DII 600.1/DII 1000.1/DII 1600.1/DII 3300.1/DII 4000.1
DII 5000.1/DII 400.4/DII 700.4/DII 1100.4/DII 1400.4
DII 2000.4/DII 4000.4/DII 1400.5

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.

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.

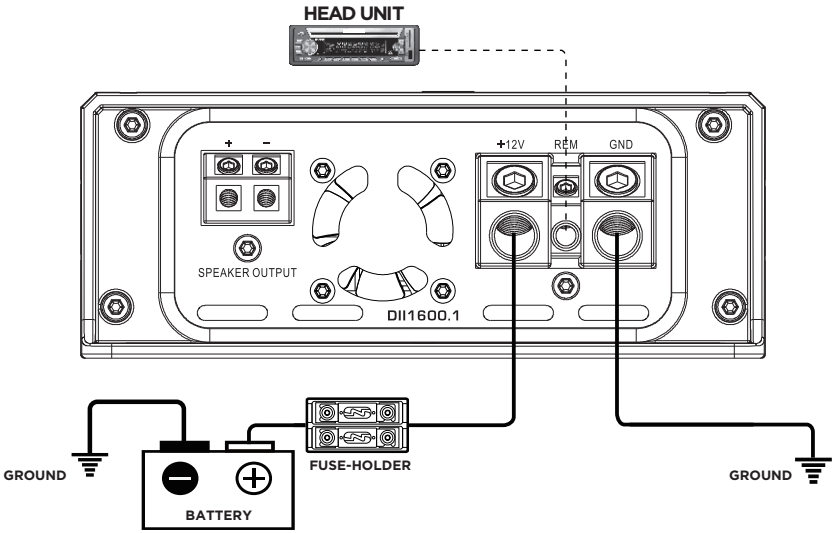
MOUNTING PRECAUTIONS

Choose a location that provides adequate ventilation around the amplifier. For easy system setup, mount the amplifier so the so the top panel controls will be accessible 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).

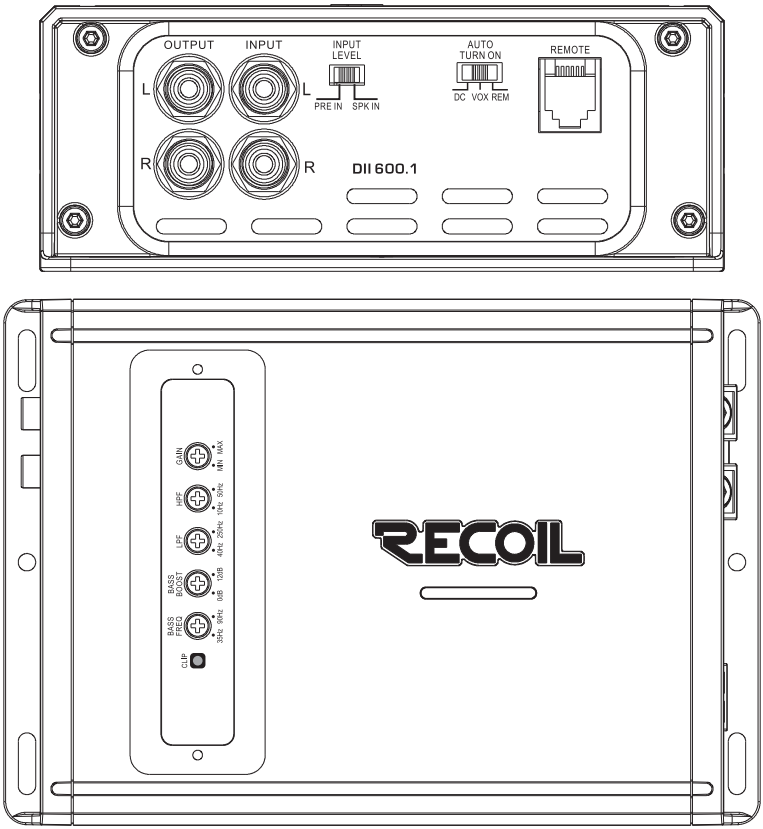
REM (REMOTE)

RRun a remote turn on cable from the switched 24V 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 Speaker. Speakers' impedance should be checked carefully.

FRONT PLATE DII 600.1



RCA INPUTS
The jacks allow for a normal Left and Right channel signal input. Simply connect to the source unit using 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. It allows the user to control bass level from your driver's seat.

GAIN
This gain control is preset to match the output of source units.

HPF
Adjust the knob to set up tuning frequency, this control blocks the frequencies under the tuning frequency.

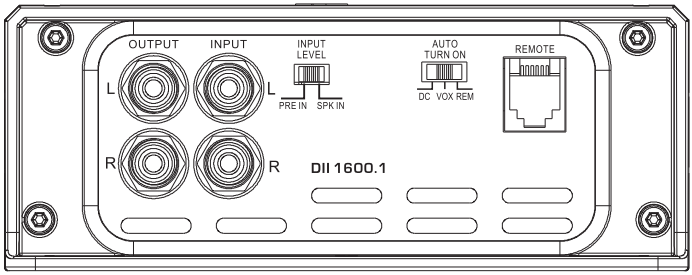
LPF
Adjust the knob to set up tuning frequency, this control blocks the frequencies above the tuning frequency.

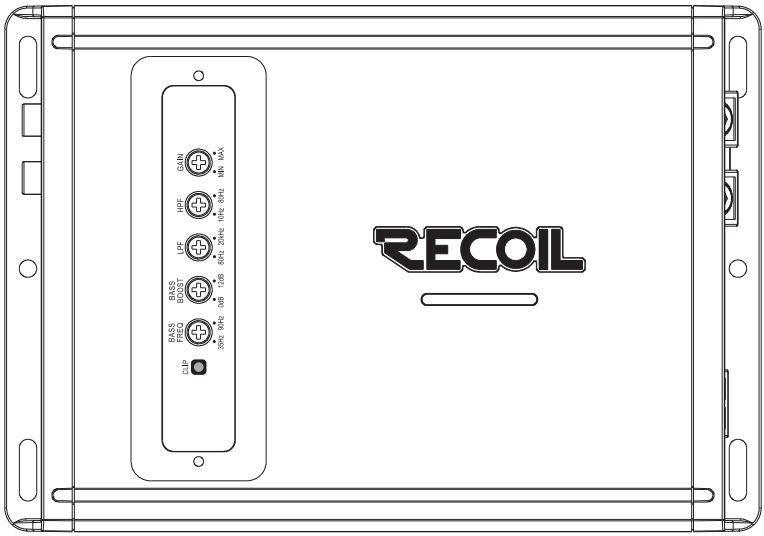
BASS BOOST
Increases the bass level by 12dB.

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
When this LED lights up, it indicates clipping is present. At this point, please adjust the amplifiers gain level until the CLIP LED is gone.

FRONT PLATE DII 1000.1 & DII 1600.1





RCA INPUTS
The jacks allow for a normal Left and Right channel signal input. Simply connect to the source unit using 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. It allows the user to control bass level from your driver's seat.

GAIN
This gain control is preset to match the output of source units.

HPF
Adjust the knob to set up tuning frequency, this control blocks the frequencies under the tuning frequency.

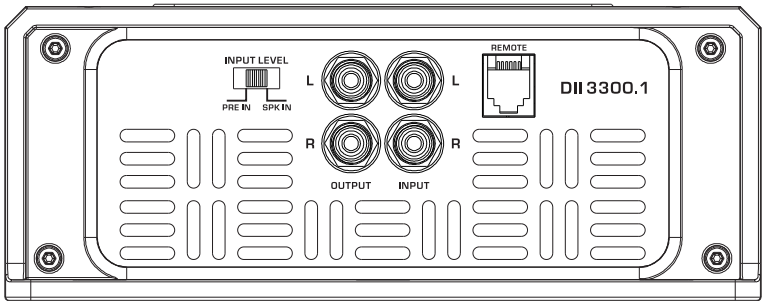
LPF
Adjust the knob to set up tuning frequency, this control blocks the frequencies above the tuning frequency.

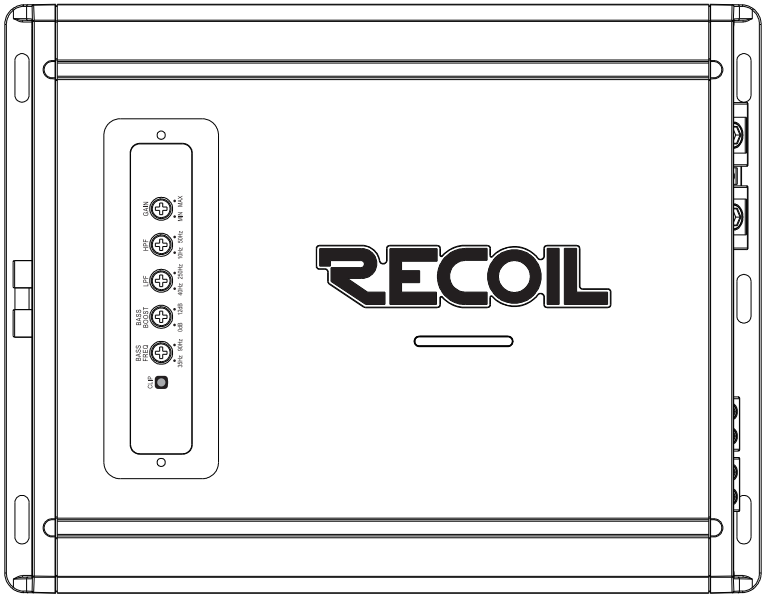
BASS BOOST
Increases the bass level by 12dB.

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
When this LED lights up, it indicates clipping is present. At this point, please adjust the amplifiers gain level until the CLIP LED is gone.

FRONT PLATE DII 3300.1 & DII 4000.1 & DII 5000.1





RCA INPUTS
The jacks allow for a normal Left and Right channel signal input. Simply connect to the source unit using 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. It allows the user to control bass level from your driver's seat.

GAIN
This gain control is preset to match the output of source units.

HPF
Adjust the knob to set up tuning frequency, this control blocks the frequencies under the tuning frequency.

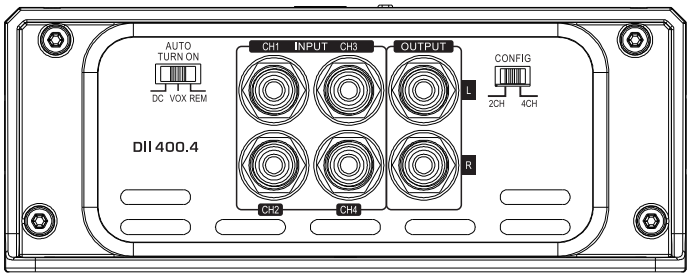
LPF
Adjust the knob to set up tuning frequency, this control blocks the frequencies above the tuning frequency.

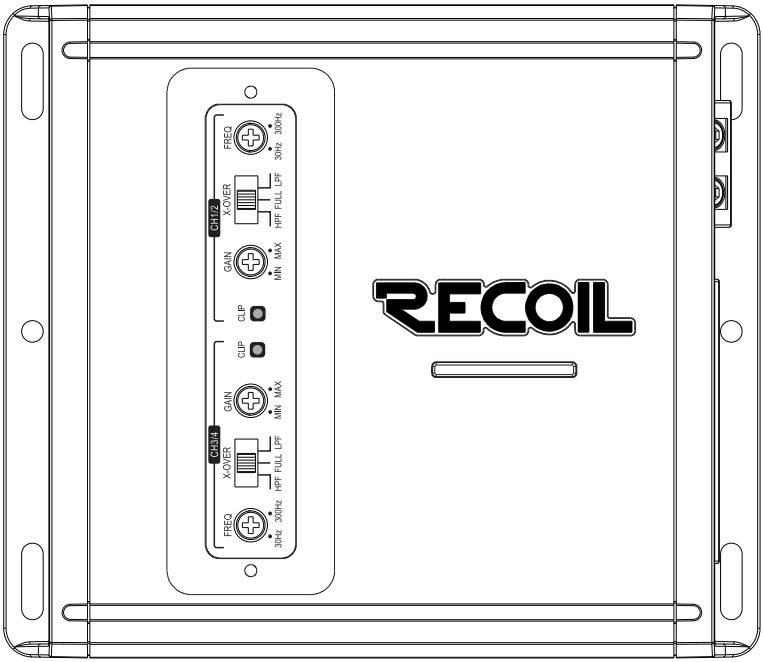
BASS BOOST
Increases the bass level by 12dB.

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
When this LED lights up, it indicates clipping is present. At this point, please adjust the amplifiers gain level until the CLIP LED is gone.

FRONT PLATE DII 400.4 & DII 700.4 & DII 1100.4 & DII 1400.4





RCA INPUTS
The jacks allow for a normal Left and Right channel signal input. Simply connect to the source unit using 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.

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

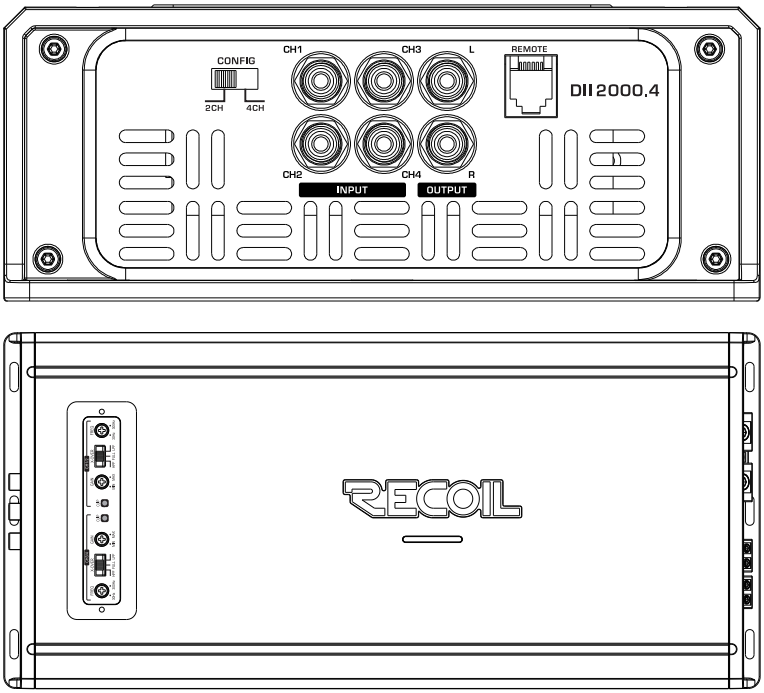
GAIN
This gain control is preset to match the output of source units.

FREQ.
Set up the crossover frequency. When select HPF, all frequencies below the setup will be blocked; When select LPF, all frequencies above the setup will be blocked;

X-OVER
This switch allows you to select the crossover. Select HPF (high pass filter) for midrange or tweeters. Select LPF (low pass filter) for mid-bass or subwoofers. Select FULL to full frequency signal.

CLIP
When this LED lights up, it indicates clipping is present. At this point, please adjust the amplifiers gain level until the CLIP LED is gone.

FRONT PLATE DII 2000.4 & DII 4000.4



RCA INPUTS
The jacks allow for a normal Left and Right channel signal input. Simply connect to the source unit using 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.

REMOTE
This port is for the remote level control. It allows the user to control bass level from your driver's seat.

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

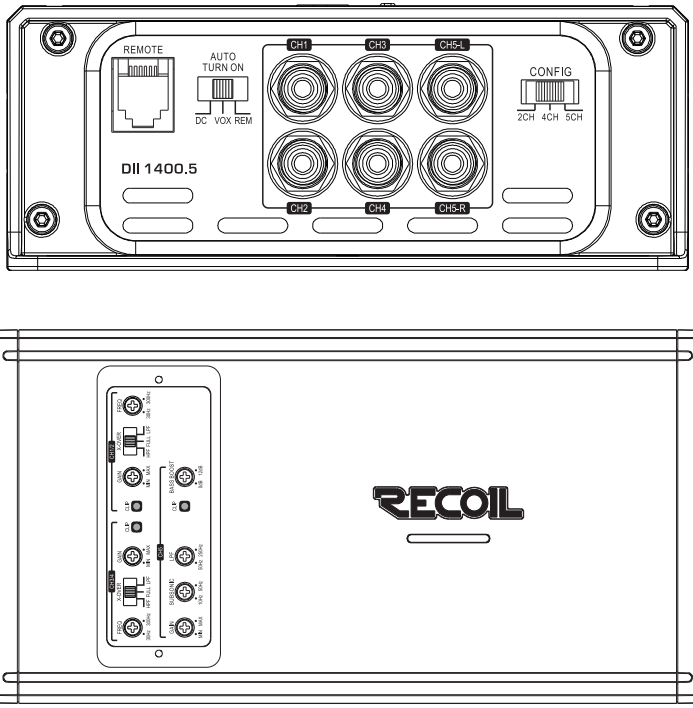
GAIN
This gain control is preset to match the output of source units.

FREQ.
Set up the crossover frequency. When select HPF, all frequencies below the setup will be blocked; When select LPF, all frequencies above the setup will be blocked;

X-OVER
This switch allows you to select the crossover. Select HPF (high pass filter) for midrange or tweeters. Select LPF (low pass filter) for mid-bass or subwoofers. Select FULL to full frequency signal.

CLIP
When this LED lights up, it indicates clipping is present. At this point, please adjust the amplifiers gain level until the CLIP LED is gone.

FRONT PLATE DII 1400.5



REMOTE
This port is for the remote level control. It allows the user to control bass level from your driver's seat.

RCA INPUT
The jacks allow for a normal Left and Right channel signal input. Simply connect to the source unit using 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.

FREQ.
Set up the crossover frequency. When select HPF, all frequencies below the setup will be blocked; When select LPF, all frequencies above the setup will be blocked;

X-OVER
This switch allows you to select the crossover. Select HPF (high pass filter) for midrange or tweeters. Select LPF (low pass filter) for mid-bass or subwoofers. Select FULL to full frequency signal.

CLIP
When this LED lights up, it indicates clipping is present. At this point, please adjust the amplifiers gain level until the CLIP LED is gone.

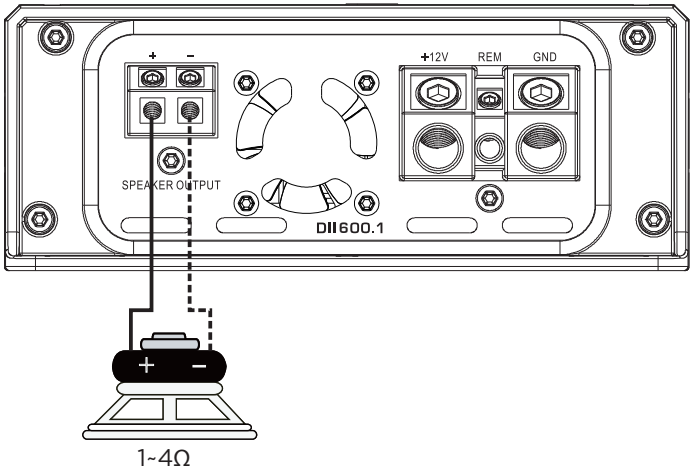
LPF
Adjust the knob to set up tuning frequency, this control blocks the frequencies above the tuning frequency.

BASS BOOST
Increases the bass level by 12dB.

SUBSONIC
This control allows you to remove the unwanted sub-sonic frequencies below the tuning frequency.

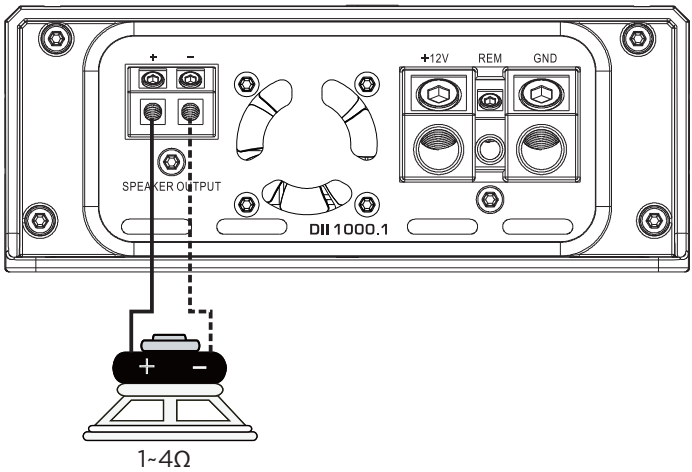
SPEAKER CONNECTION DIAGRAM

DII 600.1



1~4Ω

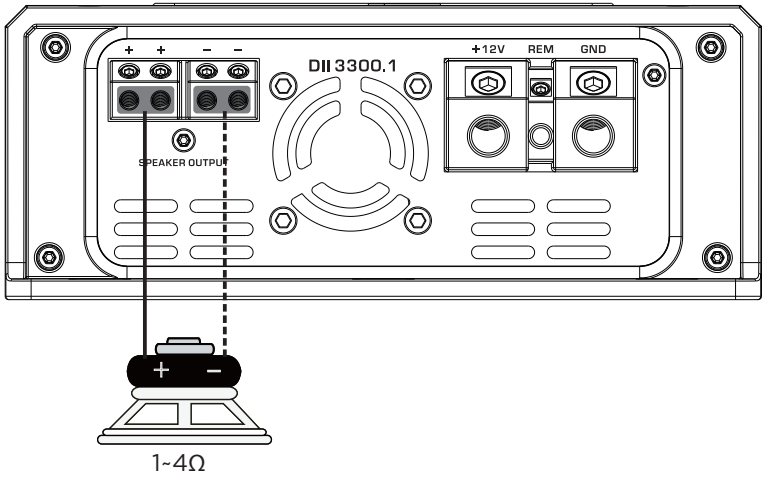
DII 1000.1 & DII 1600.1



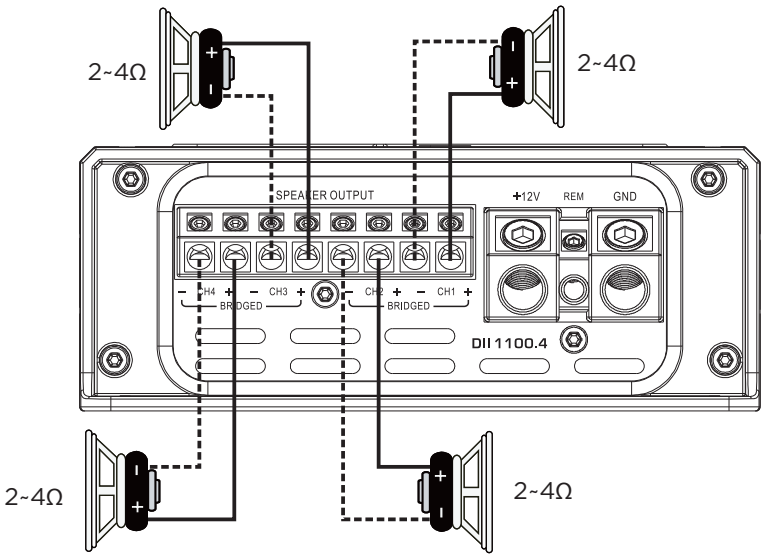
1~4Ω

SPEAKER CONNECTION DIAGRAM

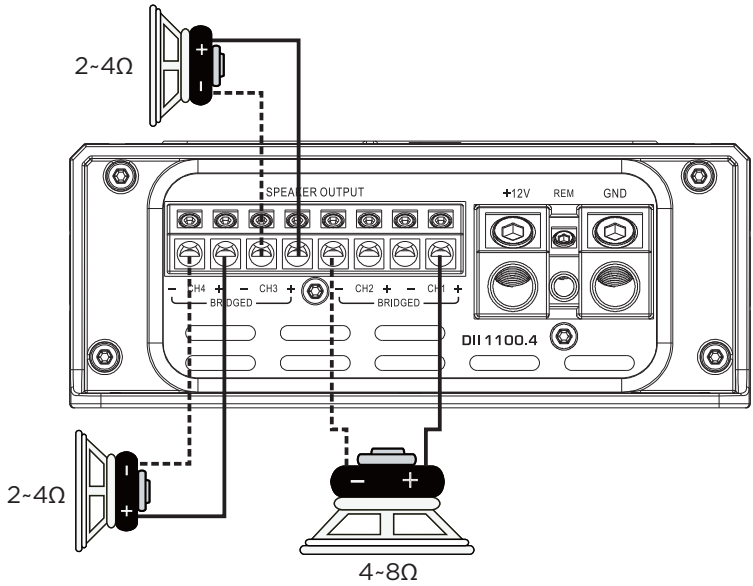
DII 3300.1 & DII 4000.1 & DII 5000.1



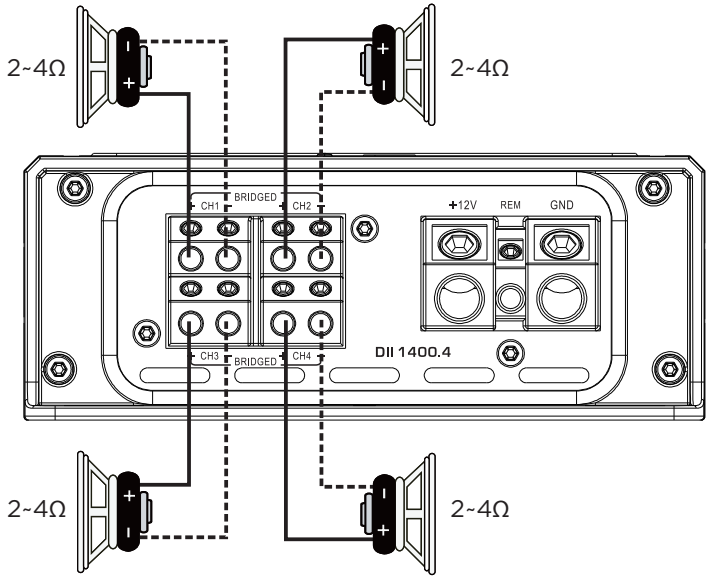
DII 400.4 & DII 700.4 & DII 1100.4



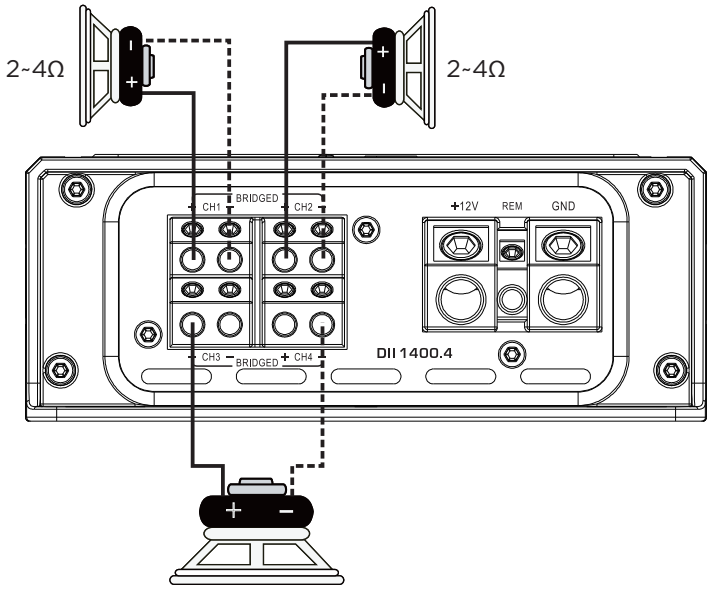
SPEAKER CONNECTION DIAGRAM



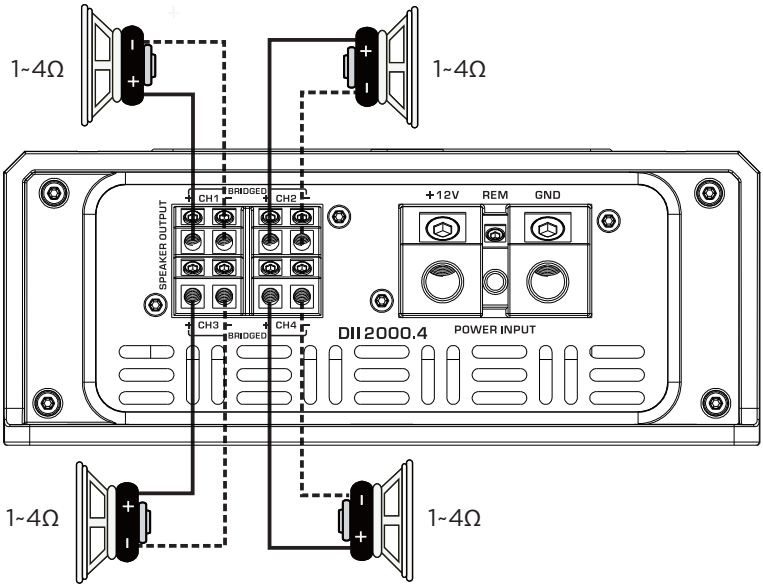
DII 1400.4



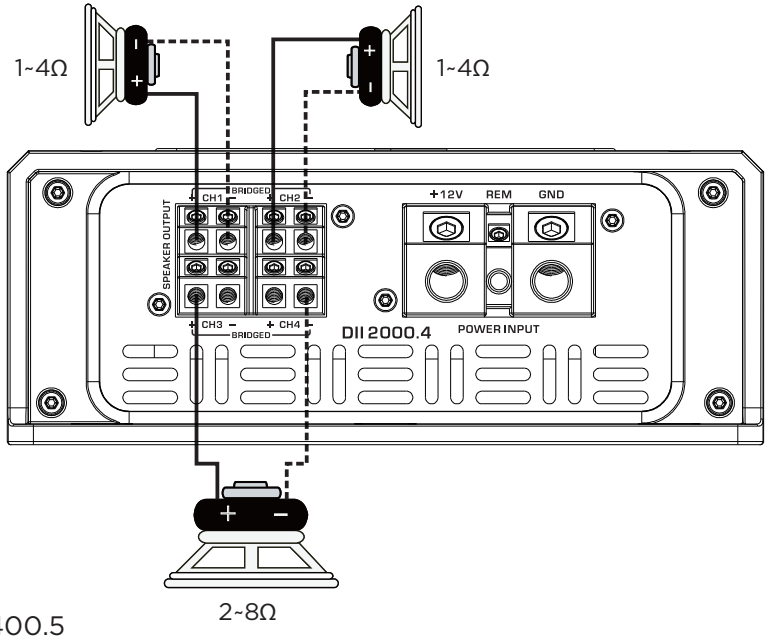
SPEAKER CONNECTION DIAGRAM



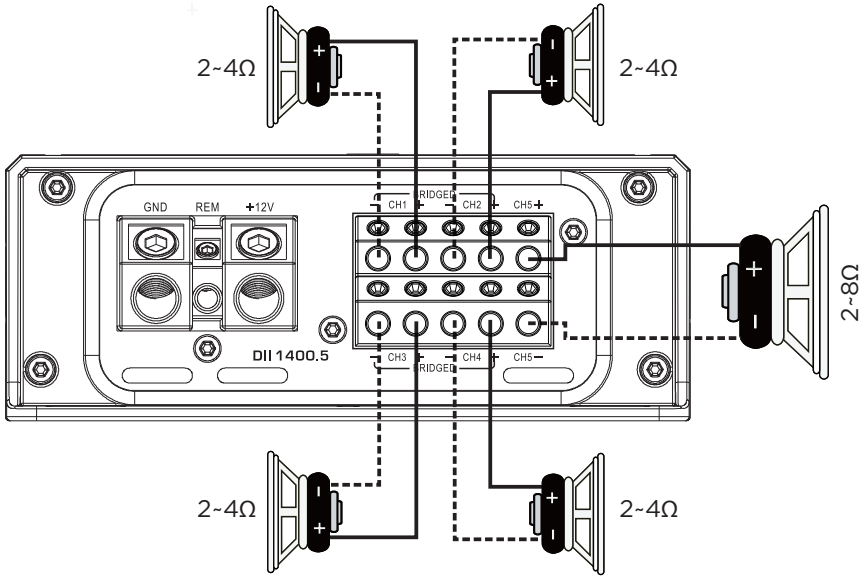
DII 2000.4 & DII 4000.4



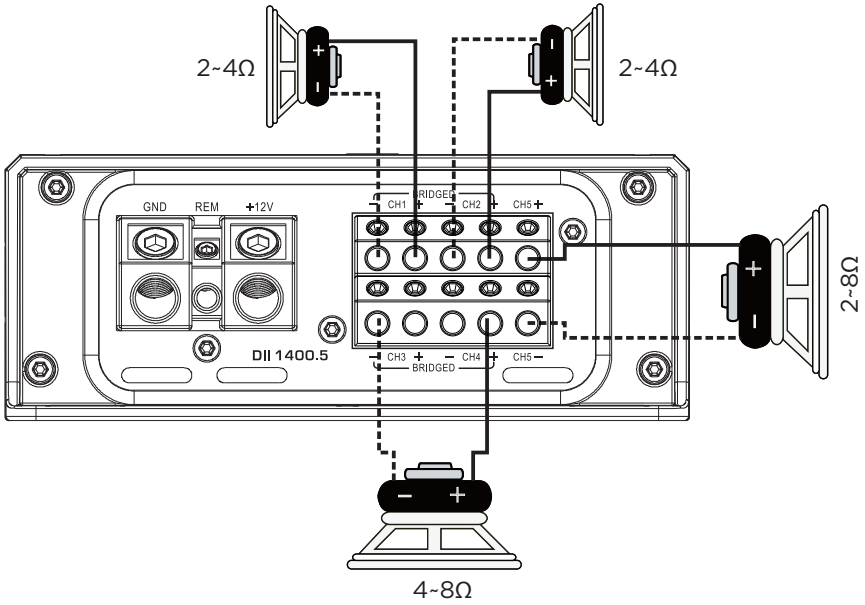
SPEAKER CONNECTION DIAGRAM



DII 1400.5



SPEAKER CONNECTION DIAGRAM



SPECIFICATONS

Model	DII 600.1	DII 1000.1	DII 1600.1	DII 3300.1	DII 4000.1
RMS power @ 4 ohm(14.4V)	1x265W	1x370W	1x550W	1x1000W	1x1350W
RMS power @ 2 ohm(14.4V)	1x465W	1x700W	1x1000W	1x2000W	1x2500W
RMS power @ 1 ohm(14.4V)	1x700W	1x1100W	1x1600W	1x3300W	1x4100W
Frequency Response	10Hz-250Hz	10Hz-24KHz	10Hz-24KHz	10Hz-250Hz	10Hz-250Hz
Signal to Noise	100dB	85dB	85dB	90dB	90dB
Efficiency @ 4 ohm	82%	78%	78%	80%	80%
Input Sensitivity	0.25V-12V	0.25V-12V	0.25V-12V	0.25V-12V	0.25V-12V
Subsonic Filter	NA	NA	NA	NA	NA
High Pass Filter	10Hz-50Hz	10Hz-80Hz	10Hz-80Hz	10Hz-50Hz	10Hz-50Hz
Low Pass Filter	40Hz-250Hz	80Hz-20KHz	80Hz-20KHz	40Hz-250Hz	40Hz-250Hz
Bass Boost	0-12dB	0-12dB	0-12dB	0-12dB	0-12dB
Remote Control	YES	YES	YES	YES	YES
Fuse Rating(NAL)	50A	60A	100A	230A	250A
Dimensions(mm)	6.73x5.37x2.09 in 171x136.5x53mm	7.72x5.37x2.09 in 196x136.5x53mm	9.76x5.37x2.09 in 248x136.5x53mm	9.10x7.09x2.75 in 231x180x70mm	10.67x7.09x2.75 in 271x180x70mm

Model	DII 5000.1	DII 400.4	DII 700.4	DII 1100.4
RMS power @ 4 ohm(14.4V)	1x1800W	4x60W	4x95W	4x180W
RMS power @ 2 ohm(14.4V)	1x3100W	4x100W	4x150W	4x270W
RMS power @ 1 ohm(14.4V)	1x5100W	NA	NA	NA
RMS power @ 4 ohm mono(14.4V)	NA	2x200W	2x300W	2x560W
Frequency Response	10Hz-250Hz	10Hz-24KHz	10Hz-24KHz	10Hz-25KHz
Signal to Noise	90dB	85dB	85dB	85dB
Efficiency @ 4 ohm	80%	78%	78%	80%
Input Sensitivity	0.25V-12V	0.2V-12V	0.2V-12V	0.2V-12V
Subsonic Filter	NA	NA	NA	NA
High Pass Filter	10Hz-50Hz	30Hz-300Hz	30Hz-300Hz	30Hz-300Hz
Low Pass Filter	40Hz-250Hz	30Hz-300Hz	30Hz-300Hz	30Hz-300Hz
Bass Boost	0-12dB	NA	NA	NA
Remote Control	YES	NA	NA	NA
Fuse Rating(NAL)	350A	25A	35A	70A
Dimensions(mm)	11.85x7.09x2.75 in 301x180x70mm	5.55x5.37x2.09 in 141x136.5x53mm	6.22x5.37x2.09 in 158x136.5x53mm	7.17x5.37x2.09 in 182x136.5x53mm

Model	DII 1400.4	DII 2000.4	DII 4000.4	DII 1400.5
RMS power @ 4 ohm(14.4V)	4x210W	4x220W	4x435W	CH1-CH4: 4x100W CH5: 1x500W
RMS power @ 2 ohm(14.4V)	4x310W	4x360W	4x700W	CH1-CH4: 4x160W CH5: 1x800W
RMS power @ 1 ohm(14.4V)	NA	4x500W	4x1000W	NA
RMS power @ 4 ohm mono(14.4V)	2x620W	2x750W	2x1400W	CH1-CH4: 2x320W
Frequency Response	15Hz-35KHz	10Hz-22KHz	10Hz-22KHz	CH1-CH4: 10Hz-25KHz CH5: 10Hz-250Hz
Signal to Noise	88dB	88dB	88dB	85dB
Efficiency @ 4 ohm	74%	79%	81%	78%
Input Sensitivity	0.2V-12V	0.2V-12V	0.2V-12V	0.2V-12V
Subsonic Filter	NA	NA	NA	CH5: 10Hz-50Hz
High Pass Filter	30Hz-300Hz	30Hz-300Hz	30Hz-300Hz	CH1-CH4: 50Hz-5KHz
Low Pass Filter	30Hz-300Hz	30Hz-300Hz	30Hz-300Hz	CH1-CH4: 50Hz-5KHz CH5: 50Hz-250Hz
Bass Boost	NA	NA	NA	CH5: 0-12dB
Remote Control	NA	YES	YES	YES
Fuse Rating(NAL)	90A	150A	300A	100A
Dimensions(mm)	7.59x5.37x2.09 in 202x136.5x53mm	15.04x7.09x2.75 in 382x180x70mm	17.01x7.09x2.75 in 432x180x70mm	10.87x5.37x2.09 in 276x136.5x53mm

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'rounting, 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.

WWW.RECOILAUDIO.COM