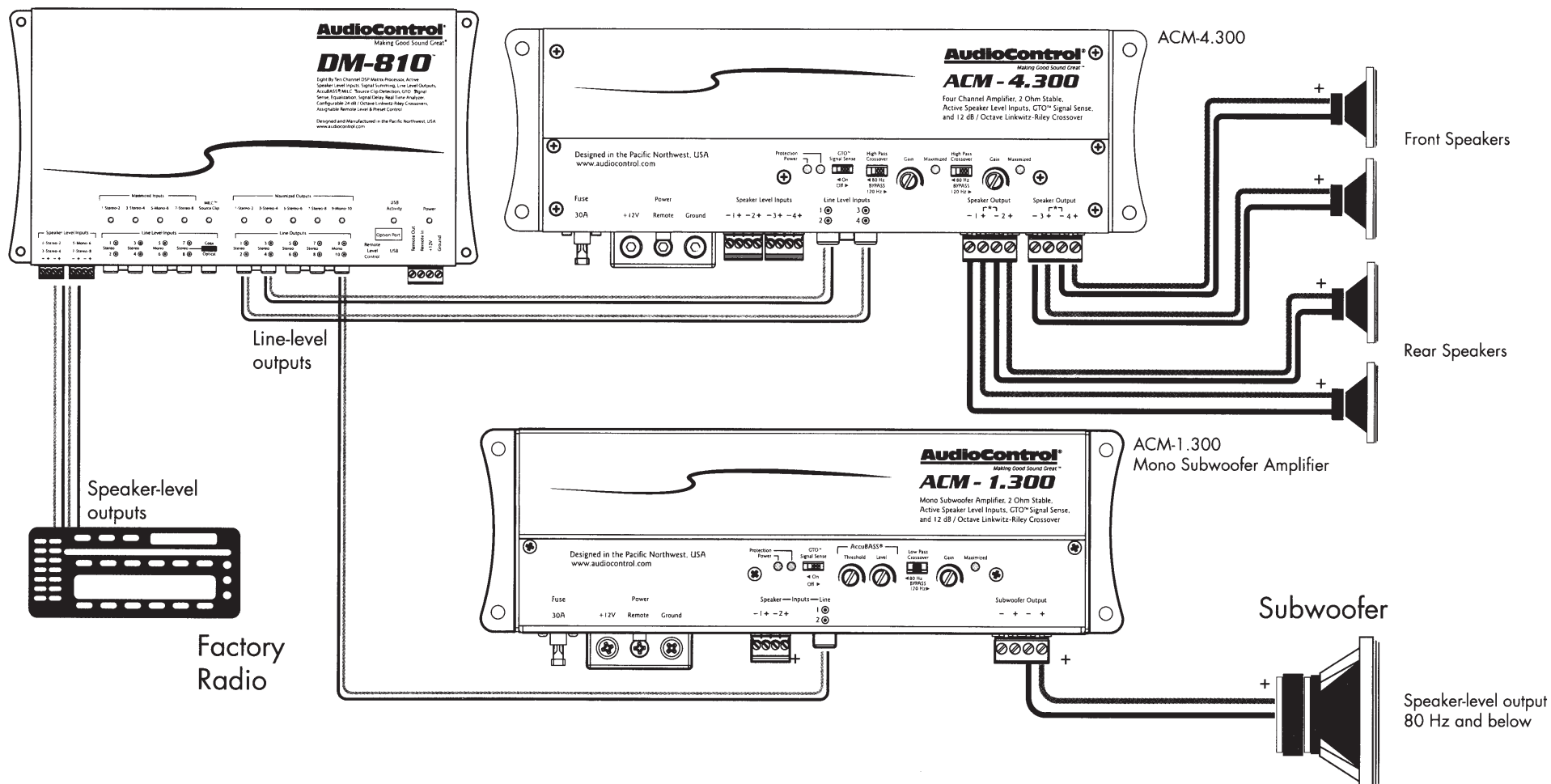
Alternatively, the GTO™ signal sense feature can be used to gently turn on the ACM-4.300 amplifier when an audio input signal is detected. (The connection to the ACM-4.300 remote input terminal is not required when using the GTO™ signal sense.)



## System #1: Using Speaker-Level Inputs



## System #2: Using Line-Level Inputs

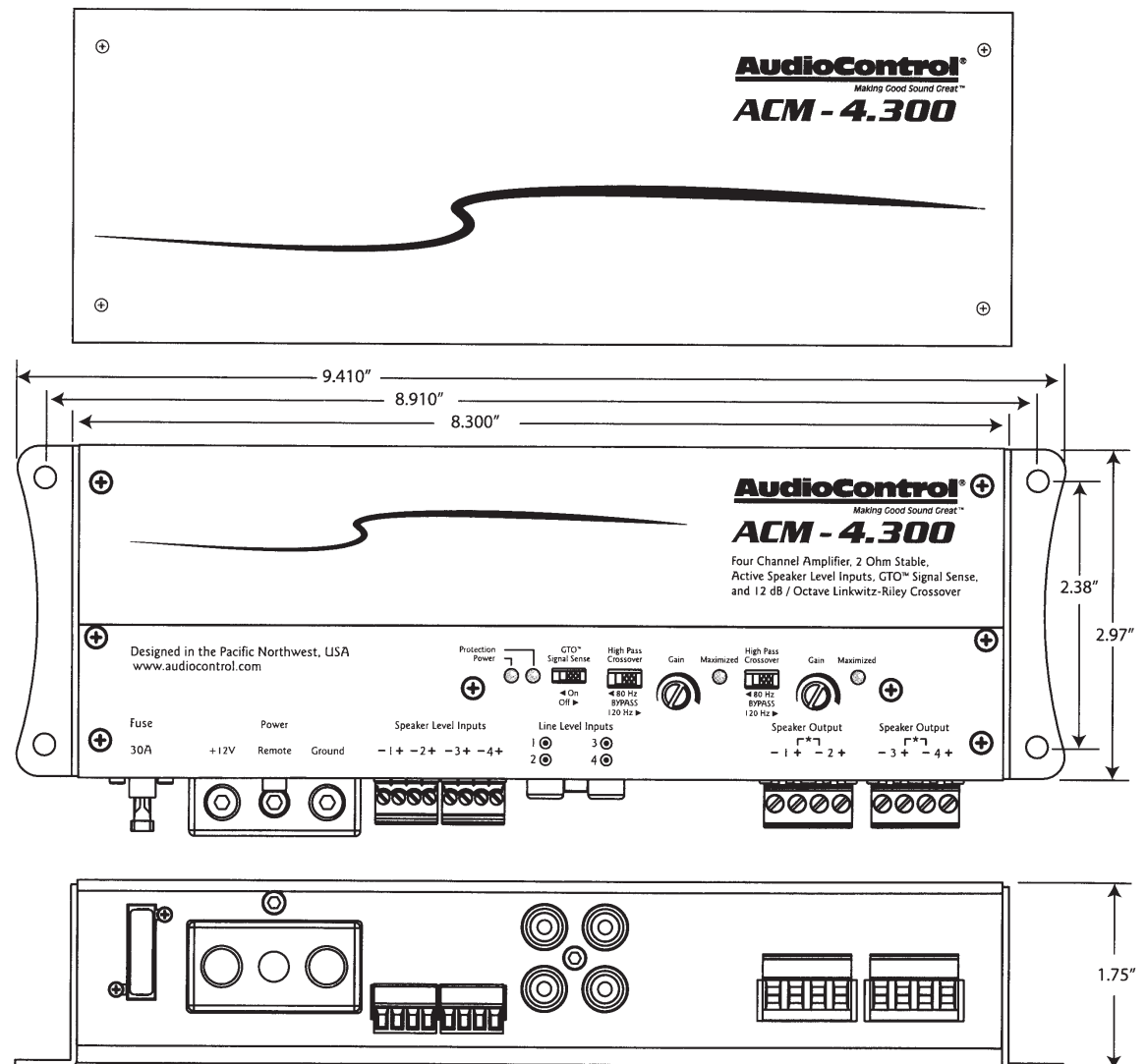


## Cover Plate Removal

The cover plate 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 top four screws that hold the cover plate in place.
2. Use a philips screwdriver to remove the four screws.
3. Keep the cover plate and screws in a safe and handy place, until 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 ACM-4.300 Amplifier

Power Output (RMS) .....4x50 Watts @ 4 Ohms  
 .....4x75 Watts @ 2 Ohms  
 .....2x150 Watts @ 4 Ohms Bridged  
 Frequency Response ..... 10 Hz - 30 kHz  
 Total Harmonic Distortion + N ..... < 0.01%  
 S/N Ratio ..... 102 dBa, Ref 50 Watts @ 4 Ohms  
 Power / Ground Wire Gauge ..... Between 8 and 4 AWG  
 Fuse Rating .....1 X 30 Amps  
 Crossover .....12dB/Octave Linkwitz-Riley, 80 Hz, 120 Hz, Bypass  
 Speaker-Level Inputs ..... 2x, 40V (400W) max  
 Line-Level Inputs .....2x, balanced RCA, 8V max  
 Weight .....1.3 lbs  
 Dimensions ..... 9.41"W X 2.97"D X 1.75"H

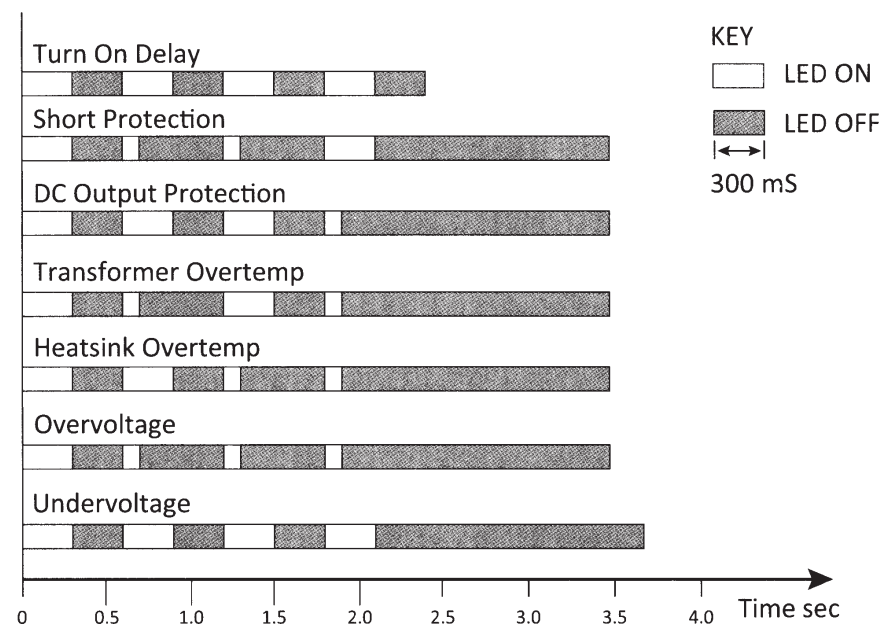
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### Warranty

For details of the limited warranty for your ACM-4.300, please visit the following page on our website: <http://www.audiocontrol.com/warranty>  
 Please keep your receipt in a safe place.

### Protection Codes

The various codes flashed by the Protection LED will help you diagnose any problems with your system.



AudioControl

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