

OWNERS MANUAL

APU8SUM

HI-LO LEVEL SIGNAL SUMMING INTERFACE

The APUSUM is a unique interface with the ability to sum (or mix) multiple high-level/speaker-level signals together to a single, low-level RCA output. The APUSUM greatly simplifies upgrading or adding an amplifier (or amplifiers) to your factory source unit; Channels 1-4 can be independently switched internally to function as stereo line output converters (LOCs) instead of the summing function.

Features

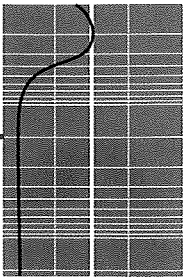
- 4 stereo speaker-level inputs
- 4 line-level stereo RCA outputs
- 1 stereo RCA aux-input
- Balance levels from multiple speaker-level sources
- Turns up to four speaker-level stereo pairs down to a single stereo RCA low-level output.
- Each stereo channel is capable of both summing and line-output conversion; switched internally
- Integrates portable media direct to your amp using aux-in and level control

PERFORMANCE

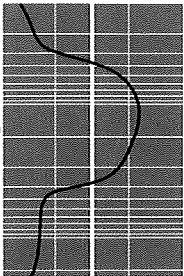
Max Voltage In	40V RMS
Max Aux-In Voltage	40V RMS
Max Voltage Out (Channel 1)	9V RMS
Max Voltage Out (Channel 4)	6V RMS
Signal-to-Noise Ratio (Channel 1)	90dB (ref. 1V)
Signal-to-Noise Ratio (Channel 4)	90dB (ref. 1V < 200Hz)
Remote Attenuation Range	0dB to -27dB
Frequency Response +0 / -1	20Hz - 22kHz
Gain Range (Channel 1, 2, 3, 4)	-30dB to +4dB
Gain Range (Aux-In)	-65dB to +18dB
Fuse	2 Amperes
Width	10-1/2" (265mm)
Depth	5-3/4" (146mm)
Height	1-3/8" (35mm)

APUSUM FUNCTIONAL EXAMPLE

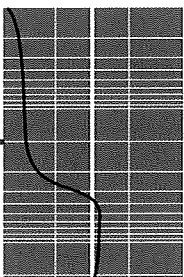
Factory source unit speaker outputs [frequency response]*



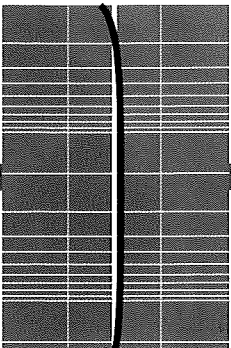
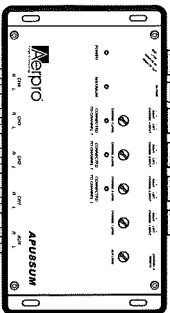
SUB Channel



MID Channel



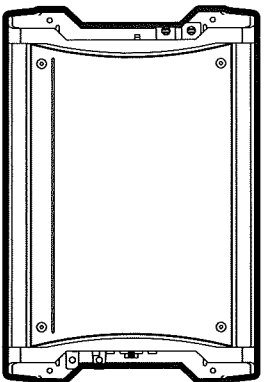
TWEETER Channel



Summed & Balanced
Low-Level Output



AMPLIFIER

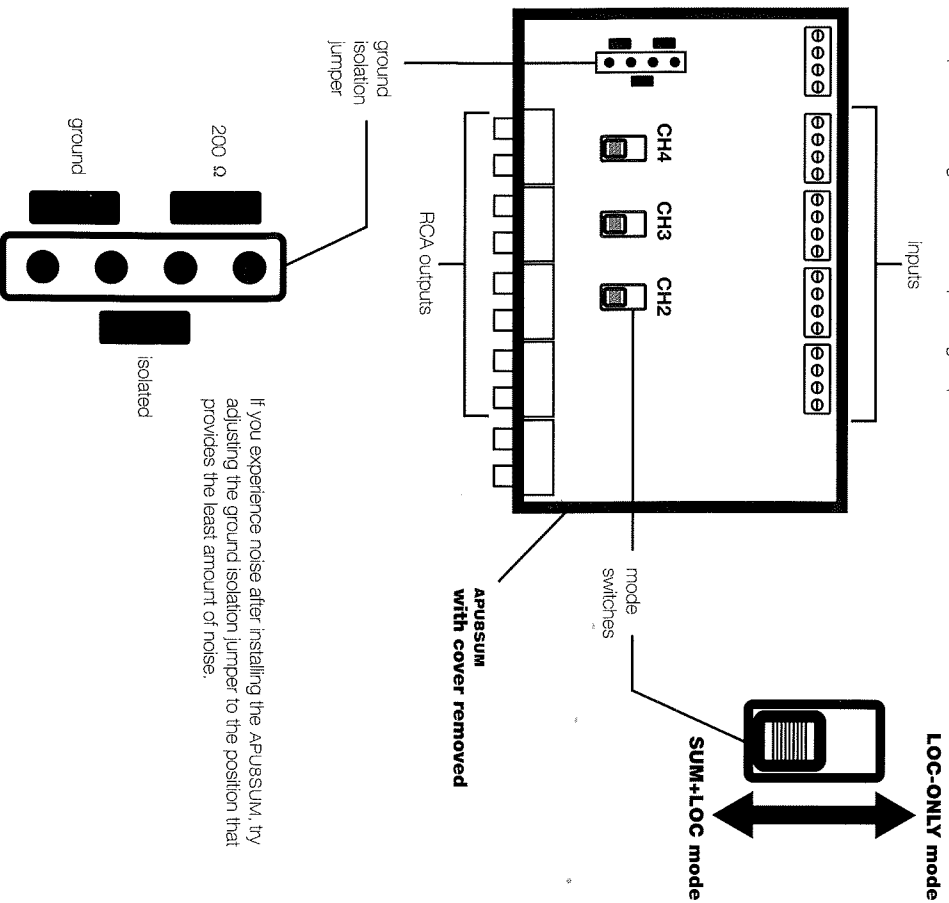


CONFIGURATION

Internal Mode Switches: Change the mode of channels 2–4 between summing plus line-output conversion (LOC) and line-output-conversion-only by flipping the internal switches, accessible by removing the cover of the APUSUM.

Use LOC-ONLY mode to convert a channels input from high-level (speaker-level) to a low-level signal suitable for connection to an amplifier.

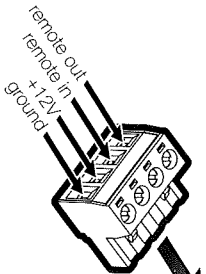
Use SUM+LOC mode to mix the channel in question with Channel 1. The mixed signal appears on the Channel 1 output at low-level suitable for connection to an amplifier. The channels original signal is also converted to low-level then passed through to its corresponding output.



If you experience noise after installing the APUSUM, try adjusting the ground isolation jumper to the position that provides the least amount of noise.

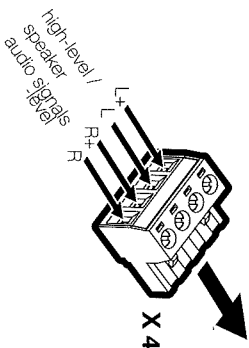
INSTALLATION

APUSSUM power input



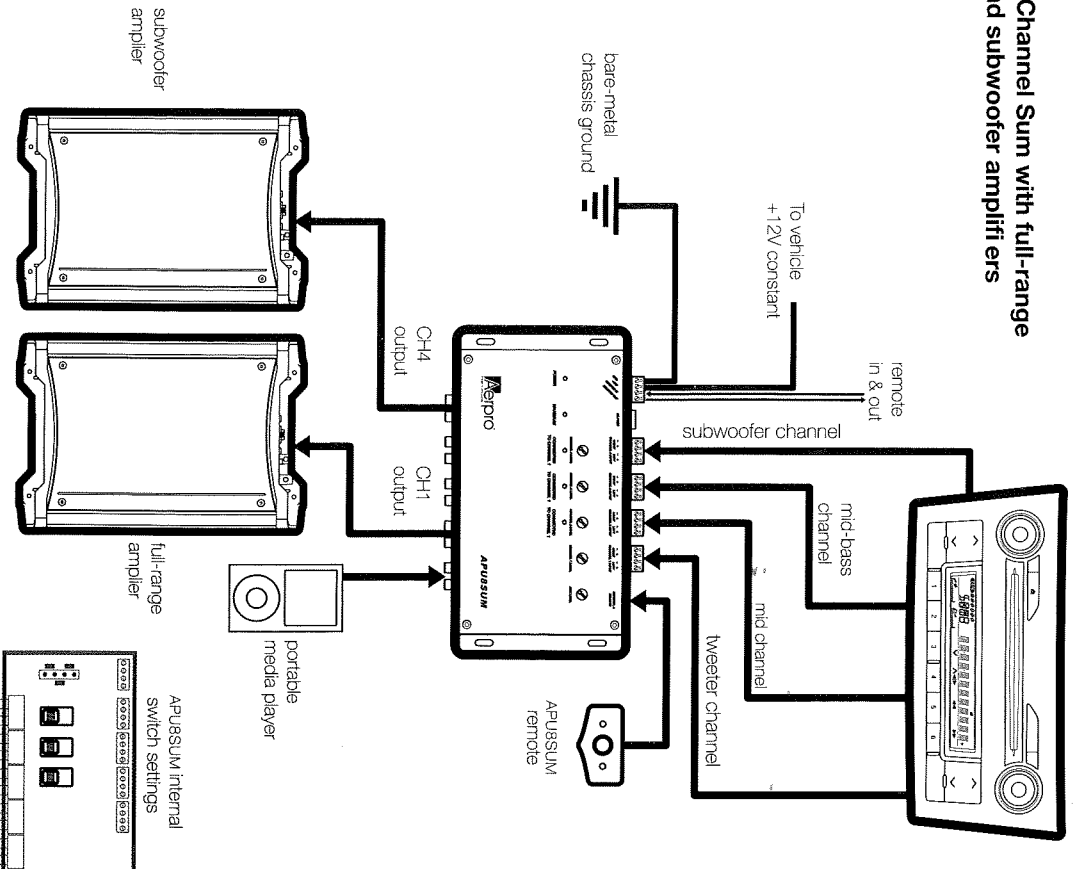
Use 18 gauge or larger wire for these four connections.

APUSSUM audio inputs

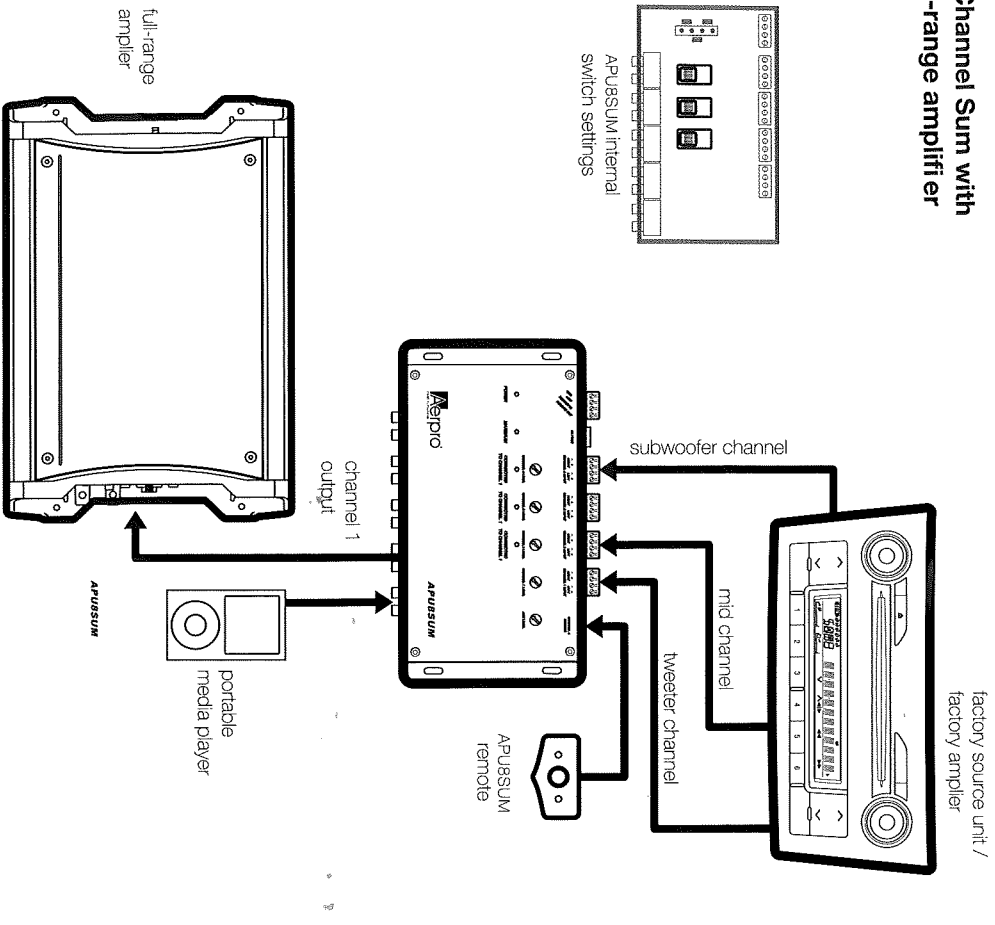
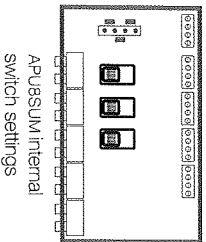


factory source unit /
factory amplifier

8-Channel Sum with full-range and subwoofer amplifiers

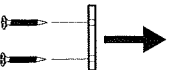


6-Channel Sum with full-range amplifier

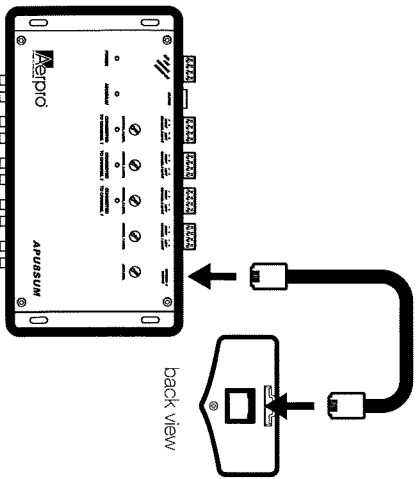
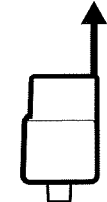


APUSUM Remote Installation

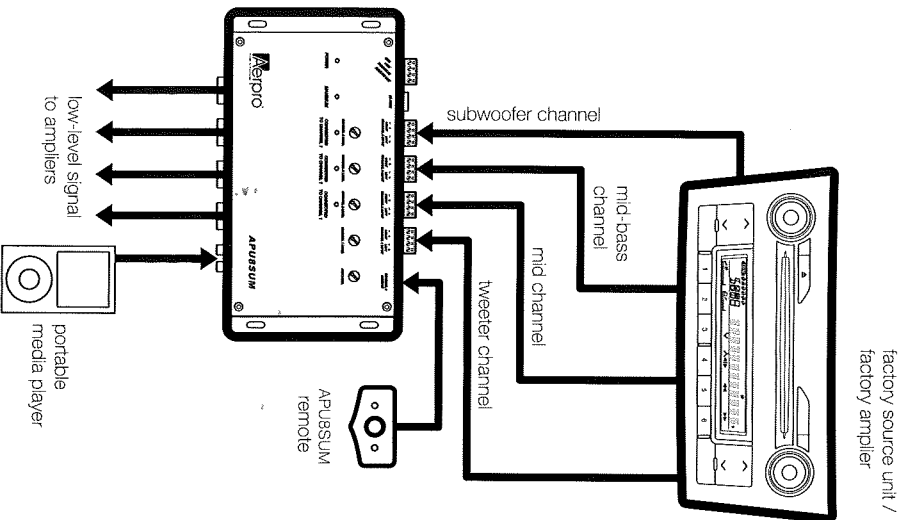
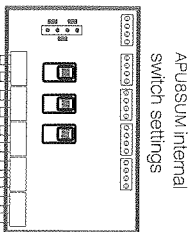
1. mount the metal bracket



2. slide the housing until it snaps into the metal bracket



8-Channel LOC



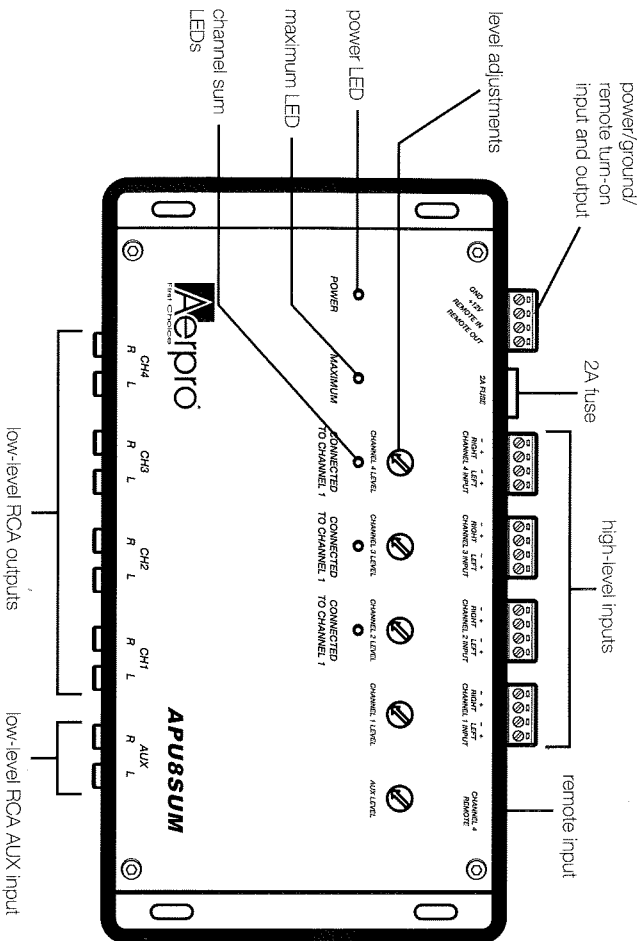
OPERATION

Maximum LED: This LED will illuminate when the signal level is slightly below clipping. When the APUSUM input levels are properly set, this LED will flicker when your stereo is operating at full volume.

Channel Sum LED: This LED will illuminate when the corresponding channel is being summed to Channel 1. See the **CONFIGURATION** section for further details.

Level Adjustment: Turn the gain on your amplifiers to the lowest setting and disconnect them from the APUSUM. Turn your source unit to approximately 3/4 volume. Adjust the level controls on the APUSUM until the **MAXIMUM** LED is flickering. Turn your source unit to minimum volume. Reconnect your amplifiers and test your system. You may wish to readjust the levels on the APUSUM to taste.

Remote Turn-on: Connect the remote turn-on lead from your source unit to the **REMOTE IN** terminal on the power connector. If a remote turn-on lead is not available, a 6V DC offset from Channel 1 will be detected when your source unit has been turned on. The **REMOTE OUT** terminal will then have +12V out for turning on other devices. Use 18 gauge or larger wire.



Channel 3 Signal Sense: If no signal is present at the Channel 4 input, the signal connected to the Channel 3 input will be routed to both the Channel 3 and Channel 4 outputs.

Apursum Remote: The remote provides level control of the output of Channel 4. As shown in the installation diagrams, we recommend always using Channel 4 as your subwoofer channel so that you can control the bass level with this remote. When the **AUX-IN** switch is depressed the Aux-In LED will illuminate, and the Apursum source will be switched from the high-level inputs to the low-level AUX input.

