

# ROSWELL.

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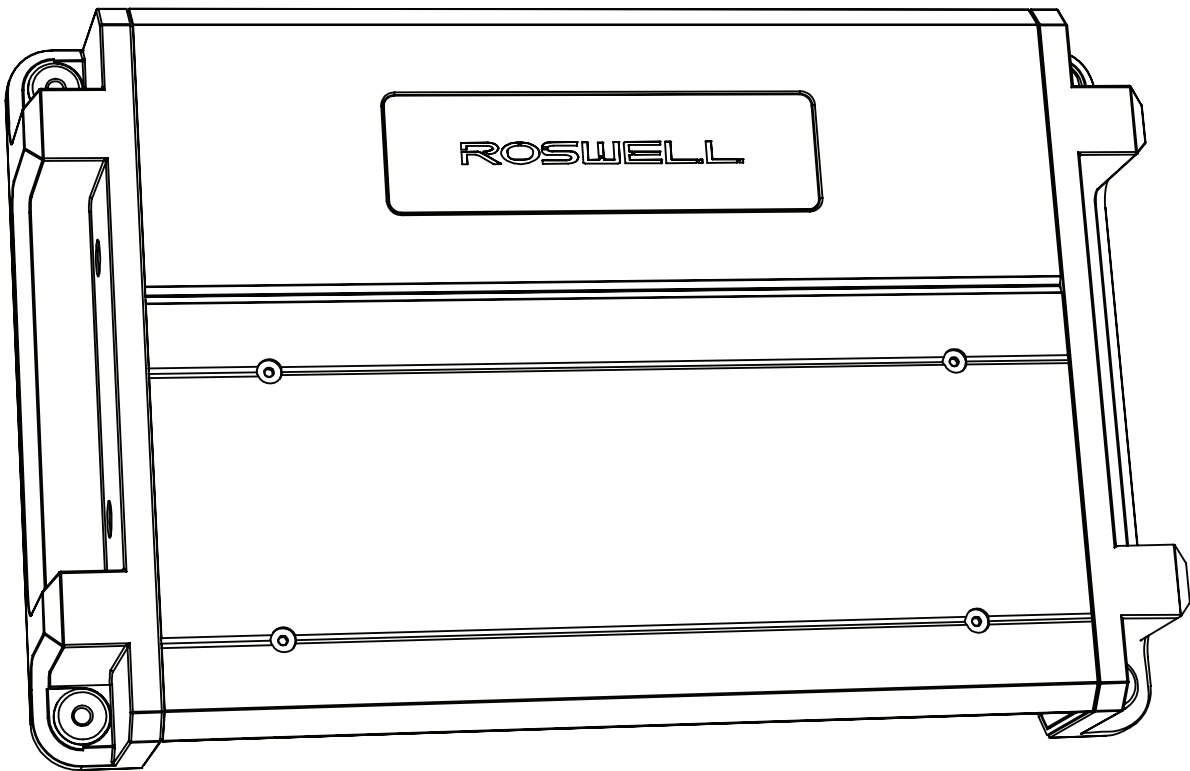
# R1

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## Amplifier

1000.1, 550.2, 650.4, & 900.6

Installation & Usage Instructions



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Part # C920-1831SD, C920-1832SD, C920-1834SD, C920-1836SD

Information: [info@roswellmarine.com](mailto:info@roswellmarine.com)

If you have any questions please call : 1-321-638-1331



# ROSWELL.

Welcome to the family.

Thank you for purchasing the best marine amp in the world. After years of development and testing, we are proud to introduce the R1 Series marine amplifiers, built to outlast - and outperform - every other marine amp on the market. We at Roswell started a revolution in the wakeboard industry back in 1998, and have since expanded into marine audio and other branches of the marine industry. Even now, nearly 20 years later, we continue to push the boundaries.

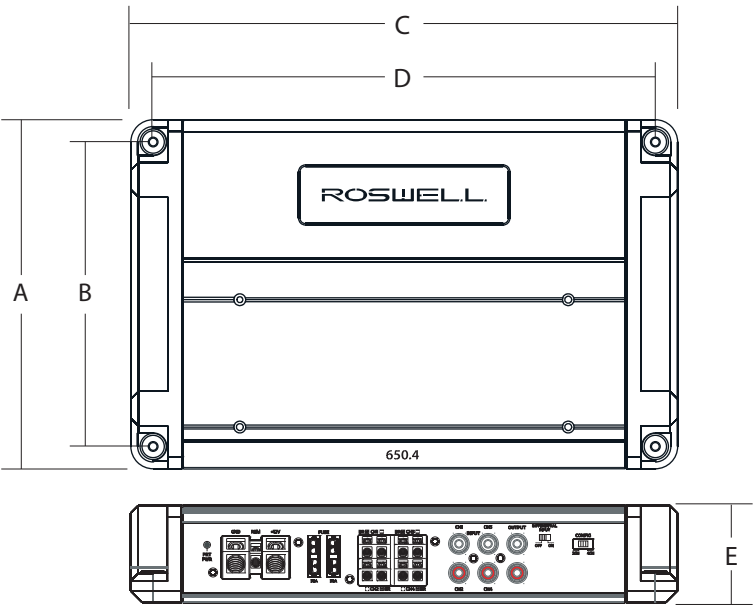
We are fully committed to going past industry expectations every day to make your boating experience more enjoyable. With the input of our dealers, team riders, and boaters around the world, our goal remains to redefine the marine industry day in and day out. We will not be confined to our desks; we are out on the water testing our full line of products to ensure your days on the water are as hassle-free and enjoyable as possible.

The R1 Series is simply the latest iteration of that commitment. Thanks again for choosing Roswell and keep an eye out for more dominating technology throughout the season.

If you have any questions about your speakers or questions regarding installation, please contact your authorized Roswell dealer. If you have further questions, please don't hesitate to contact us directly at (321)-638-1331 or by emailing [info@roswellmarine.com](mailto:info@roswellmarine.com).

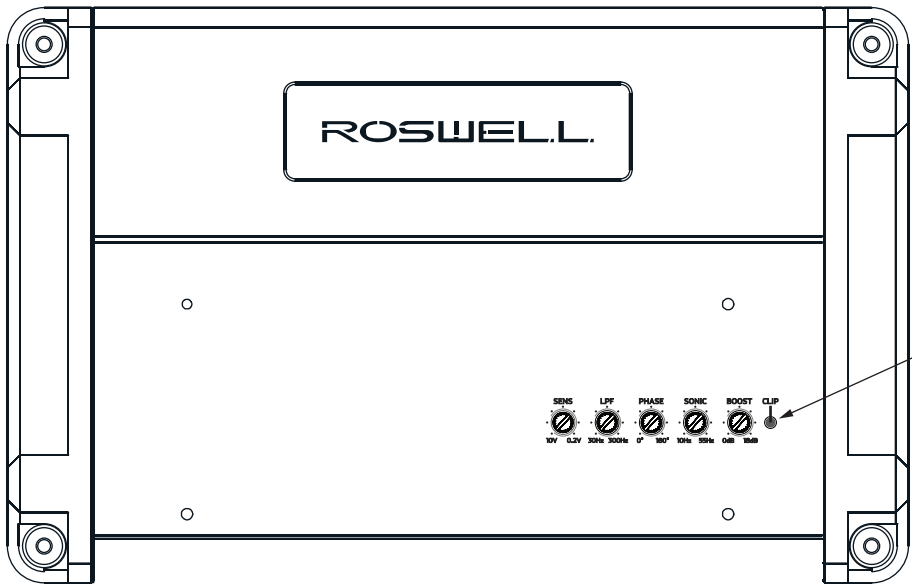
**Features**

- Switchable Differential RCA inputs
- Calibrated Crossover Potentiometers
- 12 dB/oct. Crossover Slopes
- Bass boost control (0-18 dB @ 45 Hz)
- Nickel-plated wire terminals
- Conformal coated PCBs
- Full 0-180° phase control (1000.1&550.2 only)

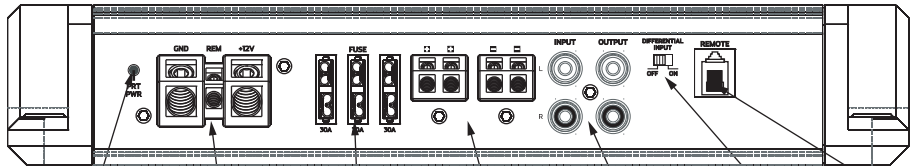


Description	1000.1, 550.2, 650.4	900.6
A (Overall Depth)	7.063" / 179mm	7.063" / 179mm
B (Mounting Bolt Pattern)	6.180" / 157mm	6.180" / 157mm
C (Overall Length)	11.125" / 283mm	13.661" / 347mm
D (Mounting Bolt Pattern)	10.200" / 259mm	12.953" / 329mm
E (Overall Height)	1.900" / 48mm	1.900" / 48mm

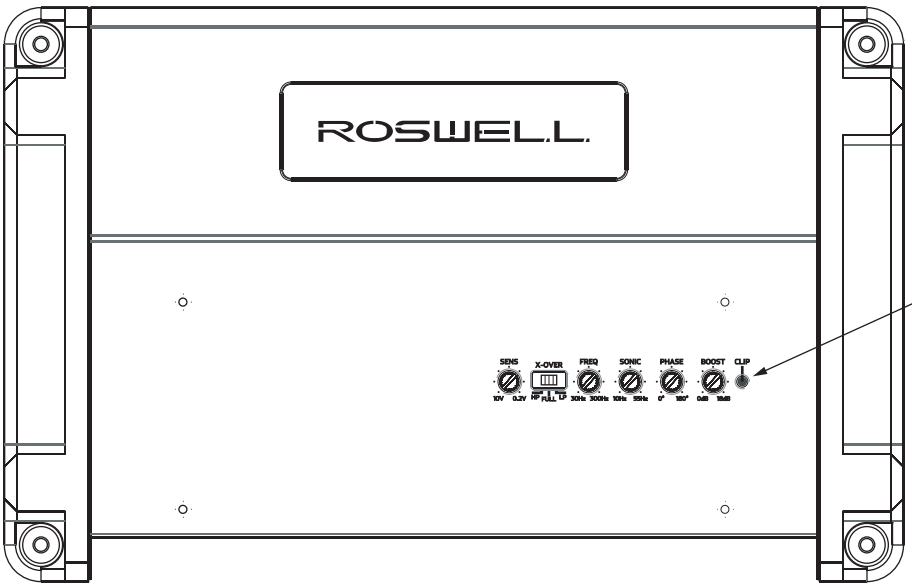
1000.1



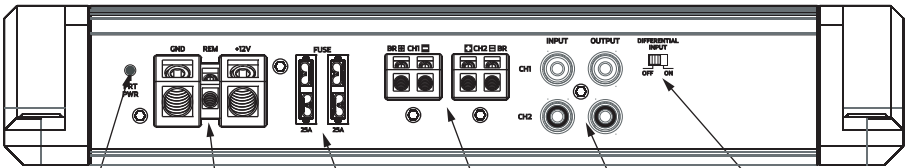
See pages 6-7 for  
amp adjustment  
information



Power/Protect  
Indicator LED      Power  
Terminals      Fuses  
(30 Amp x 3)      Speaker  
Terminals      RCA  
inputs/outputs      Differential  
Input Switch      Remote Gain  
Module Connection

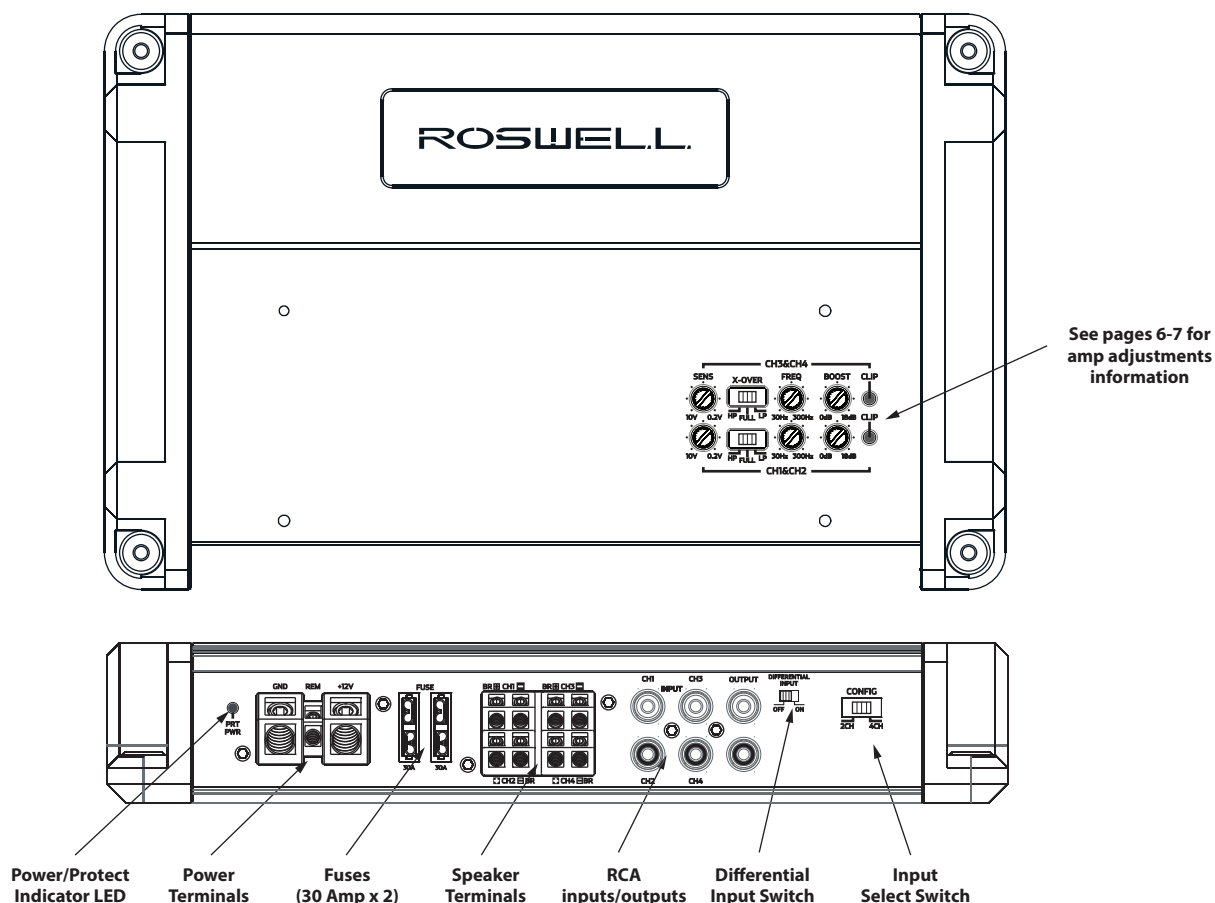


See pages 6-7 for  
amp adjustment  
information

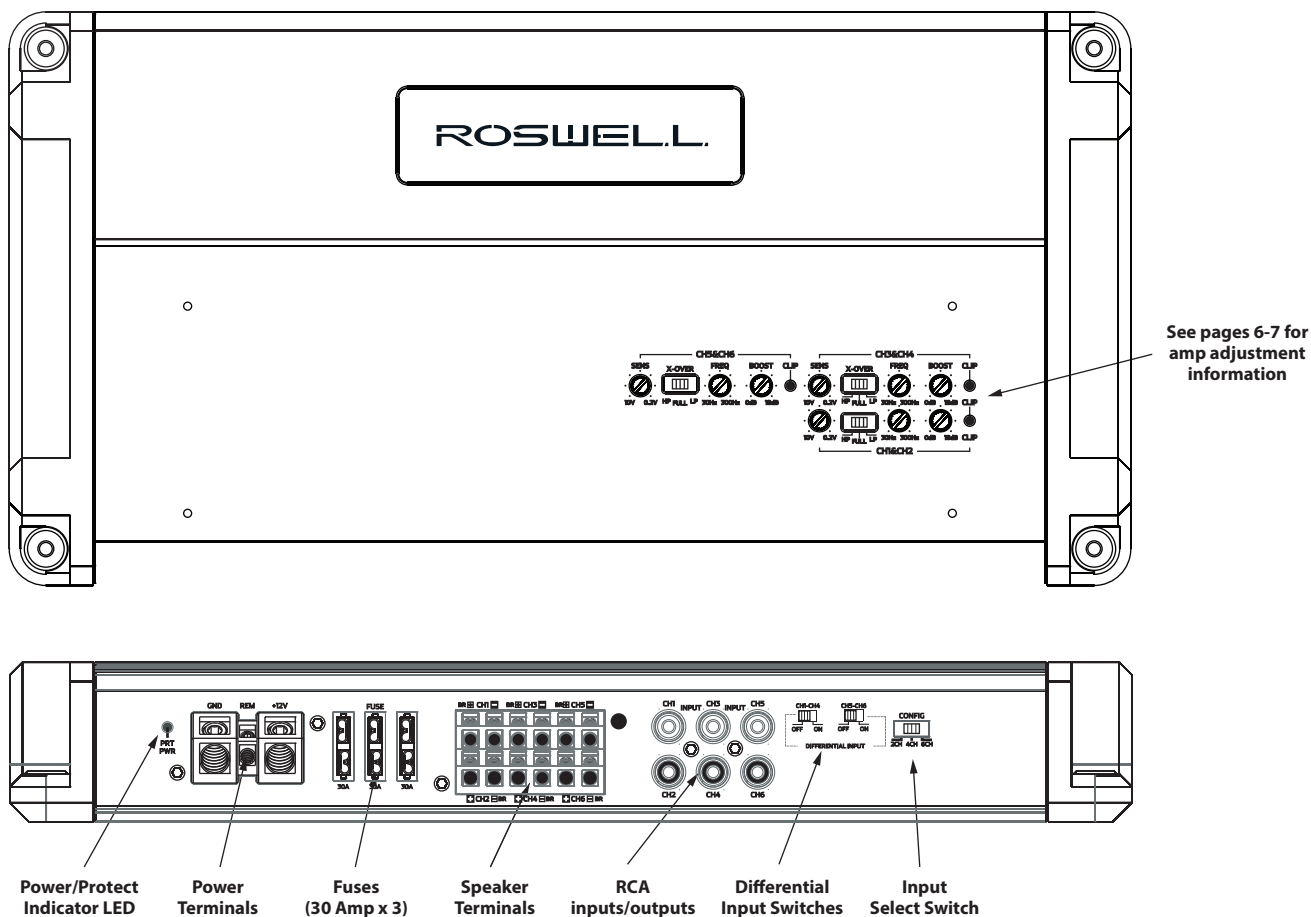


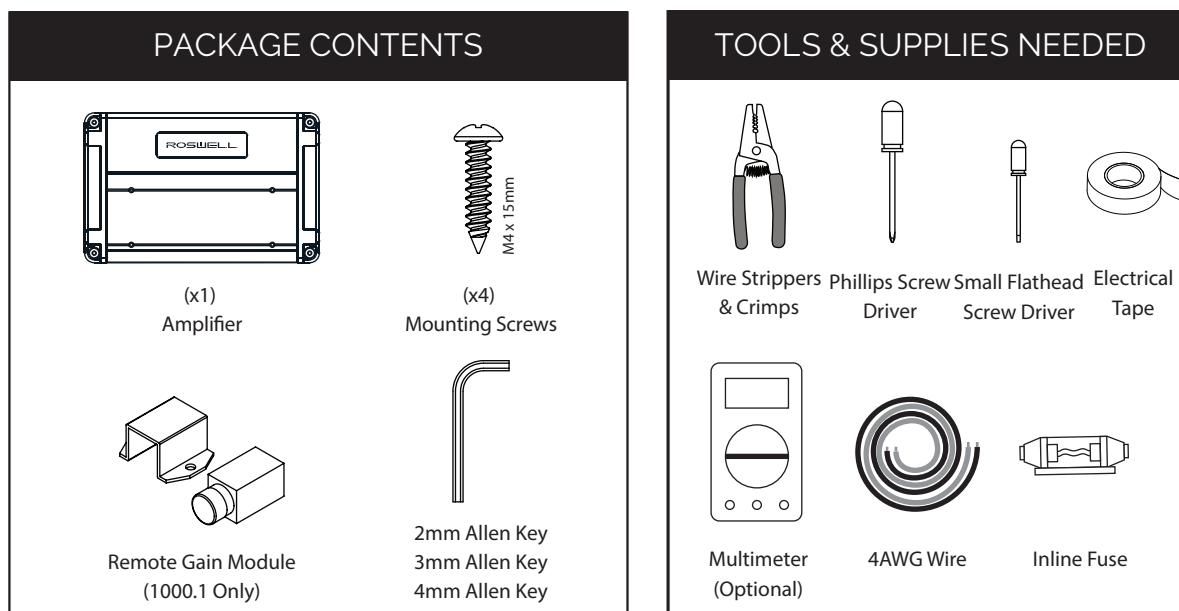
Power/Protect  
Indicator LED      Power  
Terminals      Fuses  
(25 Amp x 2)      Speaker  
Terminals      RCA  
inputs/outputs      Differential  
Input Switch

## 650.4



## 900.6





## Notes

### Warning

If you do not have experience with automotive or marine electrical and mechanical systems please contact a professional installer. Paying a qualified installer is almost always cheaper than paying a dealership to repair your boat.

Please check the suitability of the installation location before you begin. Do not cut any of the boat's structure. Pay close attention to what is behind any bulkheads, panels and carpet. Often the boat manufacturer will hide wires and cables in the exact location you may wish to install in.

### Location of the Amplifier

The amplifier must be securely mounted to a solid surface. Please select a dry location such as in the storage compartment. Do not mount the amplifier to any area that may have excessive vibration (like the subwoofer box), under any cup holder drain lines, or under ballast drain/vent fittings that may leak water. Position the amplifier in an area that receives sufficient airflow and mount it vertically or completely flat for optimal heat dissipation.

### Supplying Enough Power

The R1 Series amplifiers are capable of significant output. In order to achieve this it is critical that the amplifiers 12 Volt wiring is adequate to provide the necessary power to the amplifier. We recommend using 4AWG wire for all power and ground connections. Be sure to fuse the power wire appropriately for the amount of current being drawn.

### The Ground

The ground wire should be connected directly to the battery of your boat. Remember, the ground must carry the same high current as the positive wire.

### RCA Cables

The R1 Series amplifiers feature differential RCA inputs for maximum noise rejection. However, it is still a good idea to follow best practices to minimize the amount of interference in the signal chain. To reduce the risk of noise, run all signal cables away from any power supplying wires.

### Protection Indicator

This amplifier is equipped with an advanced protection system. If for any reason this unit goes into protection mode it will flash a solid single red LED light found on the control end of the amplifier. In most cases, the amp will automatically recover once the issue causing the protect mode is corrected.

### Installing Multiple Amplifiers

Roswell offers a stacking spacer for use with R1 Amps (C920-1830). These allow you to stack amplifiers on top of each other securely. Roswell recommends stacking a maximum of four amplifiers when done on a flat surface or two amplifiers when mounted on a vertical surface. It may be necessary to provide more airflow for more amplifiers as more amps will generate more heat.

### Sensitivity

Due to the wide range of head unit output configurations all RMA amplifiers have an adjustable input sensitivity. The level is not a volume control. It is used to properly set the output of the amplifier based on the output voltage of the source unit, and to ensure the speakers are receiving clean power at an appropriate level. With the sensitivity turned up, the amplifier will reach maximum output at a lower volume setting on the source unit.

There is no correct sensitivity setting suitable for all applications as head unit preamp outputs vary. If you are unsure on adjusting this settings, consult an audio installation professional.

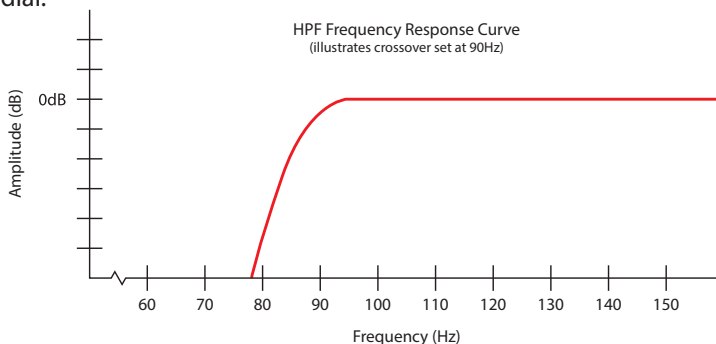
### Crossover Controls

A crossover is a circuit that filters unwanted frequencies. A tweeter can easily be blown by bass frequencies if they are not filtered out. A subwoofer will not sound natural if it is playing mid range frequencies. Careful adjustment is needed to ensure that all speakers are playing the right frequencies and that they are left with no gaps in the frequency response.

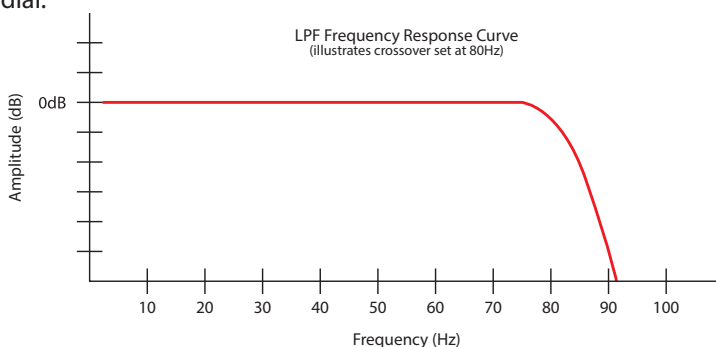
The R1 Series amplifiers feature calibrated potentiometers in the crossover section which allows for very precise adjustment of the filter frequency. The 900.6 and 650.4 amplifiers feature a single crossover. Simply select whether you would like the crossover to be a low-pass or high-pass, and adjust accordingly. The 1000.1 also features a Subsonic (infrasonic) filter, which is explained in detail below.

**Full** - Allows the full range of frequencies to pass through.

**HPF (High-Pass Filter)** - A high-pass filter allows high frequency signals to pass through while reducing all signals lower than the cutoff frequency setting on its dial.



**LPF (Low-Pass Filter)** - A low-pass filter allows low frequency signals to pass through while reducing all signals higher than the cutoff frequency setting on its dial.



**Subsonic (1000.1 & 550.2 only)** - A Subsonic, or infrasonic, filter is essentially a high-pass filter dedicated to removing the lowest frequencies. This allows you to remove unwanted frequencies in order to protect your subwoofer from excess power, or to prevent it from unloading when it is in a ported enclosure or free-aired application. In most cases this filter should be set at around 30 Hz (12:00 position on the dial).

**Phase Control (1000.1 & 550.2 only)** - The Phase control allows you to fine-tune the output of the amplifier in order to ensure that the sound from the subwoofer is in-phase with the sound with the rest of the audio system maximize the bass output. Depending on your subwoofer mounting location this may not need to be adjusted. If you are unsure on how to properly adjust this setting, leave it alone.

### Bass Boost

All of the RMA amplifiers have an adjustable bass boost from 0-18 dB @ 45 Hz. Adjust the Bass Boost carefully - the response on the power output is tremendous!

### Remote Gain Control

The 1000.1 Amplifier includes a remote gain control module that can be plugged into the amplifier to allow easy reduction of the gain setting without accessing the amplifier.

RCA Inputs

All R1 amplifiers feature switchable differential RCA inputs to maximize noise rejection.

Input Select Switch

The 900.6 and 650.4 amplifiers feature an input selection switch that will allow you to set which RCA inputs feed signal to the amplifier. You can choose a dedicated RCA input for each channel, or to have one pair of RCAs to supply the signal to all channels. The 900.6 also allows for 4 channel input to control all 6 outputs. This allows you to group channels together to easily interface with head units that feature zone control, or to use with our Dual Zone Volume Control.

**NOTE: Set this switch before tuning your amplifier.**

RCA Line Out

The 1000.1, 550.2, and 650.4 amplifiers have line out connections that allow you to connect multiple amplifiers together. The 550.2 and 650.4 line outs supply a full range stereo signal. The 1000.1 line out supplies a mono signal as it is designed to provide signal to additional subwoofer amplifiers.

Speaker Outputs

All R1 amplifiers are equipped with a block style terminal for speaker connection. Make these connections carefully and neatly. Strip your wire back 5/8" (16mm) and twist the exposed leads. Using a 2mm Allen wrench, loosen the terminal set screws far enough to allow the wire to fit. Insert them into the appropriate spot on the block terminal. Make sure that there are no loose or frayed strands of wire sticking out. If a wire comes in contact with another wire, the amplifier will go into protection mode. After tightening the terminal set screws, verify your wires are secured in place by gently pulling on them.

Impedance

The 900.6 and 650.4 Amplifiers are 2Ω stable on each channel, meaning that up to two 4Ω speakers can be wired in parallel per channel. When bridging channels the speaker must have a nominal impedance of at least 4Ω. Attempting to run speakers below 4Ω when bridging channels could result in damage to the amplifier and will void the warranty.

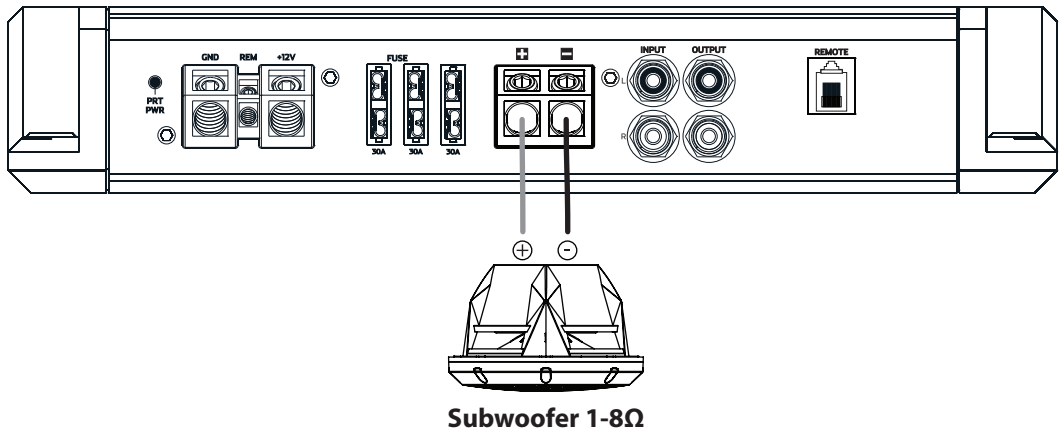
The 1000.1 Amplifier is 1Ω stable, meaning that up to four 4Ω subwoofers can be connected to the amplifier simultaneously.

If you are unsure about impedance matching or series vs. parallel wiring, consult an audio installation professional.

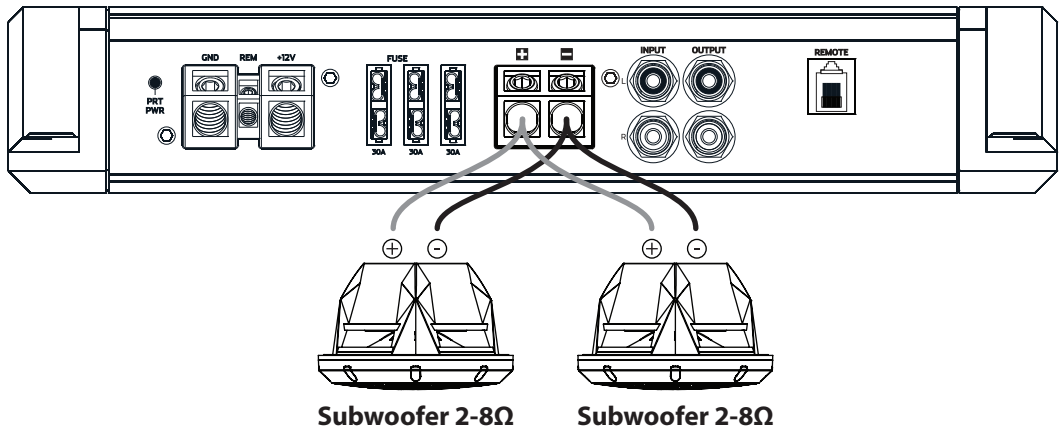
Technical Specifications

Parameter	1000.1	550.2	650.4	900.6
Continuous power:				
↳ @ 4Ω	400W	165W x2	100W x4	100W x6
↳ @ 2Ω	675W	275W x2	165W x4	165W x6
↳ @ 1Ω	1000W	N/A	N/A	N/A
Bridged power	N/A	4Ω: 550W x1	4Ω: 300W x2	4Ω: 300W x3
Frequency Response (+/- 1dB)	10Hz-400Hz	10Hz-25 kHz	10Hz-25 kHz	10Hz-25 kHz
Input Sensitivity	0.2-10.0V	0.2-10.0V	0.2-10.0V	0.2-10.0V
Crossover Frequency Range	30Hz-300Hz	30Hz-300Hz	30Hz-300Hz	30Hz-300Hz
Subsonic Filter	10Hz-55Hz	10Hz-55Hz	Auto 6dB/oct. @ 30Hz in HPF Mode	Auto 6dB/oct. @ 30Hz in HPF Mode
Phase Control	0-180° Continuous	0-180° Continuous	N/A	N/A
Bass EQ	0-18dB @ 45Hz	0-18dB @ 45Hz	0-18dB @ 45Hz	0-18dB @ 45Hz

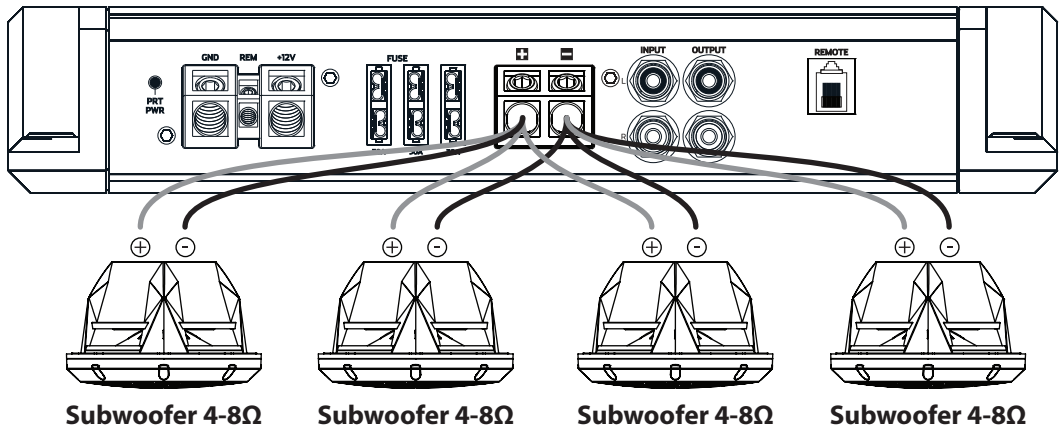
1000.1  
Amplifier Application Examples  
Single Sub Output



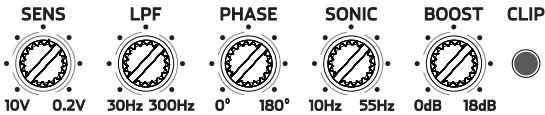
Double Sub Output



Quadruple Sub Output



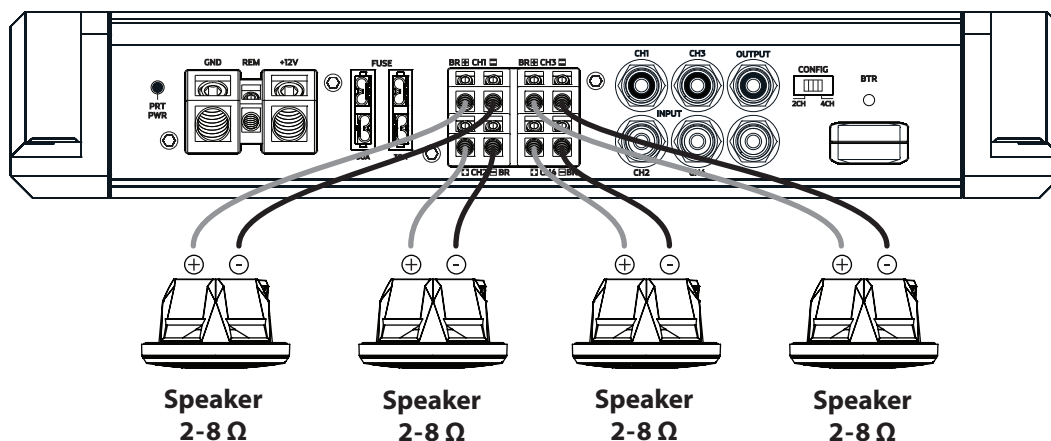
Control Panel  
*Note: Settings shown are for illustrative purposes only and are NOT standard or recommended settings*



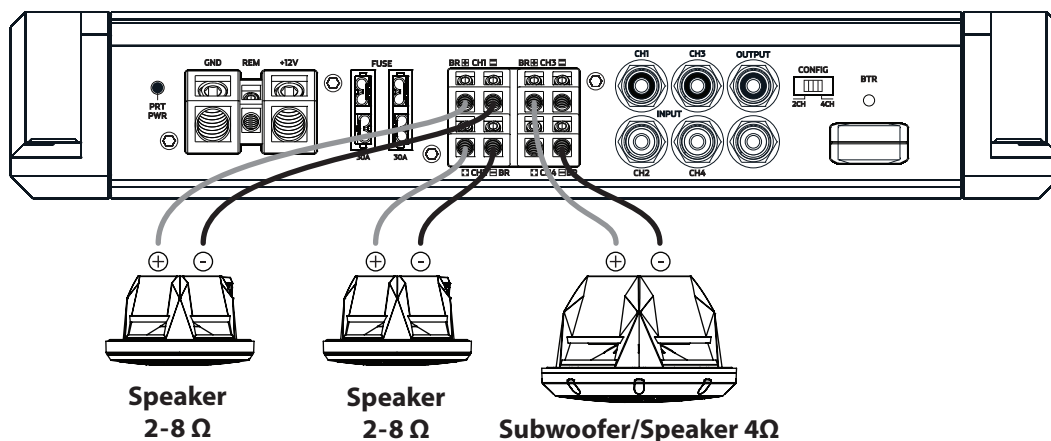
# 650.4

## Amplifier Application Examples

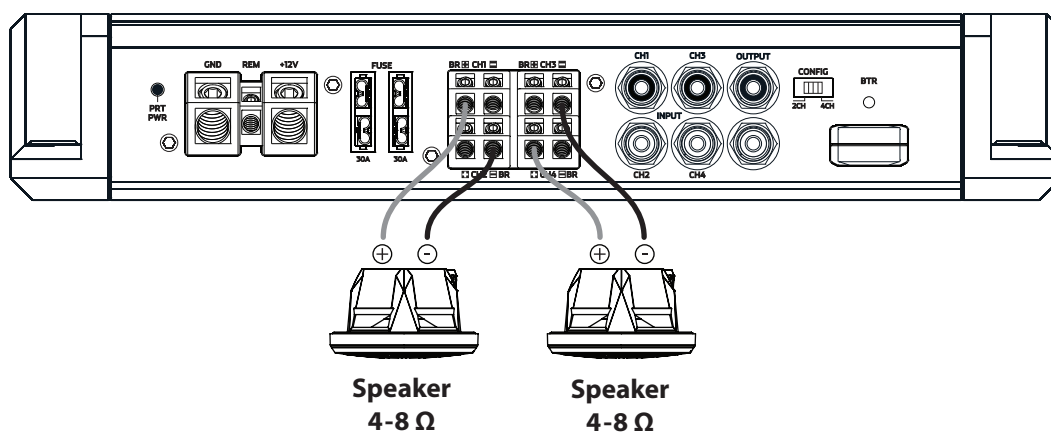
### 4- Channel Output



### 3- Channel Output

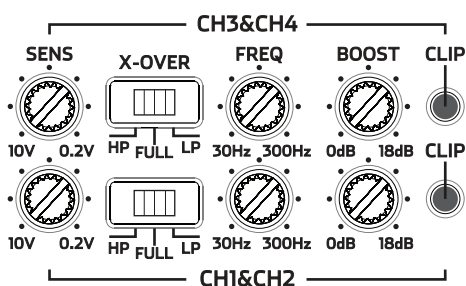


### 2- Channel Output

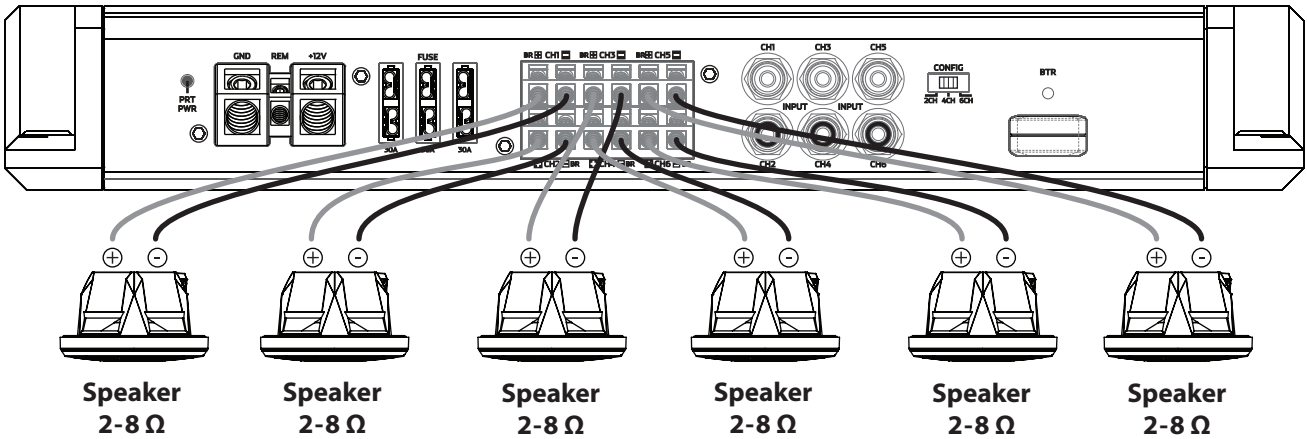


## Control Panel

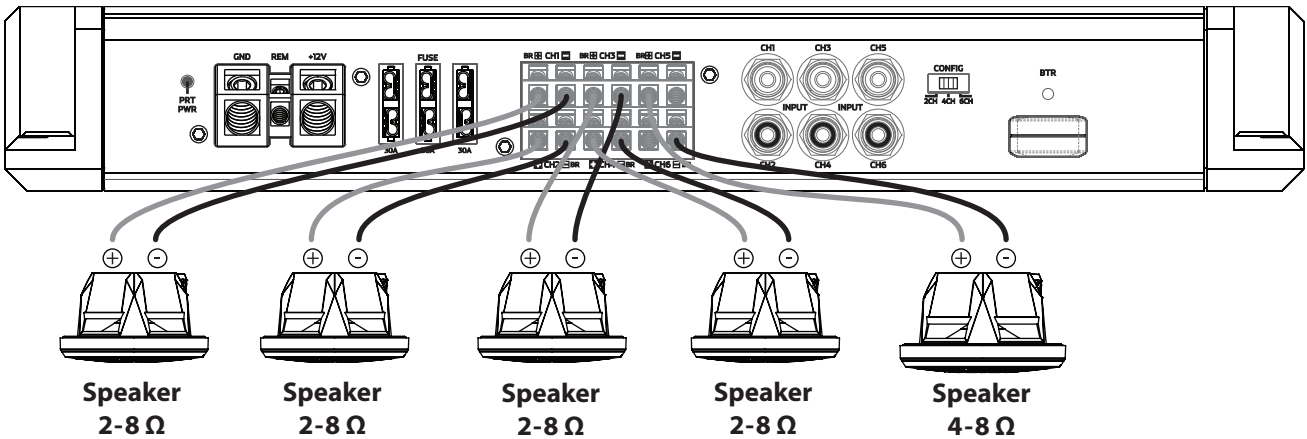
*Note: Settings shown are for illustrative purposes only and are NOT standard or recommended settings*



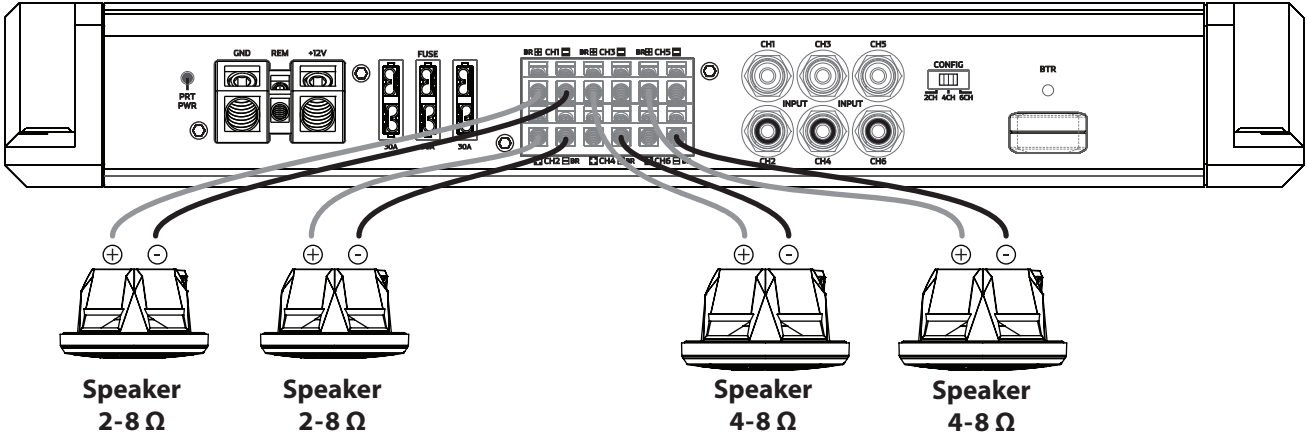
900.6  
Amplifier Application Examples  
6- Channel Output



5- Channel Output



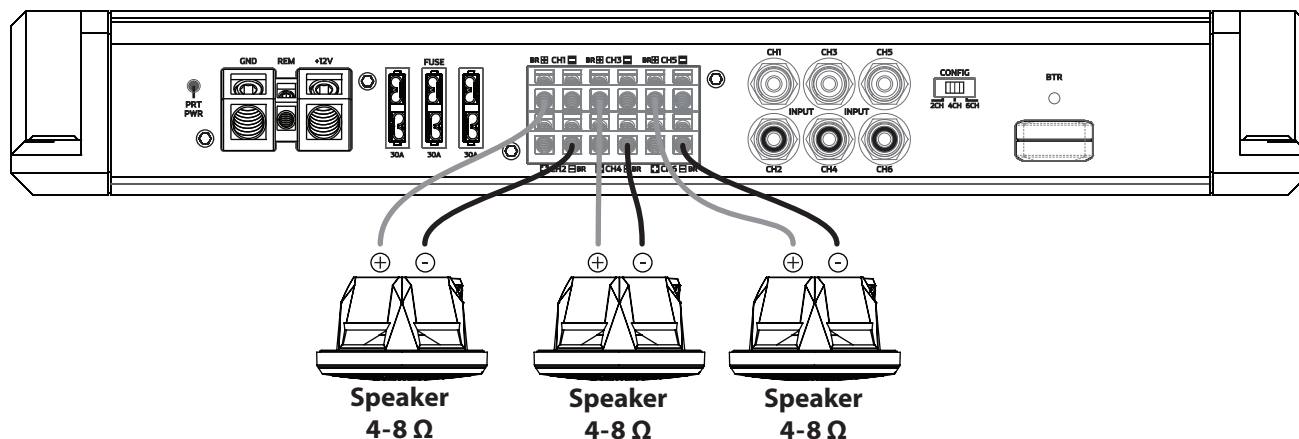
4- Channel Output



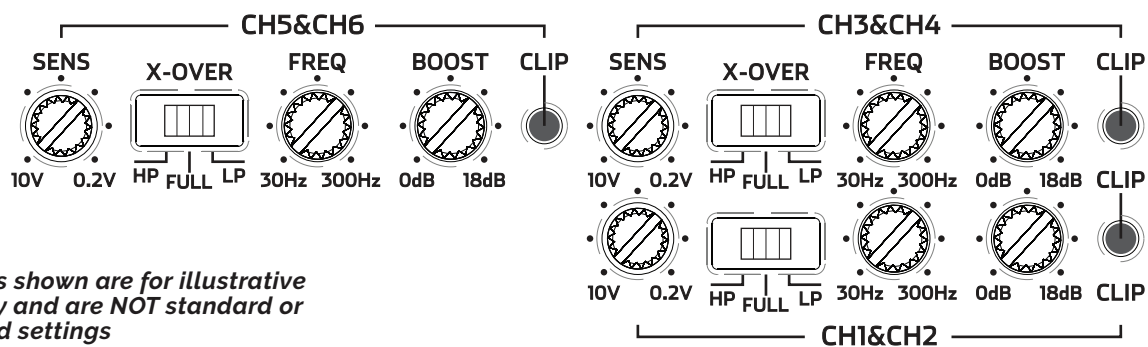
# 900.6 continued

## Amplifier Application Examples

### 6- Channel Output



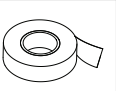
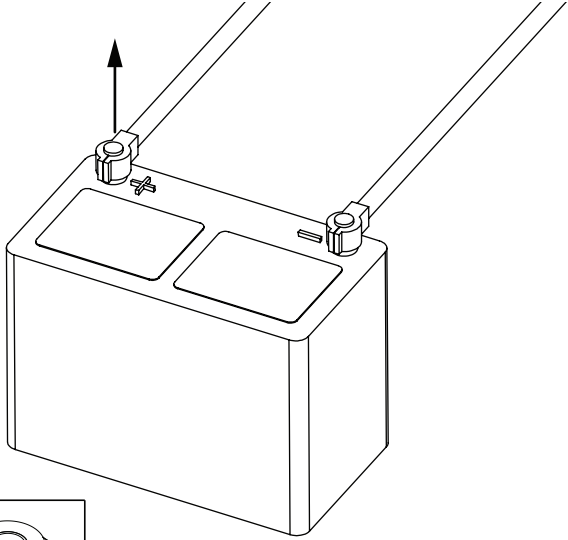
### Control Panel



*Note: Settings shown are for illustrative purposes only and are NOT standard or recommended settings*

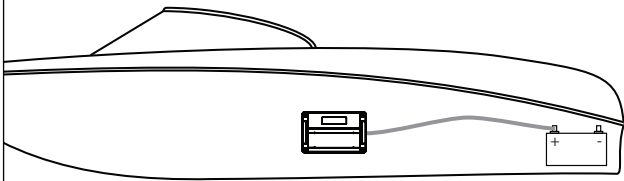
A

Disconnect the positive cable from the boat battery. Tape up the end so it is isolated from the battery.



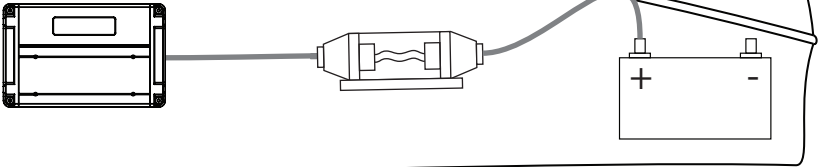
B

Run a 4 AWG wire from the battery to the amplifier. Plan this part of the installation carefully. *This cable will carry a very high current . If it should short to any metal and is not properly fused it could catch fire.*

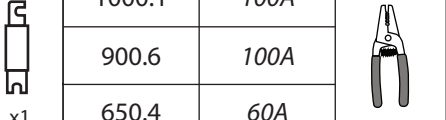


C

To protect the power wires, connect an in-line fuse holder to the power cable as close to the battery as possible. If one amplifier is being used, refer to the table below for recommended fuse rating. If two or more amplifiers are being used, verify the fuse and wire are capable of handling the total current load of all amplifiers connected. The amplifiers themselves are internally fused and do not require additional protection.

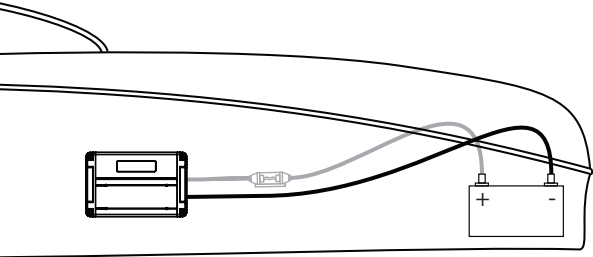


Amp	Fuse
1000.1	100A
900.6	100A
650.4	60A




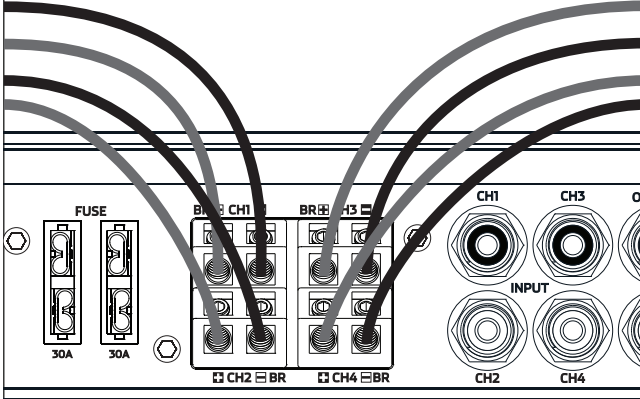
D

Run the black 4 AWG ground wire directly to the negative (-12V) pole on the battery. This wire should handle the load in the previous step and be as short as possible.



E

Wire your speakers and route wires to your amp mounting location. Using the allen key, connect the speaker wires to the amplifier. Be sure to note the wire polarity.



2mm (650.4 & 900.6)  
4mm (1000.1)

FUSE 30A 30A

BR CH1 BR CH3

CH2 CH4

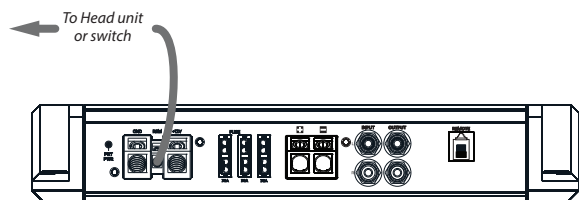
CH1 CH3

INPUT

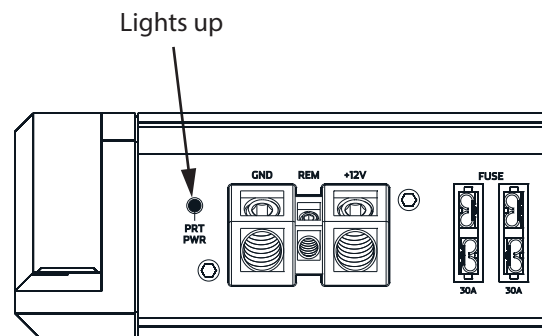
CH2 CH4

**F**

Run a wire from the head unit remote turn-on wire (typically blue or blue w/ white stripe) to the "REM" terminal of the amplifier.

**G**

Turn on the amplifier to verify it is wired correctly and does not go into protection mode. The power LED should turn solid blue after a few seconds.

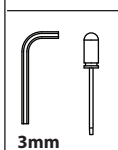
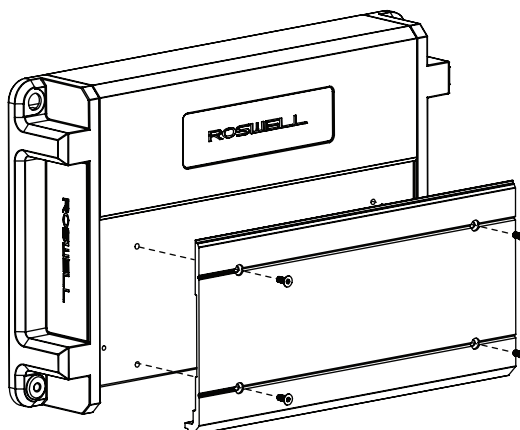


**You must now set the controls on the amplifier.**

**This is the most important part of amplifier installation and should be completed by a trained audio professional.**

**H**

Remove control panel cover with a 3mm allen wrench. Adjust amplifier settings to provide appropriate power to the speakers. Replace cover when complete.



## Roswell Limited Warranty

Roswell warrants all new R1 Series Amplifiers against defects in material and workmanship for a period of TWO (2) YEARS from the original date of purchase. This warranty is not transferable and applies only to the original retail purchaser from an authorized Roswell retailer. Upon inspection by Roswell, should service be necessary under this warranty for any reason due to manufacturer defects, Roswell will, at our own discretion, repair or replace the defective product with new or similar conditioned product at no charge.

**THIS WARRANTY DOES NOT COVER INSTALLATION OR DAMAGE RESULTING FROM ACCIDENT, MISUSE, ABUSE, IMPROPER WIRING, COSMETIC DAMAGE DUE TO NORMAL WEAR AND TEAR, EXPOSURE TO CHEMICALS OR HARSH ENVIRONMENTS, OPERATION OUTSIDE OF THE MANUFACTURERS RECOMMENDATIONS OR SPECIFICATIONS, OR AGAINST INSTRUCTIONS IN OWNERS MANUAL. IN ADDITION, ANY PRODUCT THAT HAS BEEN OPENED, TAMPERED WITH OR MODIFIED, OR IF ANY SERIAL NUMBERS HAVE BEEN REMOVED, WILL NOT BE COVERED BY ANY PART OF THE MANUFACTURES WARRANTY.**

All warranty claims must first be made in direct contact with Roswell's warranty department. When first contact is made the warranty representative will issue an RA # to open a claim. All warranty returns should be sent to Roswell freight prepaid and must be accompanied by proof of purchase (a copy of original sales receipt). Direct returns from consumers or non-authorized retailers will be refused unless specifically authorized by Roswell with a valid return authorization number (RA#).

All warranty returns should be packed in the original packaging and must be accompanied by a copy of the original sales receipt. Product damage during shipping will not be covered under this warranty. The customer or retailer may choose to have this damage repaired at the normal "Out of Warranty" repair cost.

In no event will Roswell be liable for incidental, consequential, or other damages resulting from the use of this product. This includes but is not limited to, damage of hearing, property or person, damage based upon inconvenience or on loss of use of the product, and to the extent permitted by law, damages for personal injury.

This warranty applies to products being sold and used in the United States of America and Canada. In all other countries please contact your authorized Roswell representative.

For warranty and non-warranty repairs, please contact Roswell Marine Inc.

Phone: 1-321-638-1331

Email: [warranty@roswellmarine.com](mailto:warranty@roswellmarine.com)

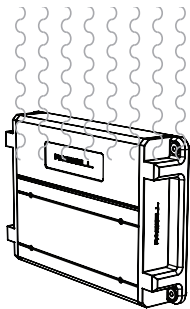
Cooling & Airflow Warning

AMPLIFIER MAY BECOME VERY HOT DURING NORMAL OPERATION

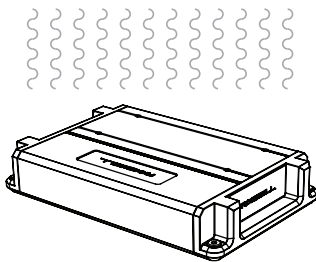
Your new Roswell Marine Audio amplifier possesses exceptional efficiency and thermal management. However, it is possible that, if mounted in a confined space and/or high temperature environment, it may become extremely hot during periods of extended use.

Special attention must be given during the installation process to optimize cooling efficiency. An unobstructed airflow around the amplifier's heat sink is required to enable proper cooling.

For optimal performance Roswell recommends mounting the amplifier as follows:



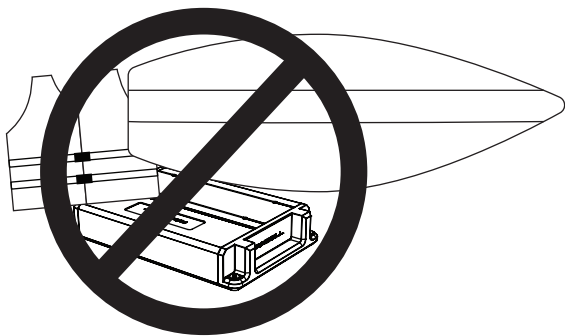
Vertical Mount



Flat Mount

*Mounting the amplifier in a position that does not enable proper cooling will affect the performance of the unit and is strongly discouraged.*

**In addition to proper mounting ensure that no items are in direct contact with the amplifier**  
*Life vests, wet suits, towels, coolers, and other like items must be kept away from amplifier.*



Roswell Marine is not liable for damage resulting from improper mounting and/or negligent use of this product.

Notes

## Notes