

# [H]ardBASS

## Owner's Manual

R3000.1  
R5000.1  
R3000.4

—— Proudly Made in South Korea ——



200 Schermerhorn Street, Brooklyn, NY 11201

[www.hardbass.audio](http://www.hardbass.audio)

## Introduction

Congratulations! On your new ownership of this Premium R3000/R5000 **[H]ardBASS** car amplifier. Please read all the instructions in this owner's manual to ensure best performance.

## Mounting Information

Disconnect the negative ( - ) battery cable before mounting or making any connections. Check the battery and alternator ground ( - ) connections. Make sure they are properly connected and free of corrosion. Before selecting a mounting location for the amplifier, please take cooling and safety into consideration.

Avoid mounting locations with excessive vibration. Mounting on speaker boxes is not advised.

This amplifier is made with a Premium high-density heatsink with anodized cooling surface. Mount the amplifier with the heatsink fins pointed upwards for best cooling performance.

For safety, install the amplifier in a dry and well ventilated location. Make sure no cables or other harnesses in the car interfere with the mounting location.

## Installing Power, Ground and Remote connections

### **+12V / B+ (POWER CONNECTION)**

Before mounting the amplifier, disconnect the negative ( - ) wire from the battery to prevent any accidental damage to the amplifier or the audio system. Connect the power cables to power terminal labeled as + 12V.

It is required to use an external fuse (not included) for the R5000.1 model of this amplifier. Connect one end of the fuse holder to the power cable and the other end of the fuse holder to the positive battery terminal within 18 inches of the battery. This fuse location will protect the system and the vehicle against the possibility of a short circuit in the power cable.

Make sure the fuses and the fuse holder are adequate for the desired application.

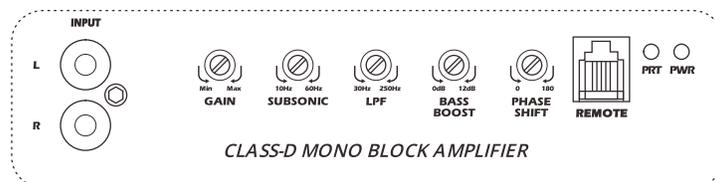
### **GND (GROUND CONNECTION)**

Locate a secure grounding connection as close as possible to the amplifier. Make sure the location is clean and provides a direct electrical connection to the chassis of the vehicle. Connect one end of an equal sized cable as the positive cable to the location of ground. It is important that the ground cable is as short as possible, but no longer than 3 foot. Run one end of the cable to the grounding point. Run the other end of the cable to the mounting location. Connect the ground cable to the terminal labeled as GND.

### **REM (REMOTE CONNECTION)**

Run a remote turn on wire from the vehicle's heat unit. Connect the remote turn on wire to the power terminal labeled as REM.

## R3000.1/R5000.1 Panel Layout



### High-Definition (HD) Signal Processing

We are proud to build our suite of Premium High-Definition (HD) signal processing options into every R3000/R5000 Car Amplifier.

HD Signal Processing provides a range of features and controls to perfectly match this amplifier to your car audio installation.

### Front Panel Layout

#### 1. Input

Connect input signal cable to the amplifier. Minimum level input is 0.2V.

#### 2. Gain (0.2V to 8V)

Match the output voltage of your head-unit or preamplifier to the amplifier input.

#### 3. Subsonic filter (10Hz to 60Hz at 12dB/Octave Slope)

Protects your subwoofer from excessively-low frequency signals.

#### 4. Low-Pass Filter (LPF) (30Hz to 250Hz at 12dB/Octave Slope)

Increases efficiency by removing High and Mid frequency signals from your subwoofer.

#### 5. Bass Boost

Bass Boost at 45Hz. Adjustable from 0dB (off) to 12dB (maximum).

#### 6. Phase Shift (0 to 180 degrees)

Use this to adjust phase for best performance

#### 7. Remote Level control port

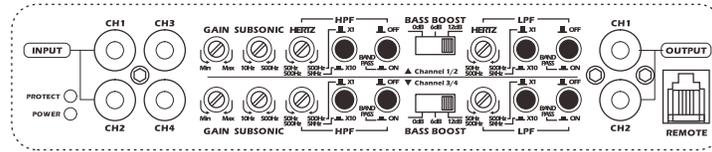
Connect the remote Bass control knob here.

#### 8. Power and Protect LED indicators

Green Power LED shows correct operation. Red Protect LED glows when there is improper installation.

If Red LED glows, please (1) check all connections are proper, (2) calculate speaker load impedance (in ohms), and (3) check mounting position for proper ventilation.

## R3000.4 Panel Layout



### High-Definition (HD) Signal Processing

We are proud to build our suite of Premium High Definition (HD) signal processing options into every R3000/R5000 Car Amplifier.

HD Signal Processing provides a range of features and controls to perfectly match this amplifier to your car audio installation.

### Front Panel Layout

#### 1. Input

Connect input signal from head unit or preamp to the amplifier. Minimum level input is 0.2V

#### 2. Output.

Connect for signal routing to another amplifier.

#### 3. Gain (0.2V to 8V)

Match the output voltage of your head unit or preamp to the amplifier input

#### 4. Subsonic filter (10Hz to 500Hz at 12dB/Octave slope)

Protects your speakers from excessively-low frequency signals.

#### 6. High-Pass filter (HPF) @ 12dB/Octave slope

Increases efficiency by removing unsuitable Low-frequency signals.

#### 7. High-Pass filter (HPF) multiplier switch

Selects the range of the HPF from 50Hz to 500Hz (x1), or 500Hz to 5,000Hz (x10).

#### 8. Bass Boost

Bass Boost at 45Hz. Selectable from 0dB (off), 6dB (Medium), or 12dB (Maximum)

#### 9. Low-Pass filter (LPF) @ 12dB/Octave slope

Increases efficiency by removing unsuitable High-frequency signals.

#### 10. Low-Pass filter (LPF) multiplier switch

Selects the range of the LPF from 50Hz to 500Hz (x1), or 500Hz to 5,000Hz (x10)

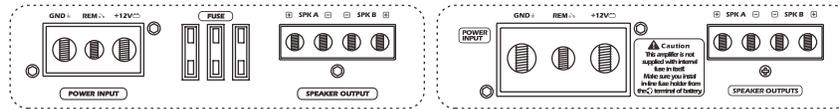
#### 11. Band-Pass

For bandpass filtering, press the "ON" switch for both the HPF and LPF.

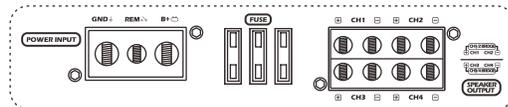
## +12V(B+), GND, REM

(R3000.1)

(R5000.1)



(R3000.4)



### Recommended Wire Gauges

R3000.4 "Legend Killer": 4-gauge for +12V (B+) and Ground Connections

R3000.1 Monoblock: 4-gauge for +12V (B+) and Ground Connections

R5000.1 Monoblock: 0-gauge for +12V (B+) and Ground Connections

### REM (REMOTE)

Connect to switched +12V from the head unit.

### SPEAKER OUTPUTS

For connection to the loudspeakers. Minimum speaker cable is 12 gauge.

Minimum impedance for R3000.1/R5000.1 Monoblock amplifiers is 1-ohm.

Minimum impedance for R3000.4 is 4-ohm/bridged pair.

Do not connect speakers below minimum rated impedance. This may cause overheating or damage.

### CAUTION

Before attempting to make any connections to power supply, input and output connectors, make sure the amplifier is in OFF state. Check polarity of cables carefully as using reversed polarity will cause damage to amplifier. And to prevent power loss and overheating of wiring, always use the recommended wire gauges.

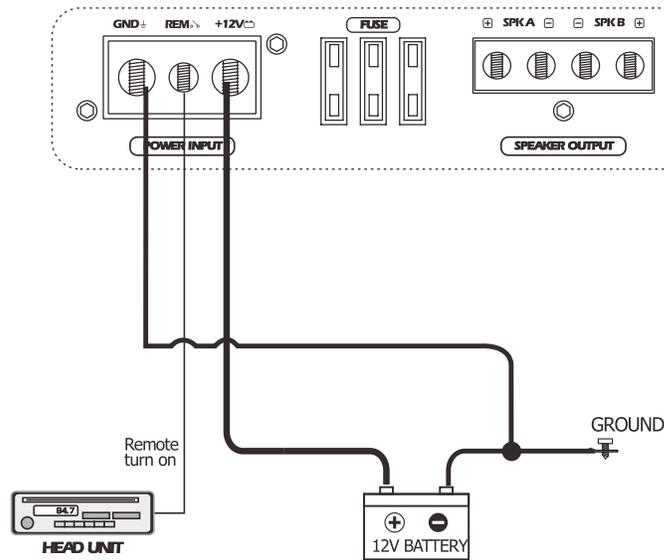
### CAUTION

Installation of the amplifier should be done in the following steps:

1. Ensure that the ground is appropriate, then connect it to the amplifier.
2. Next step is to connect the +12V wire. Ensure all power terminals are used.  
This cable has to be fused at the battery for safety precautions.
3. The final step is connecting the switched remote.

## +12V(B+), GND, REM Connection

### R3000.1 Monoblock



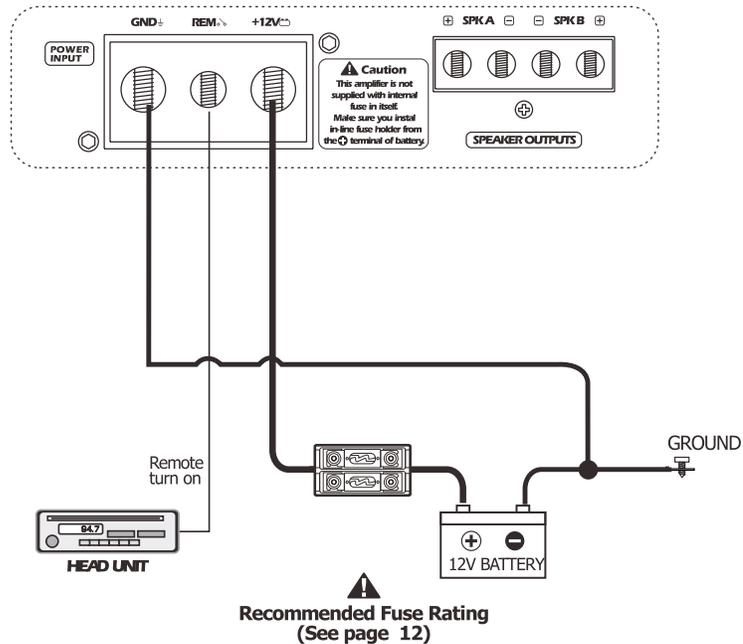
#### **⚠ CAUTION**

**Keep GROUND of equal gauge. This drawing is for illustration purpose only.**

A minimum of 12-gauge speaker cable is required for correct operation.  
Run 12 AWG speaker cables from your speakers to the amplifier's mounting location  
Keep the speaker cables separate from the power cables and the amplifier's input cables.  
Use grommets where the cables have to penetrate the vehicle chassis.  
Connect the speaker wires according to the terminals on each speaker.  
Strip 1cm, 3/8" of insulation of the end of each cable and twist the cables strands together tightly.  
Make sure there are no stray strands that might touch other cables or terminals and cause short circuit.  
Connect the cable ends to the amplifier as shown in the speaker wiring diagram.

## +12V(B+), GND, REM Connection

### R5000.1 Monoblock

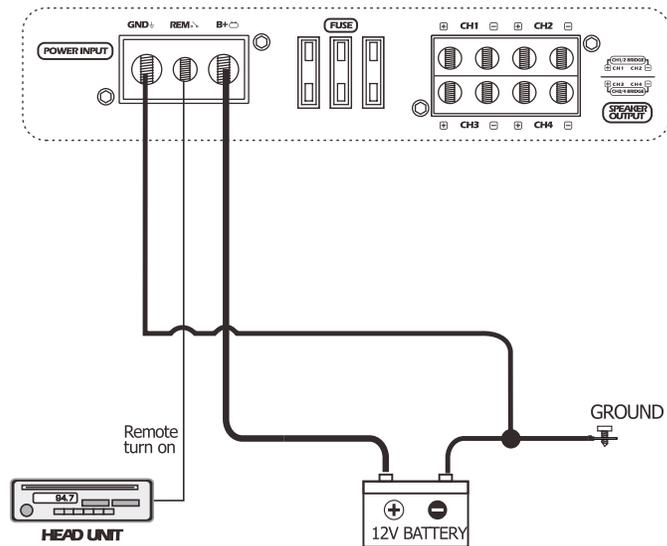


**CAUTION**  
Keep GROUND of equal gauge. This drawing is for illustration purpose only.

A minimum of 12-gauge speaker cable is required for correct operation.  
Run 12 AWG speaker cables from your speakers to the amplifier's mounting location.  
Keep the speaker cables separate from the power cables and the amplifier's input cables.  
Use grommets where the cables have to penetrate the vehicle chassis.  
Connect the speaker wires according to the terminals on each speaker.  
Strip 1cm, 3/8" of insulation of the end of each cable and twist the cables strands together tightly.  
Make sure there are no stray strands that might touch other cables or terminals and cause short circuit.  
Connect the cable ends to the amplifier as shown in the speaker wiring diagram.

## +12V(B+), GND, REM Connection

### R3000.4 "Legend Killer"



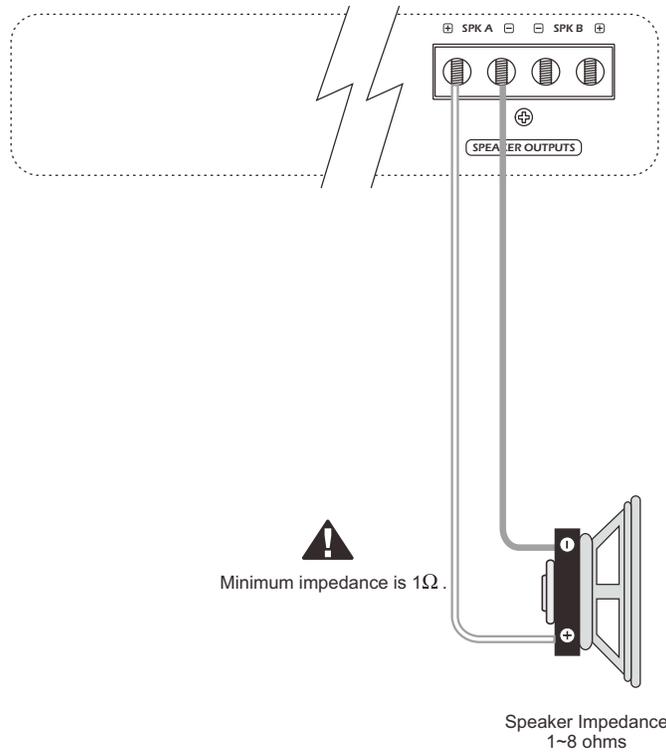
#### ⚠ CAUTION

Keep GROUND of equal gauge. This drawing is for illustration purpose only.

We recommend using 12 AWG speaker cables to obtain intended performance.  
Run 12 AWG speaker cables from your speakers to the amplifier's mounting location  
Keep the speaker cables separate from the power cables and and the amplifier's input cables.  
Use grommets where the cables have to penetrate the vehicle chassis.  
Connect the speaker wires according to the terminals on each speaker.  
Strip 1cm, 3/8" of insulation of the end of each cable and twist the cables strands together tightly.  
Make sure there are no stray strands that might touch other cables or terminals and cause short circuit.  
Connect the cable ends to the amplifier as shown in the speaker wiring diagram.

## Speaker Connection

(R3000.1 / R5000.1)

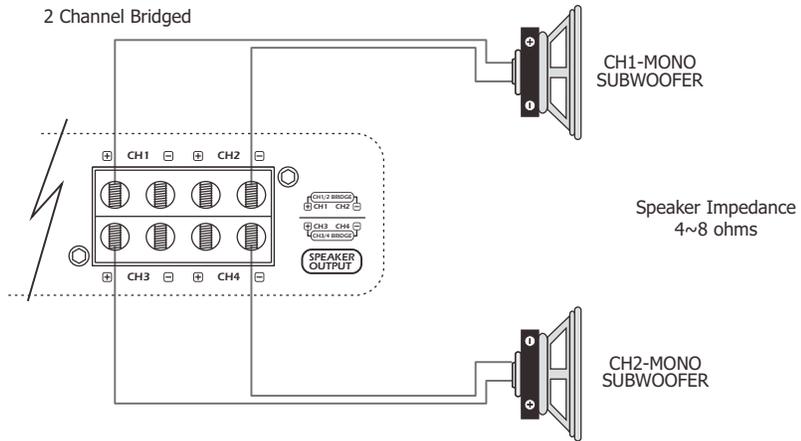


This amplifier is not to be Linked / Strapped.  
Severe damage may occur if used in such a configuration.  
Attempts to link / strap / bridge amplifier will void the warranty!

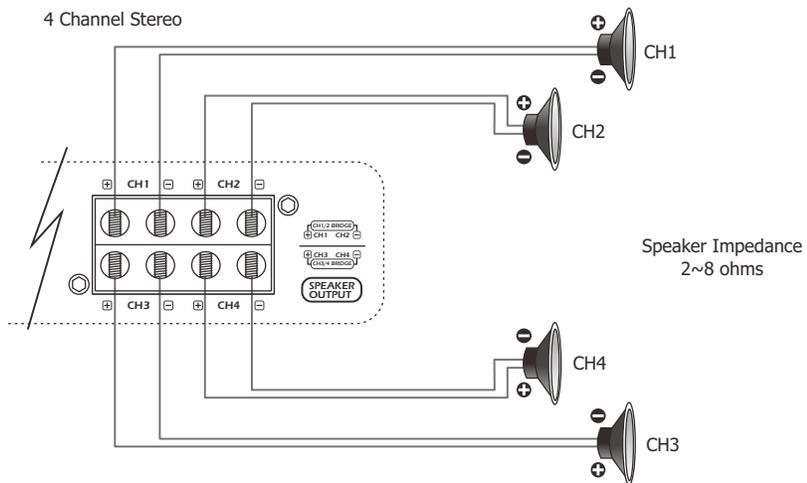
## Speaker Connection

(R3000.4)

2 Channel Bridged



4 Channel Stereo



## Troubleshooting

Assure that the Power LED is on, if so please proceed with step # 3, if not, continue with the steps below;

1. Check the in line fuse (s) on the battery's positive cable, replace if needed.
2. Assure that the Ground is properly attached to the vehicle's chassis on a clean metal point, tighten or grind the connection point once again.
3. Our amplifiers have a high voltage protection. Make sure that the operating voltage is between 10V~16V and voltages above this range will cause the amplifier to go into protect.

### Protect LED is on

1. The Protect LED will come on due to the possible circumstances;
  - a) The impedance connected is under the specified load.
  - b) Thermal (Overheat), allow for a more suitable mounting as recommended in the install section. Thermal may also appear if the impedance is under the specified or the voltage is inadequate.
  - c) Short circuitry, voltage and DC offset.
    - Short circuitry, go through all cables including speaker wires, GND, battery's positive cable. Voltage, please check step # 3, for DC offset, make sure that a voltage of no more than 4V is available. Remove the RCA from the input and check whether the amplifier comes out of protect. If so, check if the output from the Head unit has a DC of 4V, replace / repair if needed.

### Audio output (no sound)

1. Assure that RCA connections from the Head unit and the amplifier is properly connected. Check the entire cable for damages or its like. Test the RCA inputs for DC volts with the source unit on, replace / repair if needed.
2. Check the routing of the cables, fuses and verify that all connections are connected accordingly.
3. Check whether the speakers are functional.

### Turn on thump

1. Disconnect the signal input to the amplifier, then turn it on and off.
  - a) If the noise is cancelled, then connect a delay turn on module on the REM wire running from the source unit to the amplifier.
  - b) Use another 12V source for REM lead to the amplifier. If the noise is cancelled, use a relay to isolate the amplifier from the turn on thump.

### Poor bass response

1. Check that the polarity of the speaker cables are correct. Speakers connected in anti-phase will cancellate each other, thus the bass response will be absent.

### Engine noise

1. Ensure that all signal transferring wires (RCA, speaker cables etc) are kept separately / away from the power and the ground wires.
2. Bypass all electrical components between the Head unit and the amplifier. Connect the Head unit directly to the amplifier's input. If the noise is eliminated, the unit bypassed is the one causing the noise.
3. Remove the existing ground wires for all electrical components installed. Ensure that the point of ground is 100% metal which has been grinded free of rust, paint etc.
4. Replace the ground cable from the OEM battery / alternator and ensure it is grounded accordingly.
5. Test the battery and alternator load (can be carried out by a professional). Ensure that the vehicle's electrical system is in a good condition, this includes distributor, spark plugs / wires, voltage regulators etc.

## Specifications

R3000.4 *"Legend Killer"*

### Continuous Power Output (RMS) @ 14.4V

200 x 4 @ 4-ohm per channel at 0.1%THD

300 x 4 @ 2-ohm per channel at 0.1% THD

600 x 2 @ 4-ohm Bridge Pair at 0.1% THD

# 4-Channel

### Peak Power Output @ 14.4V (in Watts)

3000 Watts

### Fuse Rating

120A (40A x 3)

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## Monoblock

R3000.1

### Continuous Power Output @ 14.4V

600W RMS @ 4-ohm

900W RMS @ 2-ohm

1500W RMS @ 1-ohm

### Peak Power Output @ 14.4V

3000 Watts

### Fuse Rating

120A (40A x 3)

R5000.1

### Continuous Power Output @ 14.4V

900W RMS @ 4-ohm

1500W RMS @ 2-ohm

2500W RMS @ 1-ohm

### Peak Power Output @ 14.4V

5000 Watts

### Fuse Rating

200A Recommended External Fuse

Input Sensitivity: 200mV to 8V

HD Signal Processing and Bass Remote included.

Operating Voltage DC10V - 16V

