



**RECOIL<sup>®</sup>**

**RED600.1/RED1200.1/RED1800.1  
RED2500.1/REA600.4/RED1800.5**

# **User Manual**



## INTRODUCTION

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Thank you for purchasing a Recoil amplifier for your car audio system. You have chosen Recoil because you deserve the best!

Please thoroughly read through this manual before getting started. If you have any questions and require additional assistance, please contact [support@recoilaudio.com](mailto:support@recoilaudio.com).

## CAUTION

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### GENERAL PRECAUTIONS

- This unit is designed for negative ground 12V DC operation only
- Total system impedance must not be less than 2 ohms, in a bridged OR stereo configuration( monoblocks are 1 ohm stable)
- Do not cover the amplifier with carpet or wires.
- For safety reasons, keep the volume of your car audio system moderate while driving your vehicle so that you can still hear normal traffic sounds and emergency vehicles outside your car.

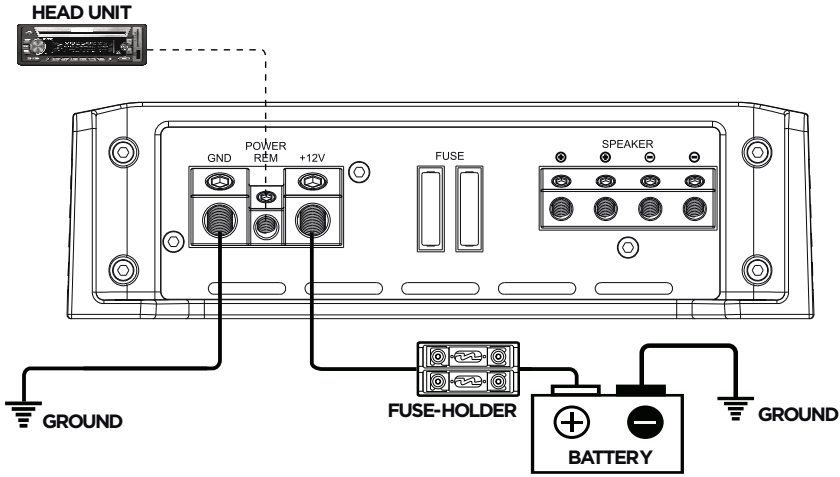
### MOUNTING PRECA

Choose a location that provides adequate ventilation around the amplifier. For easy system set-up, mount the amplifier so the side panel controls will be accessible after installation. In addition, observe the following precautions:

1. Using a felt pen mark, mark the mounting hole locations
2. Mounting the amplifier on carpet will significantly reduce air flow, resulting in reduced thermal run times.
3. Mount the amplifier on a solid surface. Avoid mounting to subwoofer enclosures or areas prone to vibration.
4. Prior to mounting the amplifier, make sure not to cut or drill into the fuel tank, fuel lines, brake lines( under chassis) or electrical wiring.

### WIRNG PRECAUTIONS

1. Before installation, make sure the source unit power switch is in the OFF position
2. Disconnect the negative( - ) lead of the battery before making any power connections.
3. When making connections, be sure that each one is clean and secure
4. A secure clean ground connection is critical to the performance of your amplifier  
Connect the ground directly to the car chassis to minimize resistance and avoid any noise problems.
5. Add an external fuse on the amplifiers positive( + ) power lead and connect it as close as possible to the vehicle's( + ) battery terminal.



## BATT (+12V POWER)

Before mounting amplifiers, disconnect the negative cable from the battery to protect any accidental damage to your amplifiers and audio system. Connect the power cables to power terminal 12V. Connect one end of fuse holder to the power cable going into the amplifiers and the other end of fuse holder to positive battery. This fuse location will protect the system and the vehicle against the possibility of a short circuit in the power cable. Be sure to use fuses and fuse holder adequate for the application.

## GND (GROUND)

Locate a secure grounding connection as close to amplifier as possible. Make sure the location is clean and provides a direct electrical connection to the frame of the vehicle. The ground needs to have as low of a resistance as possible. Connect one end of a short piece of the same size cable as the power cable to the grounding point or to one of your batteries or battery bank. Run the other end of 4 ga cable to the mounting location of the amplifiers for connection to the amplifiers ground terminals and connect the ground cable to the GND( ground terminal).

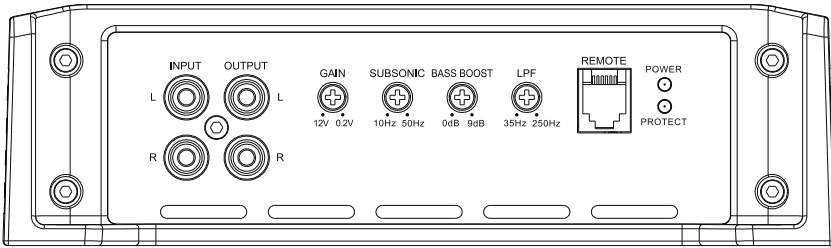
## REM (REMOTE)

Run a remote turn on cable from the switched 12V source. This may be a toggle switch, a relay, your source unit's remote trigger cables, or power antenna trigger cable. Connect the remote turn on cable to the REM( remote ) terminal.

## SPEAKER TERMINAL BLOCK

Connect the speaker wire from amplifiers' speaker terminals to subwoofers or speakers.

## RED600.1 CONTROL PANEL



### RCA INPUTS

The RCA jacks allow for a normal Left and Right channel signal input. Simply connect to the source unit using RCA type audio cables, keeping them away from power wiring wherever possible to reduce risk of noise.

### RCA OUTPUTS

The RCA outputs connect another amplifier for multi amplifiers system.

### GAIN

The input gain control is preset to match the output of most source units. It can be adjusted to match output levels from variety of source units.

### SUBSONIC

This control allows you to remove the unwanted sub-sonic frequencies below the tuning frequency of a ported enclosure. This helps to protect the woofer from over excursion. Adjustable from 10-50Hz.

### BASS BOOST

This control adds to + 9dB of boost at 45Hz. Be cautious when adding boost to some subwoofer systems as they may not be able to handle the additional low frequency boost. In the 0dB position, no bass boost is added.

### LPF

Use this adjustment to select the crossover point. Remember that you must select the Low Pass position (LPF) of the crossover adjustment switch first. The range of adjustment is limited between 35-250 Hz.

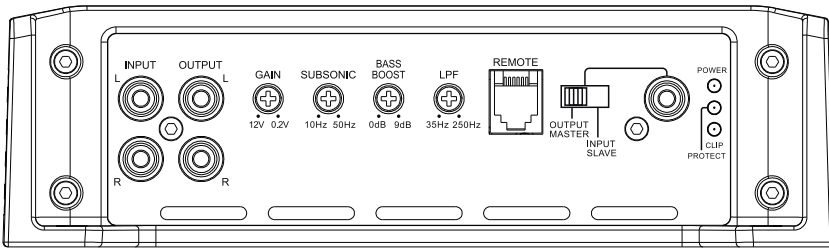
### REMOTE

This port is for the remote level control. The control is intended to allow the user to control the level of the amplifier from your drivers seat.

### POWER & PROTECT INDICATORS

The Protect LED lights up when there is a problem with your amplifier. If the CLIP LED keeps flashing indicates clipping is present. At this point, please lower the amplifier's gain level until the CLIP LED only flashes at peak power.

## RED1200.1 & RED1800.1 & RED2500.1 CONTROL PANEL



### RCA INPUTS

The RCA jacks allow for a normal Left and Right channel signal input. Simply connect to the source unit using RCA type audio cables, keeping them away from power wiring wherever possible to reduce risk of noise.

### RCA OUTPUTS

The RCA outputs connect another amplifier for multi amplifiers system.

### GAIN

The input gain control is preset to match the output of most source units. It can be adjusted to match output levels from variety of source units.

### SUBSONIC

This control allows you to remove the unwanted sub-sonic frequencies below the tuning frequency of a ported enclosure. This helps to protect the woofer from over excursion. Adjustable from 10-50Hz.

### BASS BOOST

This control adds to + 9dB of boost at 45Hz. Be cautious when adding boost to some subwoofer systems as they may not be able to handle the additional low frequency boost. In the 0dB position, no bass boost is added.

### LPF

Use this adjustment to select the crossover point. Remember that you must select the Low Pass position (LPF) of the crossover adjustment switch first. The range of adjustment is limited between 35-250 Hz.

### REMOTE

This port is for the remote level control. The control is intended to allow the user to control the level of the amplifier from your drivers seat.

### OUTPUT MASTER & INPUT SLAVE SWITCH

Used when strapping two like model amplifiers. Switch one amplifier to OUTPUT MASTER and switch the other amplifier to INPUT SLAVE. The preamp settings on the OUTPUT MASTER Amplifier will control the preamp of the INPUT SLAVE amplifier. When only one amplifier is being used switch to OUTPUT MASTER.

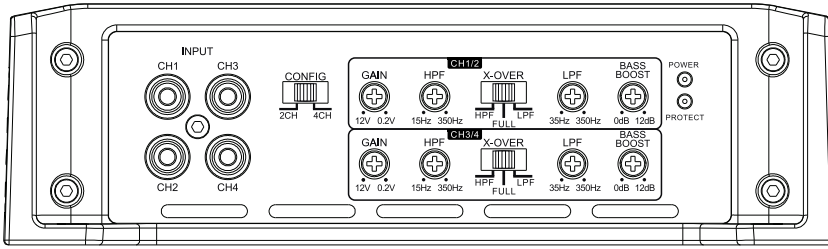
### OUTPUT MASTER & INPUT SLAVE RCA

LoW-L evel RCA Line-In for connecting the two like model amplifiers when operating them in INPUT SLAVE mode.

### POWER & PROTECT INDICATORS

These lights indicate when the amplifier is powered up normally and when there is a protection fault. The Protect LED is laminated when there is a problem with your amplifier. The CLIP LED is When flashing indicates clipping is present while playing source material. At this point it is suggested to adjust the amplifiers gain level until the CLIP LED is only flashing on peak notes.

## REA600.4 CONTROL PANEL



### RCA INPUTS

The RCA jacks allow for a normal Left and Right channel signal input. Simply connect to the source unit using RCA type audio cables, keeping them away from power wiring wherever possible to reduce risk of noise.

### RCA OUTPUTS

The RCA jacks allow Thru from REA600. 4 amplifier to a mono block amplifier(RED600.1D/ RED1200. 1D/RED2500.1) signal input. This simplifies signal connection in a Front/ Rear/ Sub system with an aftermarket headunit that only has a 2 or Ch output.

### CONFIG

This switch allows the amplifier to be driven with either 2 or 4 pairs of inputs.

### GAIN

The input gain control is preset to match the output of most source units. It can be adjusted to match output levels from variety of source units.

### HPF

Use this adjustment to select the crossover point. Remember that you must select the High Pass position(HPF) of the crossover adjustment switch first. The range of adjustment is limited between 15-350 Hz.

### X-OVER

This switch allows you to select the crossover. Use HPF( high pass filter ) for midrange or high frequency speakers. Use LPF( low pass filter) for subwoofers. In the FULL position, neither crossover adjustment knob has an affect and all speakers will receive the full frequency range.

### LPF

Use this adjustment to select the crossover point. Remember that you must select the Low Pass position( LPF) of the crossover adjustment switch first. The range of adjustment is limited between 35-350 Hz.

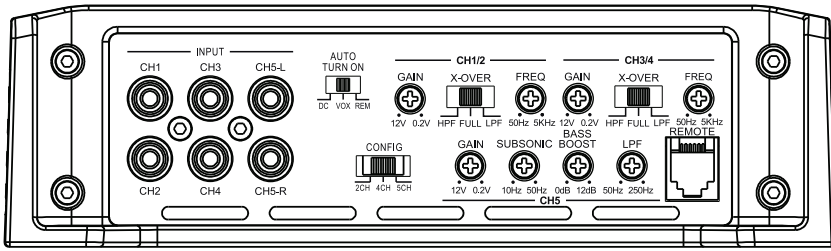
### BASS BOOST

This control adds 0 to + 12dB of boost at 45Hz. Be cautious when adding boost to some subwoofer systems as they may not be able to handle the additional low frequency boost. At the 0dB position, no bass boost is added.

### POWER & PROTECT INDICATORS

These lights indicate when the amplifier is powered up normally and when there is a protection fault. The Protect LED lights up when there is a problem with your amplifier.

## RED1800.5 CONTROL PANEL



### RCA INPUTS

The RCA jacks allow for a normal Left and Right channel signal input. Simply connect to the source unit using RCA type audio cables, keeping them away from power wiring wherever possible to reduce risk of noise.

### AUTO TRN ON

REM: Connect to REM to turn on amplifier. /DC High level signal input to turn on amplifier. (DC offset) /VOX: Audio frequency input to turn on amplifier.

### GAIN

The input gain control is preset to match the output of most source units. It can be adjusted to match output levels from a variety of source units.

### X-OVER

This switch allows you to select the crossover. Use HPF( high pass filter) for midrange or tweeters. Use LPF( low pass filter) for subwoofers. In the FULL position, neither crossover adjustment knob has an affect and all speakers will receive the full frequency range.

### FREQ

Use this adjustment to select the crossover point.

When setting the X-OVER switch to HPF, High pass filter blocks all low frequencies, The range of adjustment is limited between 50-5kHz.

When setting the X-OVER switch to LPF, Low pass filter blocks all high frequencies, The range of adjustment is limited between 50-5kHz.

When setting the X-OVER switch to FULL, Full range setting for no crossover engagement.

### CONFIG

This switch allows the amplifier to be driven with 2, 4 or 5 pairs of inputs.

### SUBSONIC

This control allows you to remove the unwanted sub-sonic frequencies below the tuning frequency of a ported enclosure. This helps to protect the woofer from over excursion. Adjustable from 10-50Hz. BASS BOOST

This control adds to 12dB of boost at 45Hz. Be cautious when adding boost to some subwoofer systems as they may not be able to handle the additional low frequency boost. in the 0dB position, no bass boost is added.

### LPF

Use this adjustment to select the crossover point. Remember that you must select the Low Pass position (LPF) of the crossover adjustment switch first. The range of adjustment is limited between 50-250Hz.

### REMOTE

This port is for the remote level control. The control is intended to allow the user to control the level of bass from your driver's seat.



## RED1200.1 & RED1800.1 & RED2500.1 STRAPPABLE CONNECTION

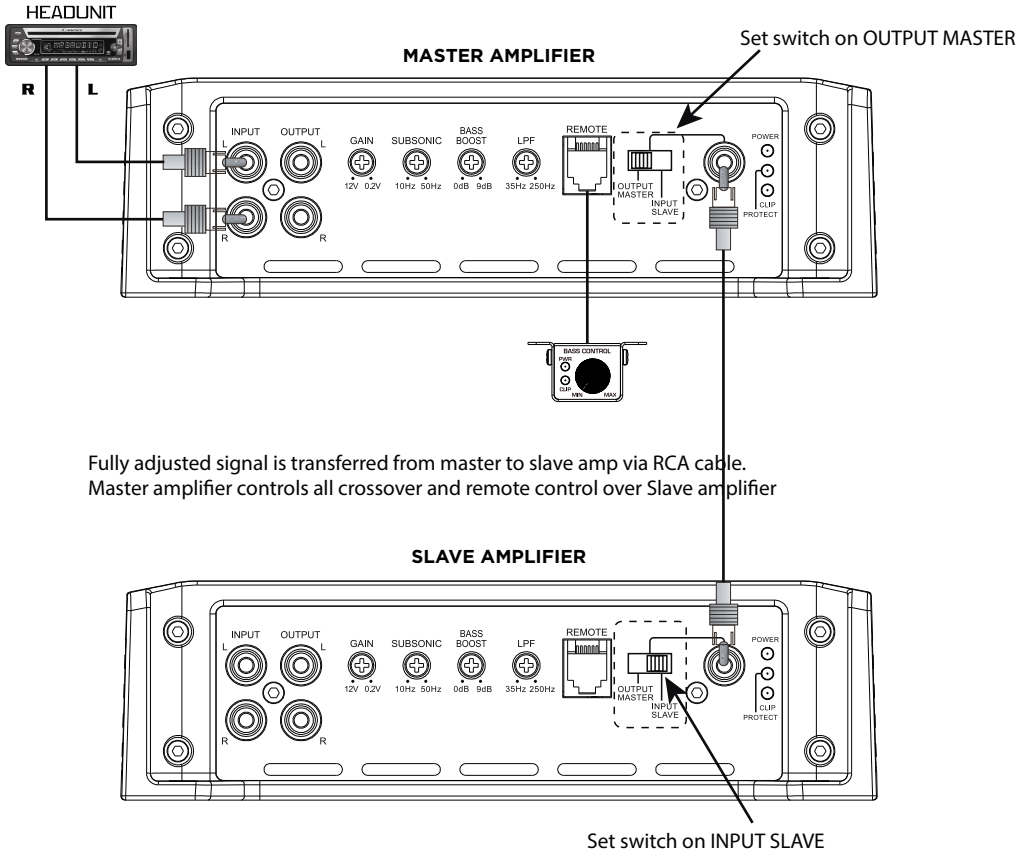
Strappable connection makes two of same amplifiers strapped to 2 ohm.  
Strappable connection makes the power double than their 1 ohm power.  
Please read the Following connection and diagram carefully to make correct connection.

### INPUT CONNECTION ;

- Step 1. Connect the Master amplifier to the head-unit and set its output master / input slave switch to output master.
- Step 2. Set Slave amplifier output master / input slave switch to slave input.
- Step 3. Connect RCA cable from the master to slave amplifier as shown in the diagram.

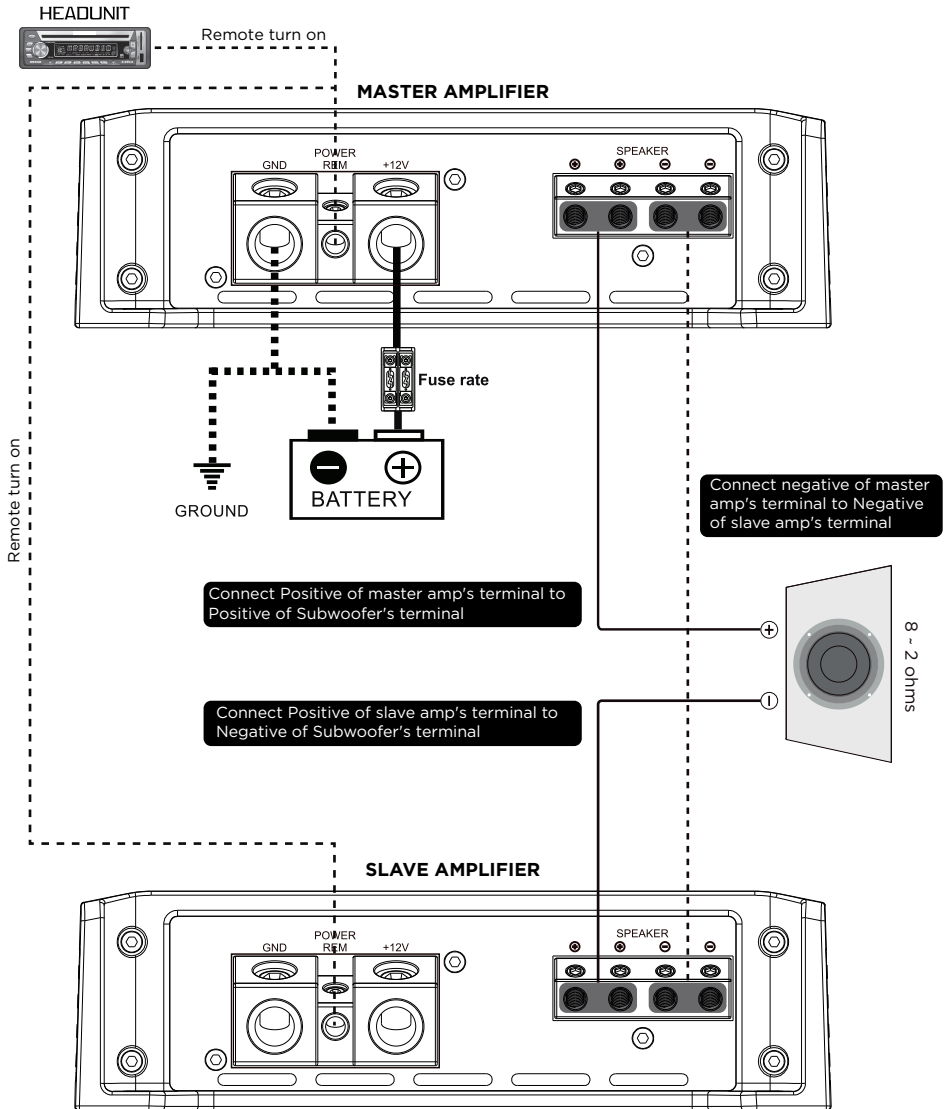
### POWER & SPEAKER CONNECTION ;

- Step 1. Connect speaker cable [ + ] on master amplifier to subwoofer [ + ]
- Step 2. Connect speaker cable [ + ] on slave amplifier to subwoofer [ - ]
- Step 3. Connect speaker cable [ - ] on master amplifier to speaker cable [ - ] on slave amplifier



Fully adjusted signal is transferred from master to slave amp via RCA cable.  
Master amplifier controls all crossover and remote control over Slave amplifier

## RED1200.1 & RED1800.1 & RED2500.1 STRAPPABLE CONNECTION

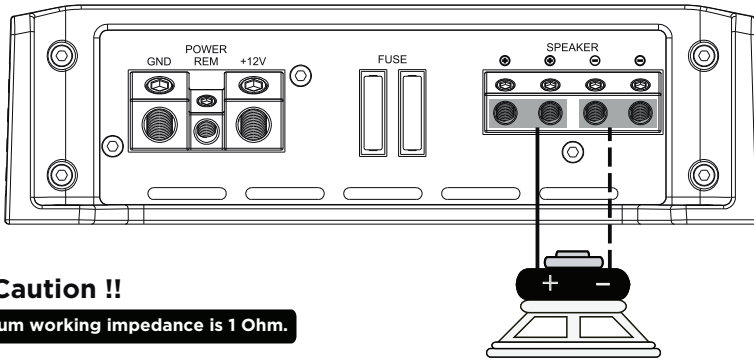


### ⚠ CAUTION!!

In strappable connection,  
Minimum working impedance is 2 ohm.  
Impedance lower than 2 ohm can damage the amplifiers.

## SPEAKER CONNECTION DIAGRAM

RED600.1 & RED1200.1 & RED1800.1 & RED2500.1

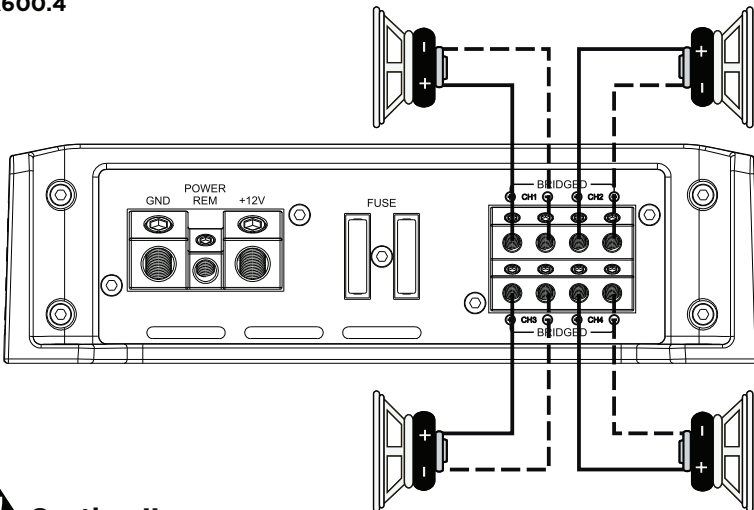


**! Caution !!**

Minimum working impedance is 1 Ohm.

## SPEAKER CONNECTION DIAGRAM

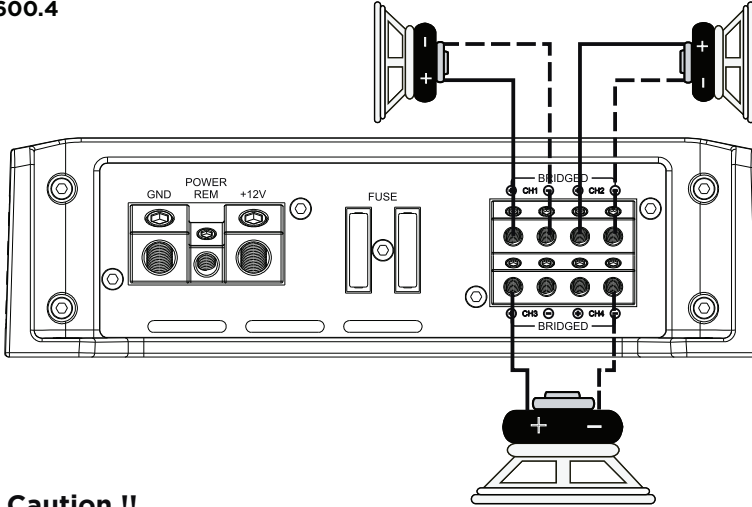
REA600.4



**! Caution !!**

REA600. 4 minimum working impedance is 2 Ohm.

## REA600.4

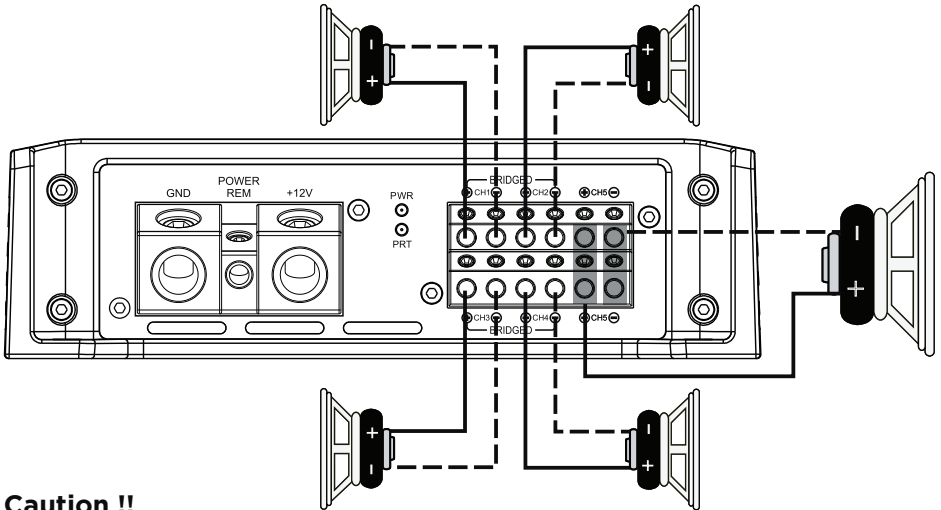


**! Caution !!**

REA600.4 minimum bridge working impedance is 4 Ohm.

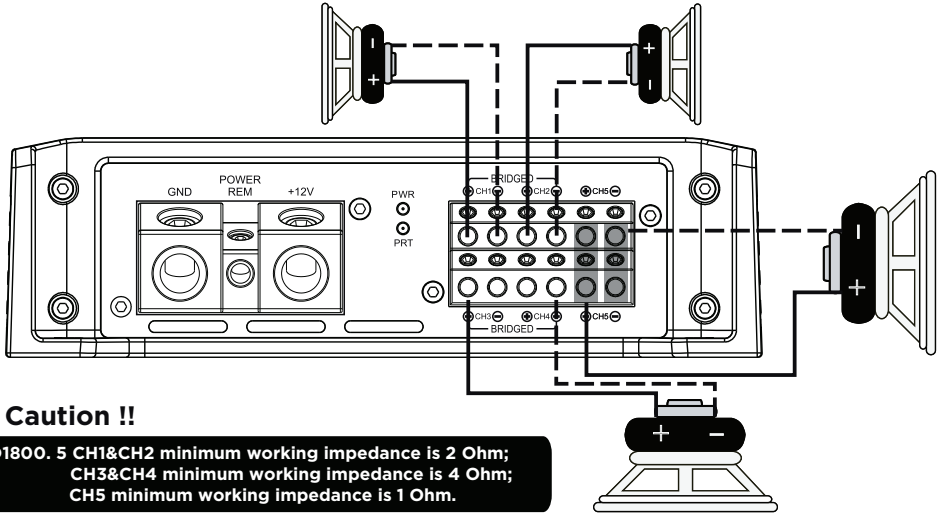
## SPEAKER CONNECTION DIAGRAM

### RED1800.5



**! Caution !!**

RED1800.5 CH1&CH2&CH3&CH4 minimum working impedance is 2 Ohm,  
CH5 minimum working impedance is 1 Ohm.



## ⚠ Caution !!

**RED1800.5 CH1&CH2 minimum working impedance is 2 Ohm;  
CH3&CH4 minimum working impedance is 4 Ohm;  
CH5 minimum working impedance is 1 Ohm.**

## TROUBLE-SHOOTING

- Echo series amplifiers have protection features to prevent any damages from misuse or faulty conditions.
- If Echo series amplifiers sense excessive heat, short circuited speakers DC, or voltage, the protection indicator will light, and the system will be turned off
- In order to check the problem, you should turn all levels down and all power off and carefully check the installation for wiring mistakes or short.
- If Echo series amplifiers shuts down due to excessive heat, They will be working later when it is cooled down before removing your amplifier, refer to the list below and follow the suggested procedures.

### NO SOUND( NO OUTPUT)

- Please check all connections, cables'routing, short&voltage.
- Please check the fuses, If they are blown, please replace with new one
- Please check whether speakers work well, you can test speakers by connecting to another amplifier.

### DISTORTION & NOISE

- Readjust input level and check the speaker quality at another amplifier. Replace poor quality speakers with good quality ones
- Check amplifiers and headunit's ground contact. all grounds should be common
- Check RCA Jack, then repalce with new one or reroute RCA cable.
- Engine noise is caused by poor grounding of amplifiers, headunit, other components, battery or alternator, so please check all grounding connection.

### POOR BASS RESPONSE

- Please check speaker cables and reverse polarity.

## SPECIFICATIONS

Model	RED600.1	RED1200.1	RED1800.1	RED2500.1	REA600.4	RED1800.5
RMS power@4 ohm(14.4V)	1 x 310W	1 x 550W	1 x 650W	1 x 840W	4 x 95W	CH1-CH4: 4 x 140W CH5: 1 x 550W
RMS power@2 ohm(14.4V)	1 x 520W	1 x 900W	1 x 1150W	1 x 1500W	4 x 130W	CH1-CH4: 4 x 220W CH5: 1 x 880W
RMS power@1 ohm(14.4V)	1 x 660W	1 x 1250W	1 x 1800W	1 x 2527W	N/A	CH5: 1 x 1200W
RMS power@4 ohm mono (14.4V)	N/A	N/A	N/A	N/A	2 x 260W	CH1-CH4: 2 x 420W
Frequency Response	15Hz - 270Hz	15Hz - 270Hz	15Hz - 270Hz	15Hz - 270Hz	15Hz - 2kHz	CH1-CH4: 10Hz - 20kHz CH5: 10Hz - 250Hz
Signal to Noise	>85dB	>85dB	>85dB	>85dB	>90dB	>85dB
Efficiency@4 ohm	Over 90%	Over 90%	Over 90%	Over 90%	Over 65%	Over 78%
Input Sensitivity	12V - 0.2V	12V - 0.2V	12V - 0.2V	12V - 0.2V	12V - 0.2V	12V - 0.2V
Subsonic Filter	10Hz - 50Hz	10Hz - 50Hz	10Hz - 50Hz	10Hz - 50Hz	N/A	CH5: 10Hz - 50Hz
High Pass Filter	N/A	N/A	N/A	N/A	15Hz - 350Hz	CH1-CH4: 50Hz - 5kHz
Low Pass Filter	35Hz - 250Hz	35Hz - 250Hz	35Hz - 250Hz	35Hz - 250Hz	35Hz - 350Hz	CH1-CH4: 50Hz - 5kHz CH5: 50Hz - 250Hz
Bass Boost	0dB - 9dB	0dB - 9dB	0dB - 9dB	0dB - 9dB	N/A	CH5: 0dB - 12dB
Remote Control	Included	Included	Included	Included	N/A	Included
Fuse Rating(ATC)	35A x 2	30A x 4	N/A	N/A	35A x 2	N/A
Dimensions(mm)	9.84"(250mm) x 7.59"(193mm) x 2.2"(56mm)	13.77"(350mm) x 7.59"(193mm) x 2.2"(56mm)	17.72"(450mm) x 7.59"(193mm) x 2.2"(56mm)	19.69"(500mm) x 7.59"(193mm) x 2.2"(56mm)	15.75"(400mm) x 7.59"(193mm) x 2.2"(56mm)	14.56"(370mm) x 7.59"(193mm) x 2.2"(56mm)



# User Manual



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