



DII1000.1/DII1600.1  
DII400.4/DII700.4  
DII1400.5/DII3300.1

# **CAR AUDIO AMPLIFIER**

## **User Manual**

## INTRODUCTION

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

### 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.
- 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.

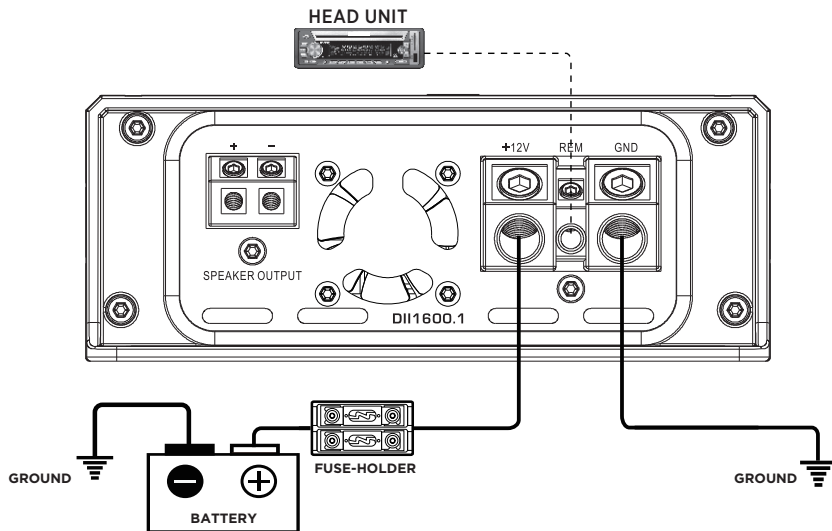
### MOUNTING PRECAUTIONS

Choose a location that provides adequate ventilation around the amplifier. For easy system setup, mount the amplifier so the top 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.
5. Prior to mounting the amplifier, make sure not to cut or drill into the fuel tank.

### WIRING 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 amplifier's positive (+) power lead and connect it as close as possible to the vehicle's (+) battery terminal. 18 inches is the usual dimension.



## 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).

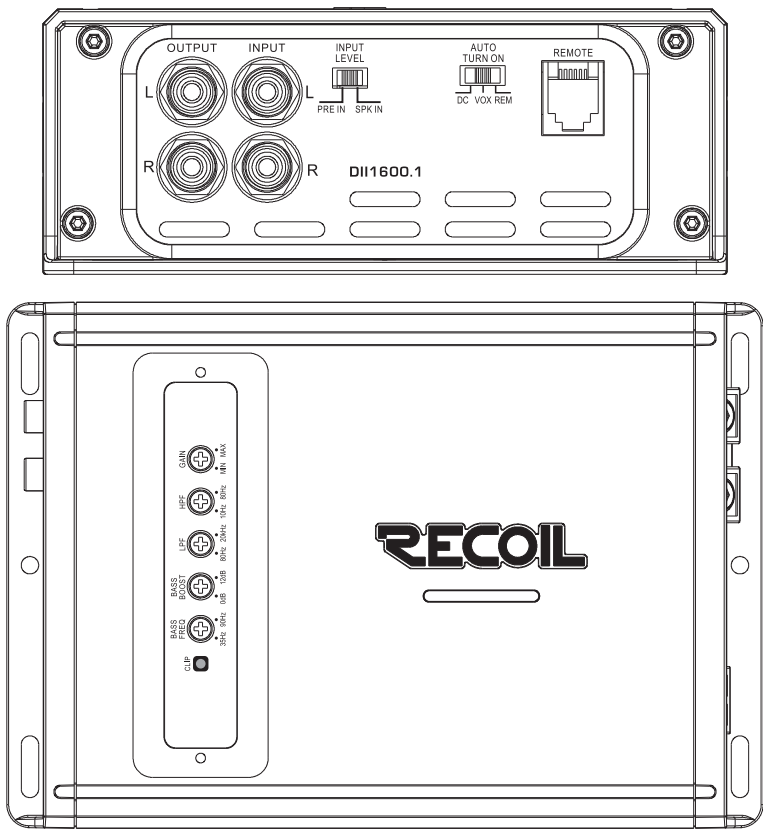
## REM ( REMOTE )

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 speaker wire from amplifier's terminal block to subwoofers. Subwoofers' impedance should be checked carefully.

FRONT PLATE DII1000.1 & DII1600.1



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.

AUTO TURN 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.

INPUT LEVEL

Switching between high level and low level signals.

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 driver's seat.

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.

HPF

For High Pass Mode adjust the knob by turning clockwise/counter clockwise, this control limits the frequencies that are distributed to the speakers within the range 10Hz-80Hz.

LPF

For Low Pass Mode adjust the knob by turning clockwise/counter clockwise, this control limits the frequencies that are distributed to the speakers within the range 80Hz-20kHz.

BASS BOOST

Increases sound level in lower frequencies by 12dB.

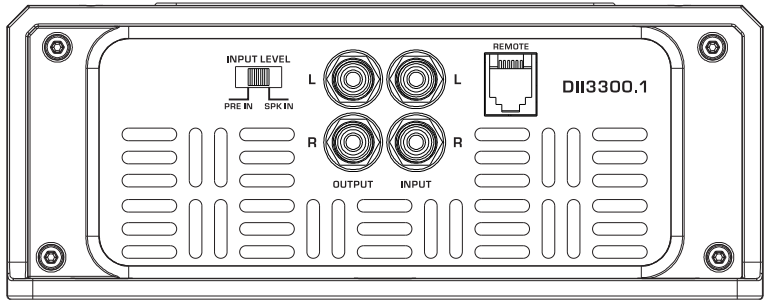
BASS FREQ

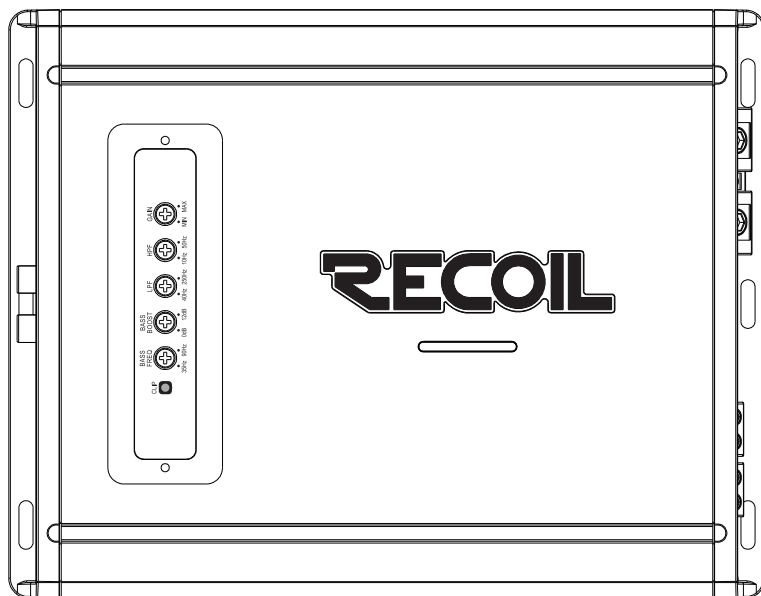
Used in conjunction with the level to adjust the center frequency (35Hz-90Hz) of the bass boost. Amplitude of the low-frequency boost (0-12dB).

CLIP

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.

FRONT PLATE DII3000.1





## 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.

## INPUT LEVEL

Switching between high level and low level signals.

## 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 driver's seat.

## 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.

## HPF

For High Pass Mode adjust the knob by turning clockwise/counter clockwise, this control limits the frequencies that are distributed to the speakers within the range 10Hz - 50Hz.

## LPF

For Low Pass Mode adjust the knob by turning clockwise/counter clockwise, this control limits the frequencies that are distributed to the speakers within the range 40Hz - 250Hz.

**BASS BOOST**

Increases sound level in lower frequencies by 12dB.

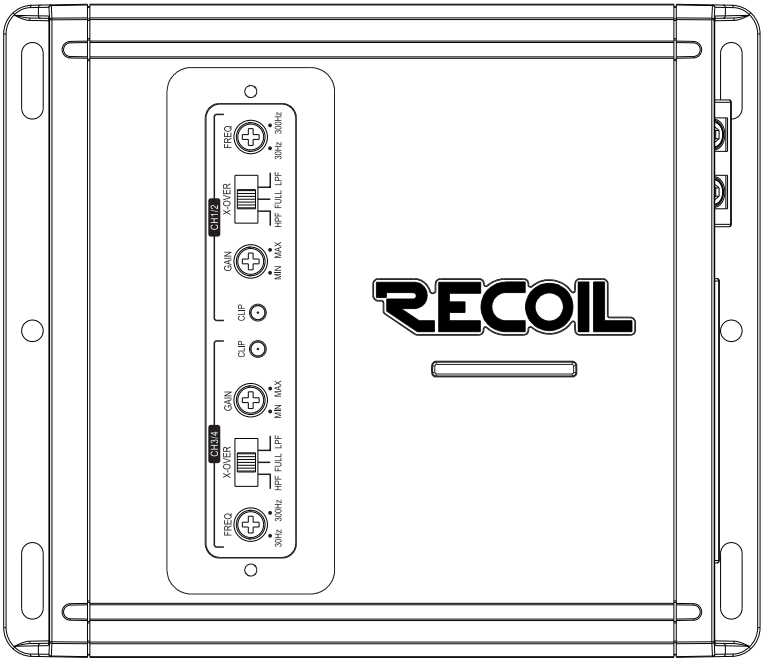
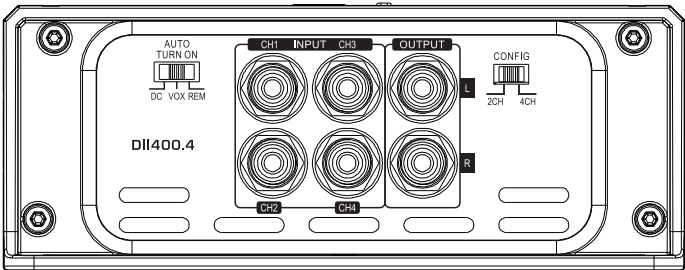
**BASS FREQ**

Used in conjunction with the level to adjust the center frequency (35-90Hz) of the bass boost. Amplitude of the low-frequency boost (0-12dB).

**CLIP**

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.

**FRONT PLATE** DII400.4 & DII700.4



## 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 driver's seat.

## RCA INPUT

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 TURN 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.

## CONFIG

This switch allows the amplifier to be driven with either 2 or 4 or 5 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 a variety of source units.

## FREQ.

When switched to HPF, all low frequencies will be blocked;

When switched to LPF, all high frequencies will be blocked;

## 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.

## CLIP

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.

## LPF

For Low Pass, Mode adjust the knob by turning clockwise/counter clockwise, this control limits the frequencies that are distributed to the speakers within the range 50Hz - 250Hz

## BASS BOOST

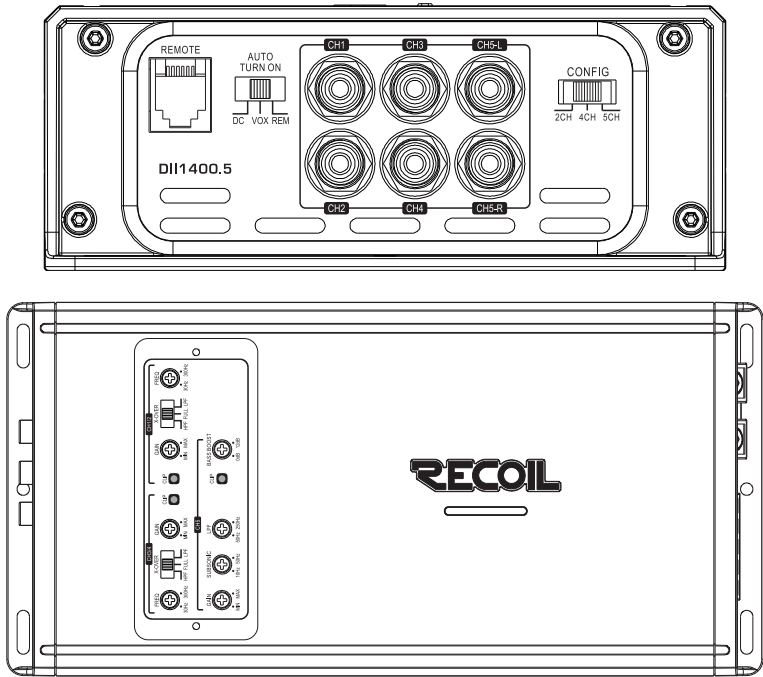
Increases sound level in lower frequencies by 12dB.

## 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 10Hz - 50Hz.



## FRONT PLATE DII1400.5



### 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 driver's seat.

### RCA INPUT

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 TURN ON

REM: Connect to REM to turn on amplifier.  
DC: High level signal input to turn on amplifier. (DC offset)  
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### CONFIG

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

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When switched to HPF, all low frequencies will be blocked;  
When switched to LPF, all high frequencies will be blocked;

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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.

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## LPF

For Low Pass, Mode adjust the knob by turning clockwise/counter clockwise, this control limits the frequencies that are distributer to the speakers within the range 50Hz - 250Hz

## BASS BOOST

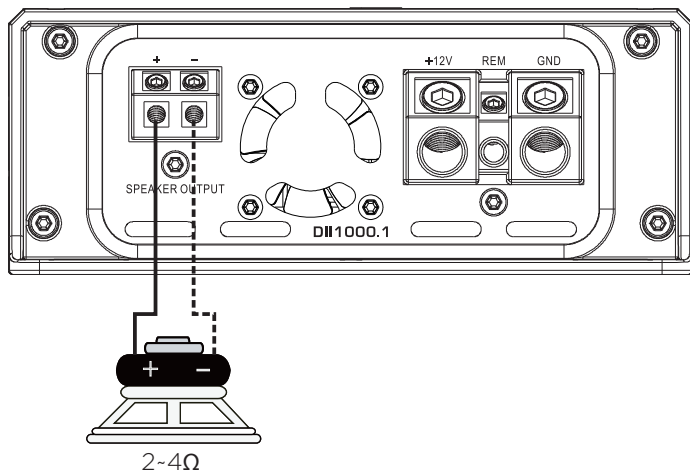
Increases sound level in lower frequencies by 12dB.

## 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 10Hz - 50Hz.

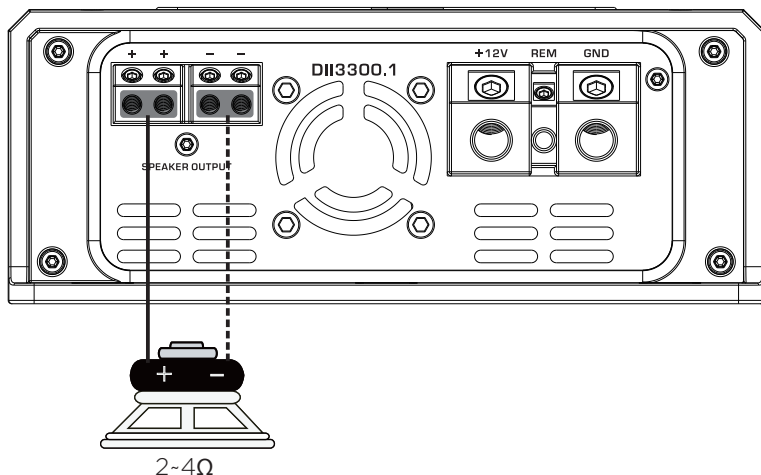
## SPEAKER CONNECTION DIAGRAM

DII1000.1 & DII1600.1

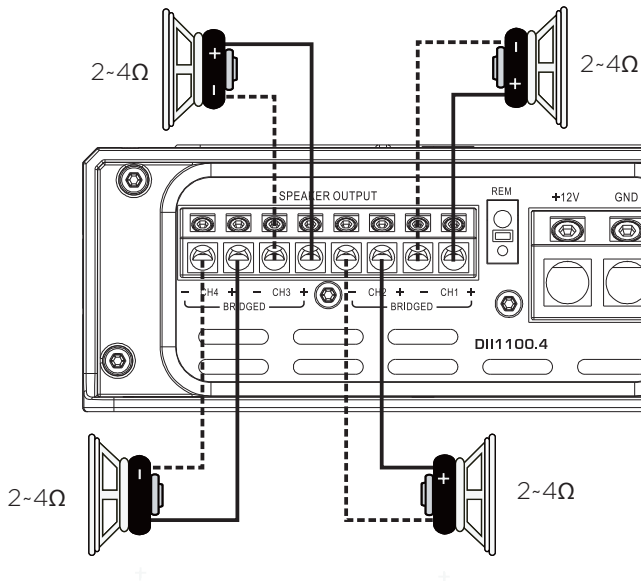


## SPEAKER CONNECTION DIAGRAM

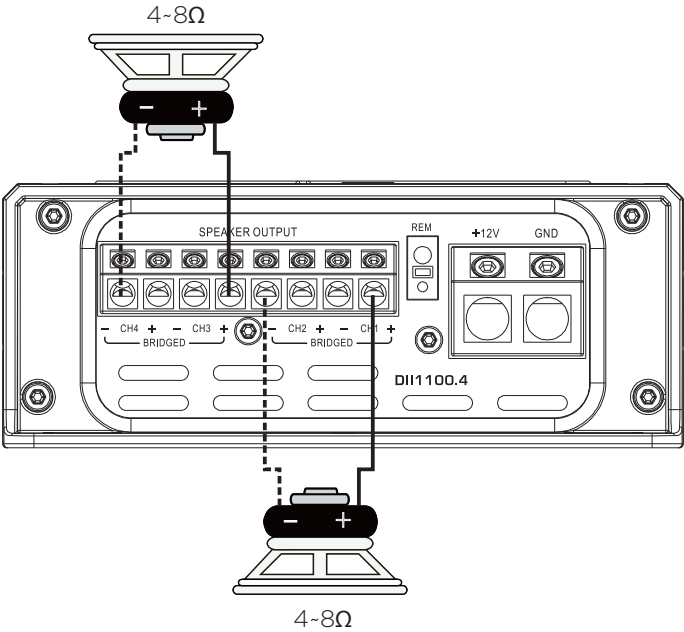
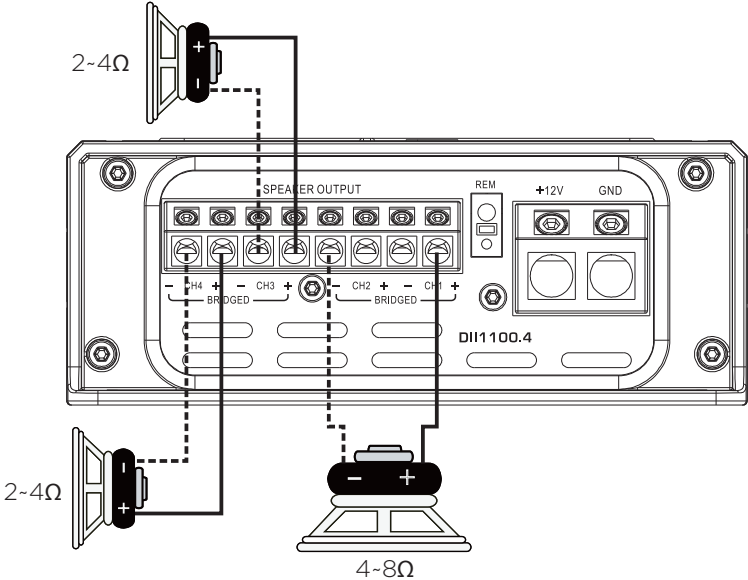
DII3300.1



DII400.4 & DII700.4

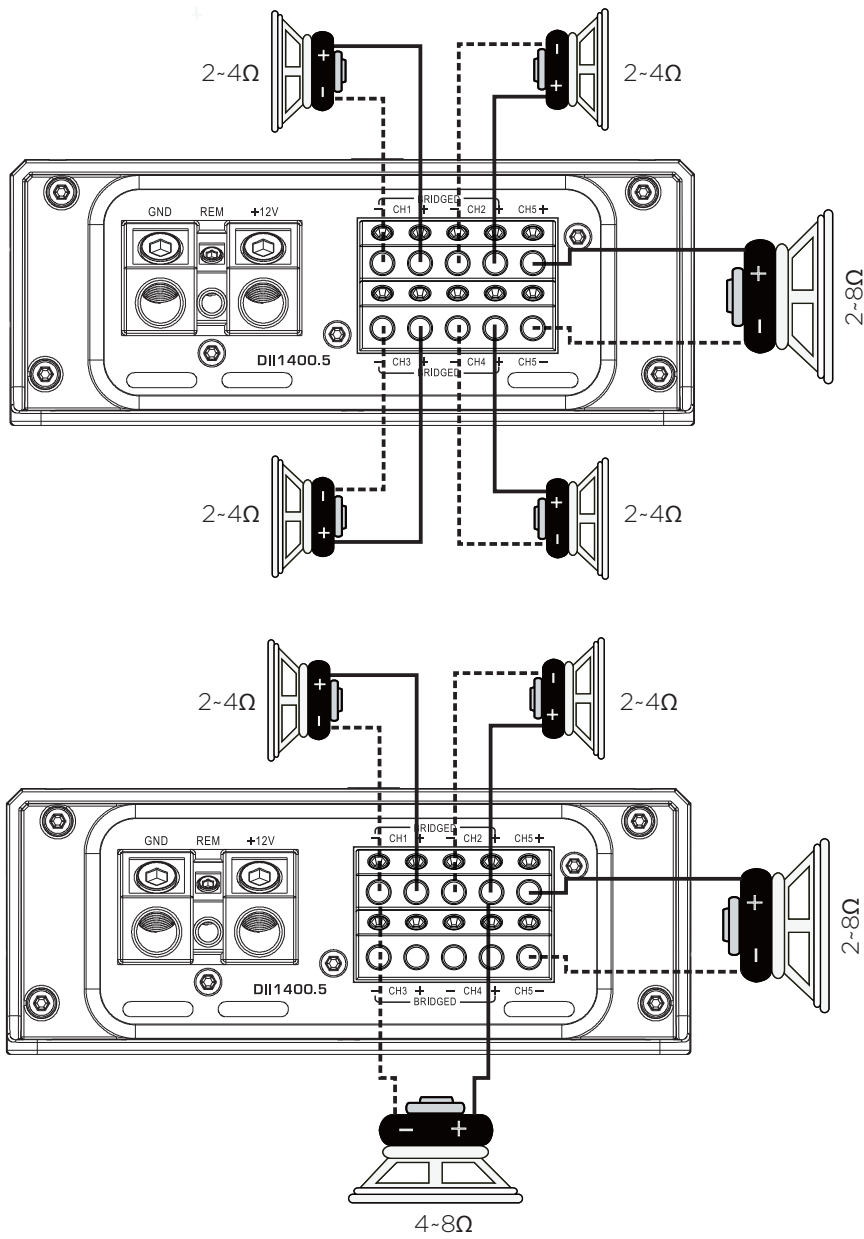


SPEAKER CONNECTION DIAGRAM



SPEAKER CONNECTION DIAGRAM

DII1400.5



SPECIFICATONS

Model	DII1000.1	DII1600.1	DII3300.1
RMS power @ 4 ohm(14.4V)	1x550W	1x820W	1x1000W
RMS power @ 2 ohm(14.4V)	1x1000W	1x1500W	1x2000W
RMS power @ 1 ohm(14.4V)	NA	NA	1x3300W
RMS power @ 4 ohm mono(14.4V)	NA	NA	NA
Frequency Response	10Hz-24KHz	10Hz-24KHz	10Hz-250Hz
Signal to Noise	85dB	85dB	90dB
Efficiency @ 4 ohm	78%	78%	80%
Input Sensitivity	0.25V-12V	0.25V-12V	0.25V-12V
Subsonic Filter	NA	NA	NA
High Pass Filter	10Hz-80Hz	10Hz-80Hz	10Hz-50Hz
Low Pass Filter	80Hz-20KHz	80Hz-20KHz	40Hz-250Hz
Bass Boost	0-12dB	0-12dB	0-12dB
Remote Control	YES	YES	YES
Fuse Rating(ATC)	80A	120A	NA
Dimensions(mm)	7.72x5.37x2.09 in 196x136.5x53mm	9.76x5.37x2.09 in 248x136.5x53mm	9.10x7.09x2.75 in 231x180x70mm

Model	DII400.4	DII700.4	DII1400.5
RMS power @ 4 ohm(14.4V)	4x60W	4x95W	CH1-CH4: 4x100W CH5: 1x500W
RMS power @ 2 ohm(14.4V)	4x100W	4x150W	CH1-CH4: 4x160W CH5: 1x800W
RMS power @ 1 ohm(14.4V)	NA	NA	NA
RMS power @ 4 ohm mono(14.4V)	2x200W	2x300W	CH1-CH4: 2x320W
Frequency Response	10Hz-24KHz	10Hz-24KHz	CH1-CH4: 10Hz-25KHz CH5: 10Hz-250Hz
Signal to Noise	85dB	85dB	85dB
Efficiency @ 4 ohm	78%	78%	78%
Input Sensitivity	0.2V-12V	0.2V-12V	0.2V-12V
Subsonic Filter	NA	NA	CH5: 10Hz-50Hz
High Pass Filter	30Hz-300Hz	30Hz-300Hz	CH1-CH4: 50Hz-5KHz
Low Pass Filter	30Hz-300Hz	30Hz-300Hz	CH1-CH4: 50Hz-5KHz CH5: 50Hz-250Hz
Bass Boost	NA	NA	CH5: 0-12dB
Remote Control	NA	NA	YES
Fuse Rating(ATC)	40A	50A	N/A
Dimensions(mm)	5.55x5.37x2.09 in 141x136.5x53mm	6.22x5.37x2.09 in 158x136.5x53mm	10.87x5.37x2.09 in 276x136.5x53mm

## TROUBLE-SHOOTING

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- DII series amplifiers have protection features to prevent any damages from misuse or faulty conditions.
- If DII 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 DII 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 headunits ground contact. All grounds should be common.
- Check RCA Jack, then replace 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.

# User Manual



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