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HIGH EFFICIENCY POWER AMPLIFIER

## OWNER'S MANUAL

CAR AUDIO SYSTEM

*PLEASE READ CAREFULLY BEFORE INSTALLING OR OPERATING THIS UNIT*

# CAP-4300

### WARNING

Make sure you choose a suitable place to mount the unit. The position should be completely dry with a good circulation of air, and from a mechanical point of view very stable.

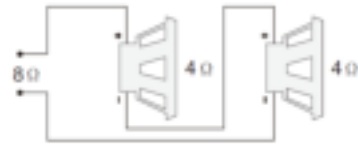
## System planning

Proper system planning is the best way to maximize your amplifier performance. By planning your installation carefully you can avoid situations where the performance of the reliability of your system is compromised. Your authorized dealer has been trained to maximize your system's sonic potential. Your dealer is a valuable resource in helping you with your system design and installation.

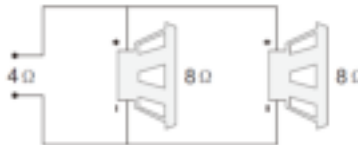
### Speaker requirements

Each channel of your amplifier can easily drive  $4\Omega$  speaker loads when used in the stereo mode. When a channel-pair is bridged, the recommended minimum load impedance is  $3\Omega$  for subwoofer use, and  $4\Omega$  for full range operation. Although operation with lower impedances is not likely to cause immediate damage to the internal circuitry, the unit will most likely overheat, causing the thermal protection circuitry to shut down the amplifier. When the chassis cools down, normal operation will resume. Continuing to operate the amplifier under these conditions is not recommended and will reduce its life expectancy.

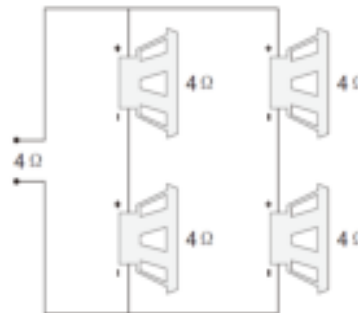
Most speakers designed for car audio operation are  $4\Omega$  impedance. Connecting two such speakers in parallel will result in a  $2\Omega$  impedance load as seen by the amplifier. Some subwoofer models feature a dual  $4\Omega$  voice coil design. Connecting these voice coils in parallel will result in a  $2\Omega$  nominal impedance, which is not recommended for use with bridged channels of your amplifier.



Series wiring

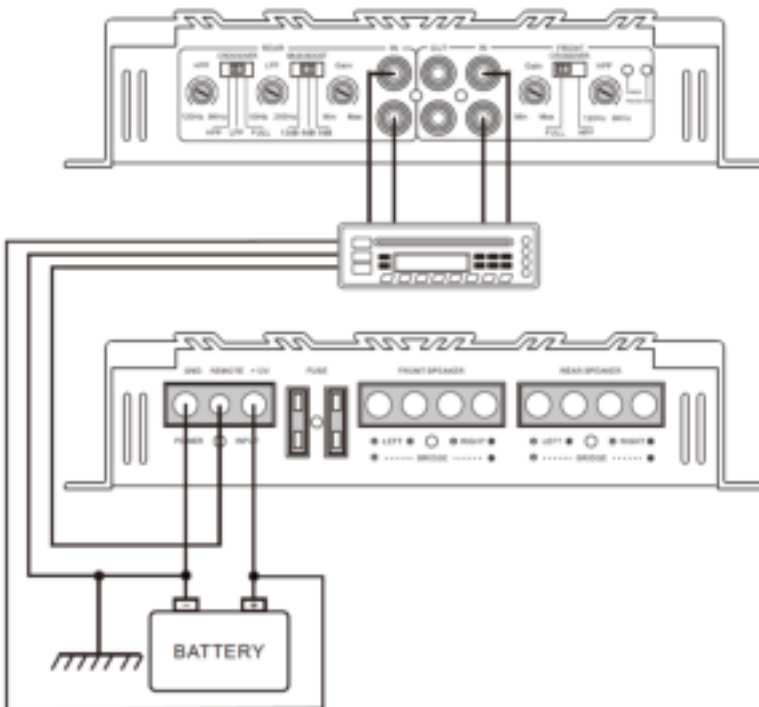


Parallel wiring



Series/parallel wiring

## Power Connection Leads



## Notes on the power supply

Connect the + 12V input lead only after all other leads have been connected.

Be sure to connect the ground wire of the unit securely to a metal part of the car.

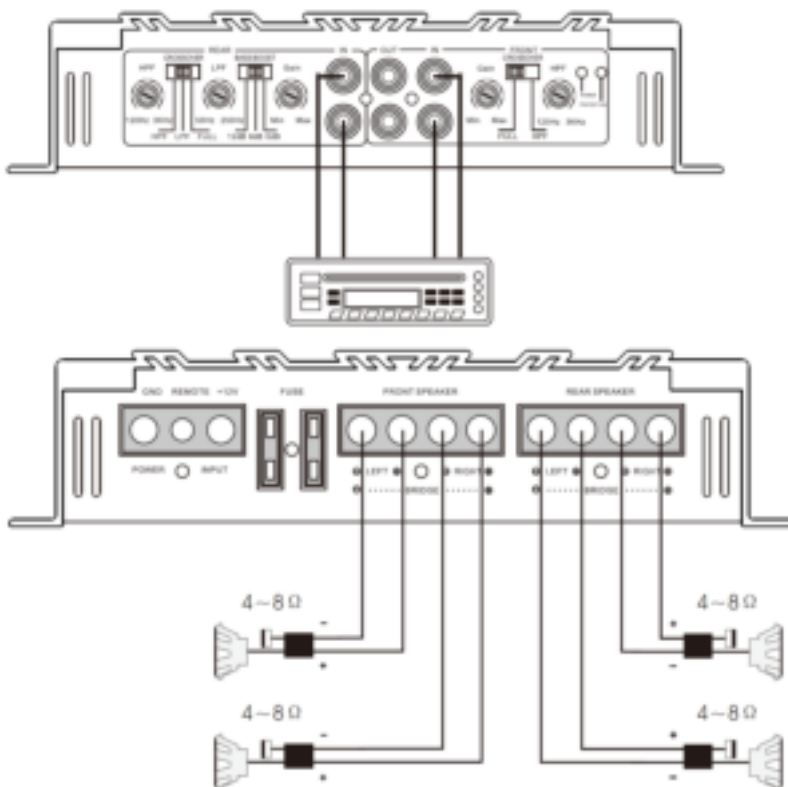
A loose connection may cause a malfunction of the amplifier.

**REMOTE:** The unit is turned on by applying + 12Volts to this terminal. This terminal does not draw heavy current like the two power terminals, so a thinner connecting wire is acceptable. Standard 18 GAUGE is fine and the standard colour is yellow. If the radio is equipped with a power antenna control wire, it can drive this terminal. If the power antenna wire is already in use, you can still splice into it. With this method, the unit will turn on automatically with the radio. Use the power supply lead with a fuse attached whose value is the same as the original fuse.

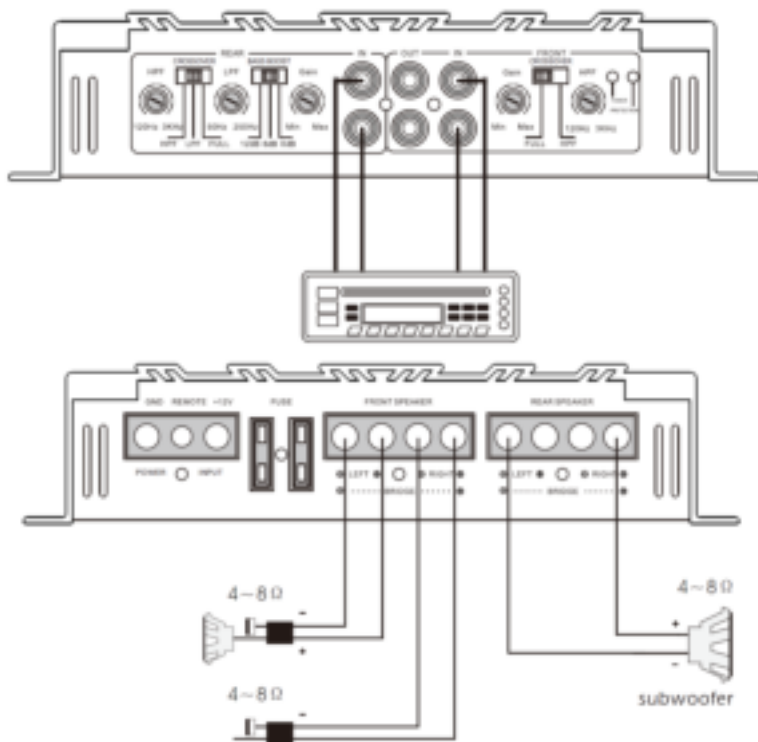
Place the fuse in the power supply lead as close as possible to the car battery.

During full power operation, maximum current will run through the system. Therefore, make sure that the leads to be connected to the + 12V and GND terminals of the unit respectively must be larger than 10-Gauge (AWG. 10).

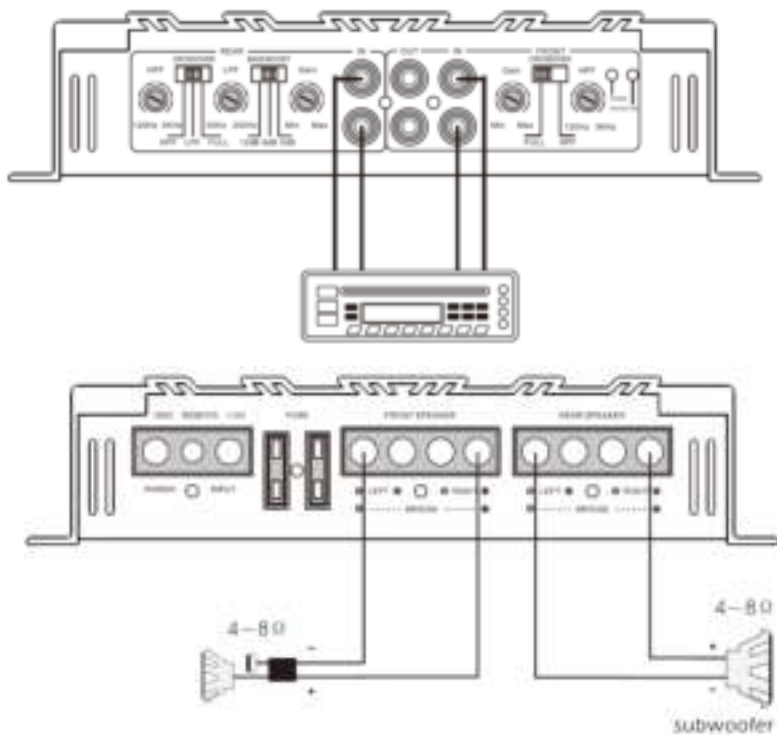
system 1: 4 channel mode



system 2: 3 channel mode



system 3: 2channel bridged connection



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## Troubleshooting

| <b>symptom</b>                 | <b>possible cause</b>  | <b>action to take</b>   |
|--------------------------------|--|---|
| <b>no output</b>               | low or no remote turn-on input   | check remote turn-on voltage output at amplifier and correct as needed  |
|                                | fuse blown   | check power wire integrity and reversed polarity, repair as needed and replace fuse   |
|                                | power wires not connected  | check power wire and ground connections and repair or replace as needed   |
|                                | audio input not connected or no output from source   | check input connections and signal integrity, repair or replace as needed   |
|                                | speaker wires not connected  | check speaker wires and repair or replace as needed   |
| <b>audio cycles on and off</b> | speakers are blown   | check system with known working speaker and repair or replace speakers as needed  |
|                                | thermal protection engages when amplifier heatsink temperature exceeds 90°C                | make sure there is proper ventilation for amplifier and improve ventilation as needed   |
|                                | loose or poor audio input  | check input connections and repair or replace as needed   |
| <b>distorted output</b>        | amplifier level sensitivity set too high; exceeding maximum output capability of amplifier | reset gain referring to the tuning section of the manual for detailed instructions  |
|                                | impedance load to amplifier too low  | check speaker impedance load if below 2Ω stereo or 4Ω mono rewire speakers to achieve a higher impedance                        |
|                                | shorted speaker wires  | check speaker wire connections and repair or replace as needed  |
|                                | speaker not connected to amplifier properly  | check speaker wiring and repair or replace as needed refer to the installation section of this manual for detailed instructions |
|                                | internal crossover not set properly for speaker  | reset crossovers referring to the multi-cross crossover configuration section of this   |

| <b>symptom</b>                   | <b>possible cause</b>   | <b>action to take</b>  |
|----------------------------------|---|--|
|                                  |   | manual   |
| <b>distorted output (cont'd)</b> | speakers are blown  | check system with known working speakers and repair or replace as needed   |
| <b>poor bass response</b>        | speakers wired wrong polarity causing cancellation at low frequencies | check speaker polarity and repair as needed  |
|                                  | crossover set incorrectly   | reset crossovers referring to the multi-cross crossover configuration section of this manual for detailed instructions                           |
| <b>battery fuse blowing</b>      | impedance load to amplifier too low                                   | check speaker impedance load, if below 2Ω stereo or 4Ω mono rewire speakers to achieve a higher impedance  |
|                                  | short in power wire or incorrect power connections                    | check power and ground connections and repair as needed  |
|                                  | fuse used is smaller than recommended                                 | replace with proper fuse size  |
|                                  | too much current being drawn  | check speaker impedance load, if below 2Ω stereo or 4Ω mono rewire speakers to achieve a higher impedance  |
|                                  | short in power wire or incorrect                                      | check power and ground connections and repair as needed  |
| <b>amplifier fuse blowing</b>    | too much current being drawn  | check speaker impedance load, if below 2Ω stereo or 4Ω mono rewire speakers to achieve a higher impedance and replace with recommended fuse size |
|                                  |   | check power and ground connections and repair as needed  |
|                                  | fuse used is smaller than recommended                                 | replace with proper fuse size  |



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## Specifications

### Amplifier section

|                                  |  |
|----------------------------------|--|
| Power output 4 $\Omega$ (watts)  | 50W X 4 CH<br>150W X 2 CH bridged channel pair |
| THD                              | $\leq 0.1\%$                                   |
| frequency response ( $\pm 1$ dB) | 20Hz~20KHz                                     |
| signal to noise ratio            | >88dB  |
| sensitivity                      | 0.15~8V  |
| recommended fuse type            | 20 A X 2                                       |
| dimensions                       | 320mm X 220mm X50mm                            |

Features and specifications subject to change and/or improvement without notice

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All cities have established collection points, where electric and electronic equipment can either be submitted free of charge at recycling stations and other collection sites, or be collected from the households. Additional information is available at the technical department of your city.

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