



Amplifier Manual



Models: RX2 1000.1 • RX2 500.1 • RX2 250.1

The RX2-series amplifiers are the next evolution of the reliable and great sounding RX series. With a new, more efficient circuit design, we have increased power output while decreasing chassis size. These amplifiers will be the reference for style and value in any installation. Built with the legendary Phoenix Gold reliability, they feature heavy duty heatsinks, robust unregulated power supplies, and oversized direct input power and speaker terminals. They also sound sweet thanks to the audiophile grade output transistors. We made upgrading your stock system easy by allowing high level inputs so you can keep the OEM radio, and still upgrade the sound. RX2-series amplifiers are ready to impress with their effortless ability to provide power and clarity while keeping the chassis at a convenient size for any installation. The devil is in the details, so it just made sense that we allow the PG name plate to be removed and turned to match the orientation you might need for your install because we know your going to want show off your system and make all you're friends jealous.

Features

- Class-D Topology RX2 1000.1 / RX2 500.1
- Class-A/B Topology RX2 250.1
- Small Footprint Chassis Design
- Robust Unregulated Power Supplies
- Rotatable Name Badge for Installation Flexibility
- High Level Inputs for Easy OEM Integration
- Remote Bass Controller Included
- Audio Precision® Quality Control Verification

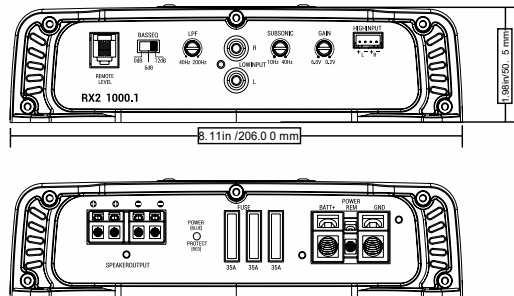
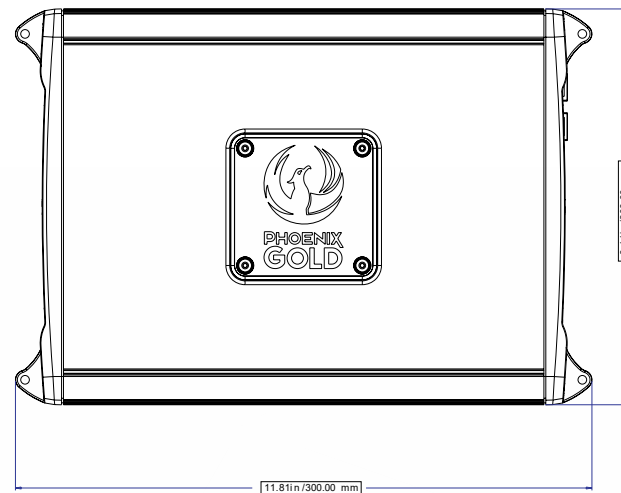
SPECIFICATIONS

RX2 1000.1 SPECIFICATIONS

RMS Power Ratings listed at less than 1% THD @ 14.4v

Number of Channels:	1
1Ω:	1000W
2Ω:	700W x1
4Ω:	400W x 1
Bridgeable:	N/A
Crossover Mode:	LP
CH 1:	40Hz - 200Hz @ 12dB / Oct Linkwitz Riley
Subsonic:	10Hz - 40Hz @ 12dB / Oct Linkwitz Riley
Input Channels:	2CH L/R
Input Mode:	Unbalanced / Balanced
Input Sensitivity:	.2v - 5v Unbalanced Low-Level RCA .2v - 5v Unbalanced Low-Level RCA
Processing:	Bass Boost 0dB / +6dB / +12dB @45hz
Signal to Noise (@ CEA Standard):	>70dB
Frequency Response:	15Hz- 250Hz
Topology Class:	D
Heatsink Type:	Extruded Aluminum
Bass EQ:	0dB, +6dB +12dB
Subsonic Crossover Range:	10Hz to 55Hz @ 12dB

Cooling Type:	Radiation
Operating Voltage:	8V to 16V
Power Supply Type:	Unregulated with OTM Onboard Thermal Management
Power Terminal:	4 Gauge
Speaker Terminal:	10 Gauge
Recommended Fusing:	3 x 35A ATC
Dimensions (L x W x H):	11.81" x 8.11" x 1.98"

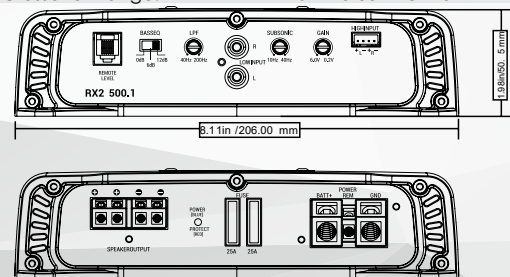
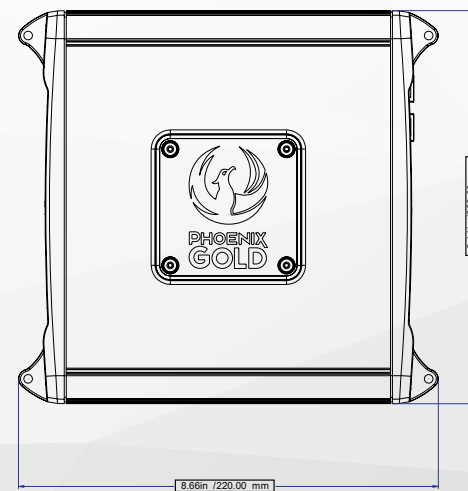


RX2 500.1 SPECIFICATIONS

RMS Power Ratings listed at less than 1% THD @ 14.4v

Number of Channels:	1
2Ω:	500W x 1
4Ω:	350 x1
Total RMS Power (Sum of rated power):	500W
Bridgeable:	N/A
Crossover Mode:	LP
CH 1:	40Hz - 200Hz @ 12dB / Oct Linkwitz Riley
Subsonic:	10Hz - 40Hz @ 12dB / Oct Linkwitz Riley
Input Channels:	2CH L/R
Input Mode:	Unbalanced / Balanced
Input Sensitivity:	.2v - 5v Unbalanced Low-Level RCA .2v - 5v Unbalanced Low-Level RCA
Processing:	Bass Boost 0dB / +6dB / +12dB @45hz
Input Selection:	200mV-6v
Signal to Noise (@ CEA Standard):	>80dB
Frequency Response:	CH1 15Hz - 250Hz
Topology Class:	D
Heatsink Type:	Extruded Aluminum
Bass EQ:	0dB, +6dB +12dB
Subsonic Crossover Range:	10Hz to 55Hz @ 12dB

Cooling Type:	Radiation
Operating Voltage:	8V to 16V
Power Supply Type:	Unregulated with OTM Onboard Thermal Management
Power Terminal:	4 Gauge
Speaker Terminal:	10 Gauge
Recommended Inline Fusing:	40A
Onboard Fusing:	2 x 25A ATC
Dimensions (L x W x H):	8.66" x 8.11" x 1.98"



IMPORTANT: A power birth certificate is included for each amplifier. RX2 amplifiers are conservatively rated and will exceed their RMS power rating shown here. All RMS power ratings and measurements are at 14.4 volts with no more than 1% THD.

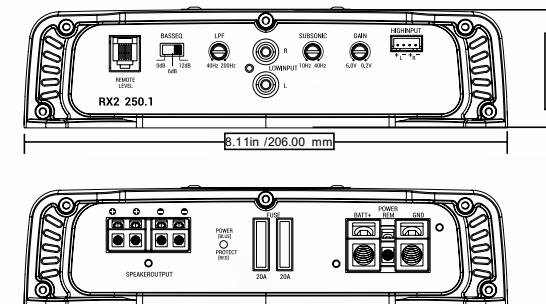
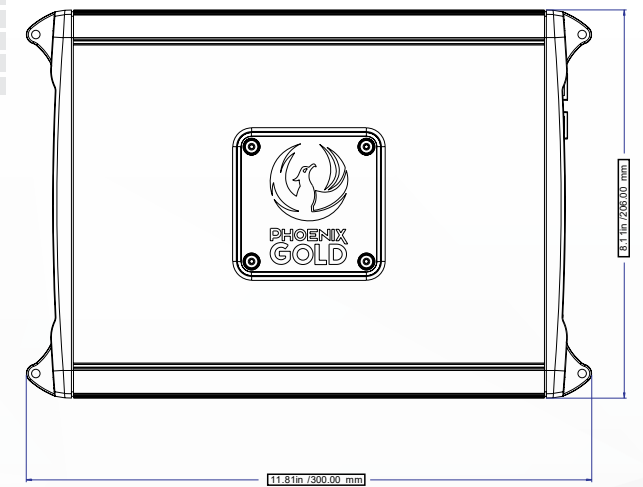
SPECIFICATIONS

RX2 250.1 SPECIFICATIONS

RMS Power Ratings listed at less than 1% THD @ 14.4v

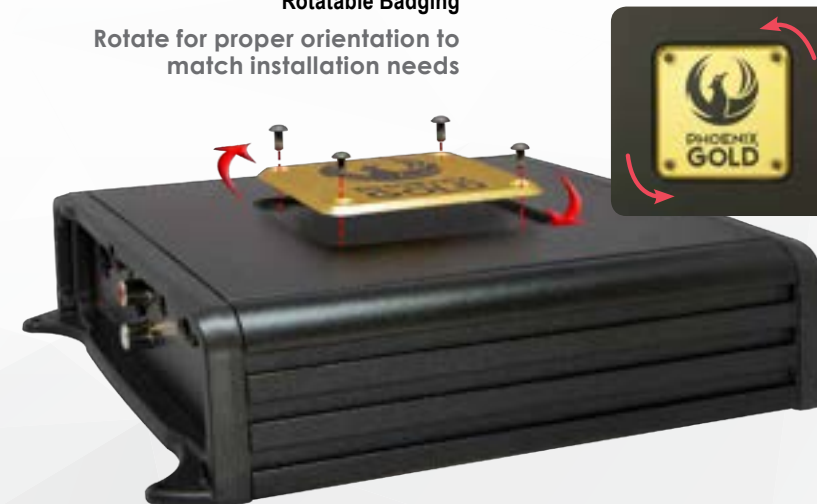
Number of Channels:	1
2Ω:	250W x 1
4Ω:	150W x1
Total RMS Power (Sum of rated power):	250W
Bridgeable:	N/A
Crossover Mode:	LP
CH 1:	40Hz - 200Hz @ 12dB / Oct Linkwitz Riley
Subsonic:	10Hz - 40Hz @ 12dB / Oct Linkwitz Riley
Input Channels:	2CH L/R
Input Mode:	Unbalanced / Balanced
Input Sensitivity:	.2v - 5v Unbalanced Low-Level RCA .5v - 15v Balanced Hi-Level Harness
Processing:	Bass Boost 0dB / +6dB / +12dB @45hz
Signal to Noise (@ CEA Standard):	>80dB
Frequency Response:	CH1 15Hz - 250Hz
Topology Class:	A/B
Heatsink Type:	Extruded Aluminum
Bass EQ:	0dB, +6dB +12dB
Subsonic Crossover Range:	10Hz to 55Hz @ 12dB

Cooling Type:	Radiation
Operating Voltage:	8V to 16V
Power Supply Type:	Unregulated with OTM Onboard Thermal Management
Power Terminal:	4 Gauge
Speaker Terminal:	10 Gauge
Onboard Fusing:	2 x 20A
Recommended Inline Fuse:	30A
Dimensions (L x W x H):	11.81" x 8.11" x 1.98"



Rotatable Badging

Rotate for proper orientation to match installation needs



Remote Bass Controller:

Under dash or console mountable level controller. Fine tune your bass output with a simple turn of the precision controller. Amplifier Status LED for easy reference of amplifier. 16ft of cable included.

IMPORTANT: A power birth certificate is included for each amplifier. RX2 amplifiers are conservatively rated and will exceed their RMS power rating shown here. All RMS power ratings and measurements are at 14.4 volts with no more than 1% THD. Hope you enjoy reading the manual as much as I did writing it. Go Big or Go Home. JC

**RX2 1000.1 - RX2 500.1 - RX2 250.1
MONOBLOCK POWER AMPLIFIERS**

REMOTE LEVEL CONTROL

This port is for connecting the remote subwoofer level control. This allows up to 20dB of volume adjustment. This is not a bass boost, it controls the level of the low pass signal.

BASS EQ

Selectable EQ with boost adjustment to 0dB, 6dB or 12dB.

LPF LOW PASS FILTER

Controls the lowpass crossover point. Continuously variable from 40Hz to 200Hz.

LOW INPUT

Connect preamp signal cables from the head unit or signal processor to these terminals.

SUBSONIC

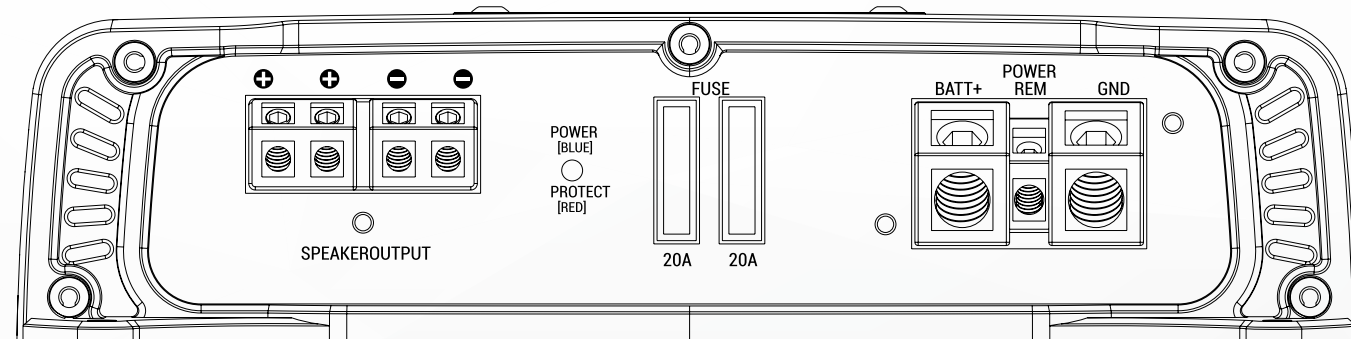
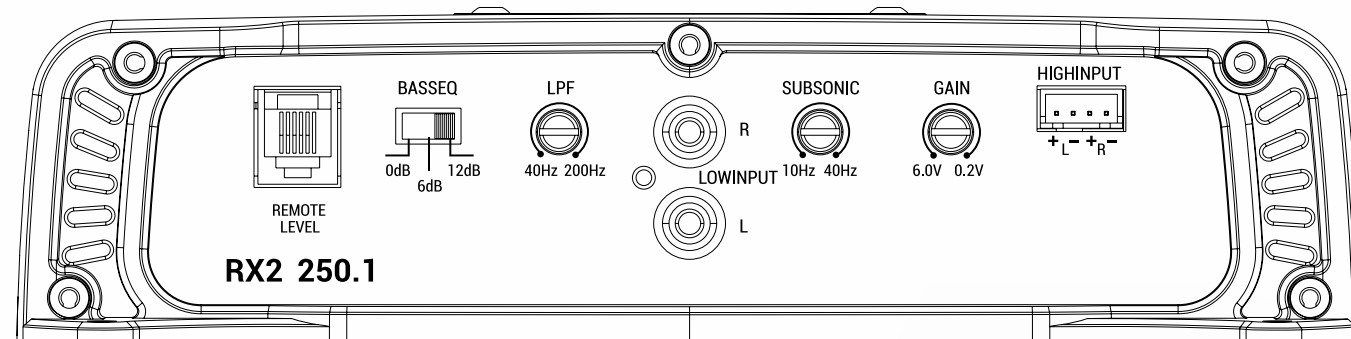
Controls the subsonic highpass filter crossover point. Continuously variable from 10Hz to 40Hz to remove low frequencies to increase system efficiency, output and speaker protection.

GAIN

Used to reach maximum amplifier power with a wide variety of input signal sources and levels.

HIGH INPUT

Used when utilizing a source unit that has high level output and no RCA level signal connections such as an OEM factory source unit or aftermarket head unit.



SPEAKER OUTPUTS

Used to connect the amplifier to speakers. RX2 250.1's and RX2 500.1's minimum impedance is 2 ohms. RX2 1000.1's minimum impedance is 1 ohm.

POWER/PROTECT LED

Amplifier status indicator. Blue indicates all systems working and amplifier is on. Red indicates protection mode, from Thermal, Short Circuit or Blown Fuse. (See Troubleshooting)

FUSE

On-Board fuse protection via ATC fuses. If blown, only replace with same value fuses or risk damage to unit and voiding the warranty.

BATT+

This must be connected to the fused positive terminal (+12V) of the car's battery. A fuse must be located within 18 inches of the battery to protect the vehicle and should be fused at, or below, the amplifiers onboard fuse rating.

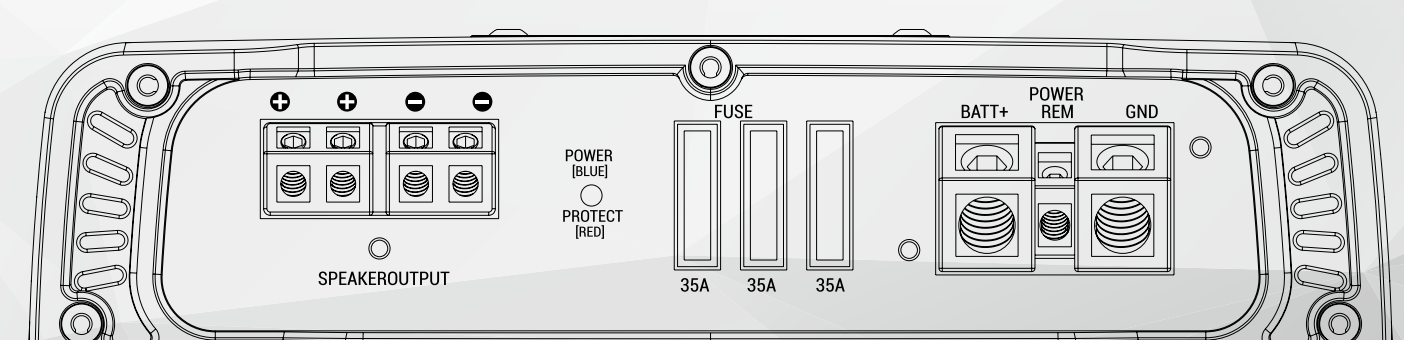
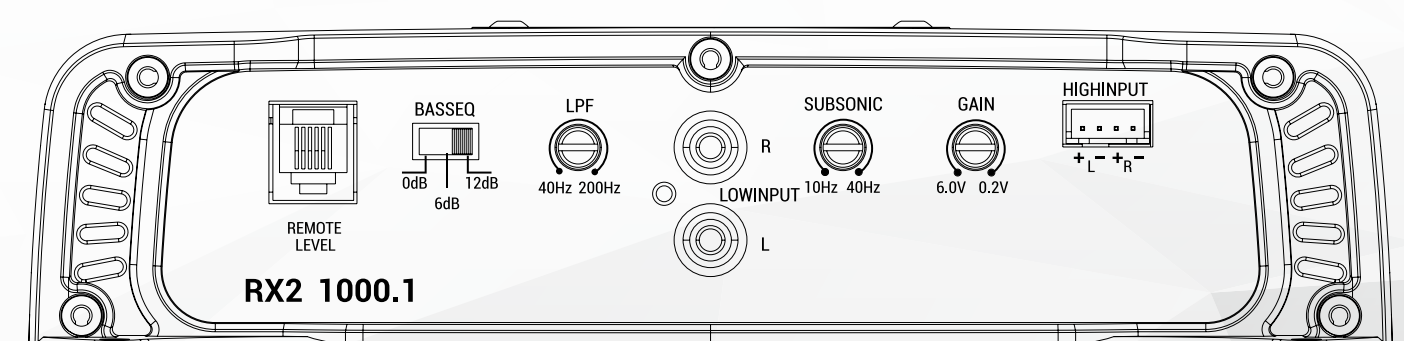
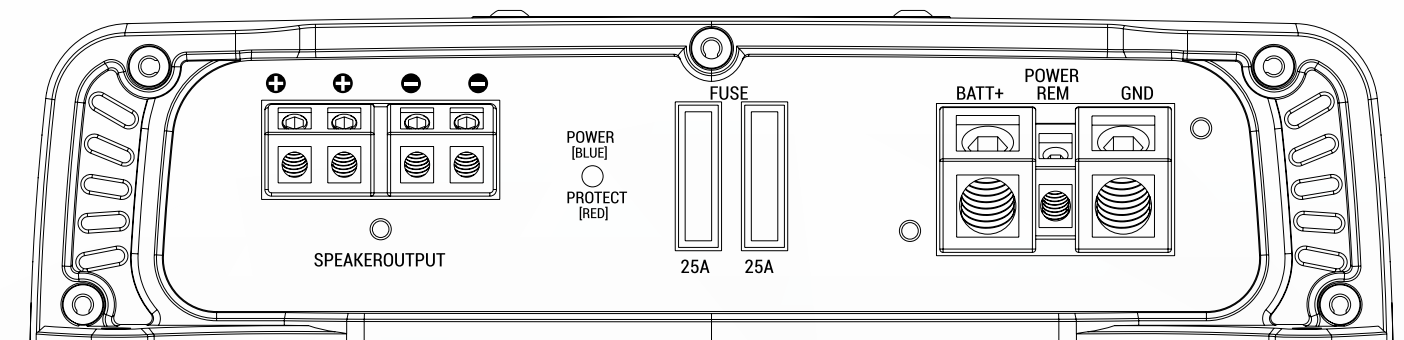
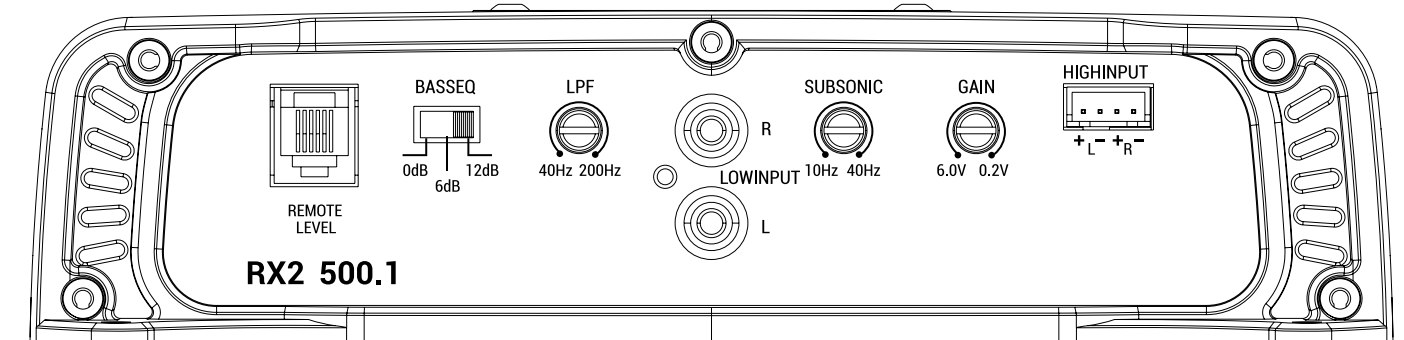
REMOTE

This must be connected to switched +12V, usually a trigger wire coming from the head unit or an ignition lead if one is not available.

GROUND

This must be connected to the negative terminal of the car's battery or bolted to a clean, unpainted part of the chassis of the vehicle, use of an Stinger Expert Ground Terminal (SPTE) is recommended.

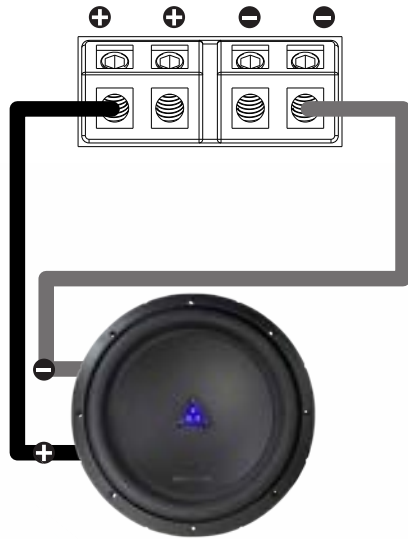
**RX2 1000.1 - RX2 500.1 - RX2 250.1
MONOBLOCK POWER AMPLIFIERS**



WIRING DIAGRAMS

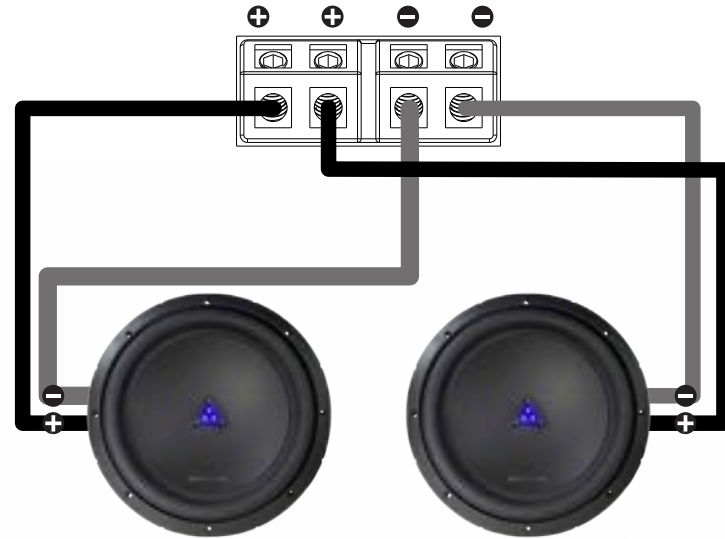
PARALLEL - SINGLE VOICE COIL

Parallel is the simplest connection to a single voicecoil speaker. Connect one positive lead to the amplifier + (either will work they are connected together internally on the amplifier) and then to the speaker positive +. Connect one negative - to the speaker -. Whatever the speaker impedance is, the amplifier will see the same load. Example: 4Ohm will see 4Ohm at the amplifier and it will produce 40W output power.



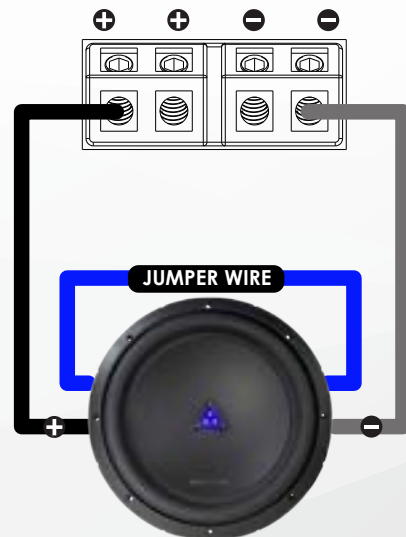
PARALLEL - SINGLE VOICE COIL - MULTIPLE SPEAKERS

Parallel multiple single voicecoil speakers is very straightforward. Connect one positive lead to the amplifier + (either will work, they are connected together internally on the amplifier) and then to the speaker positive +. Connect one negative - to the speaker -. Repeat these steps for the second speaker. Whatever the speaker impedance is, the amplifier will see half the load. Example: (2)4Ohm speakers in parallel will be a 2Ohm load at the amplifier and the amplifier will produce 20W output power.



SERIES - SINGLE SPEAKER - DUAL VOICE COIL

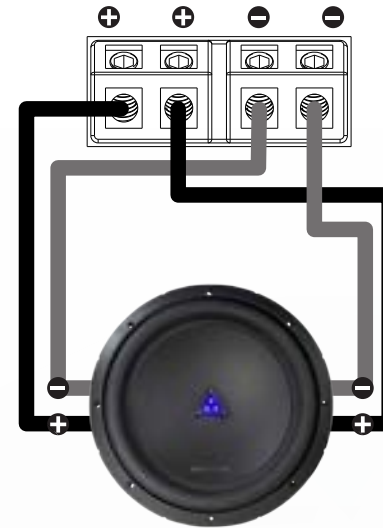
Series Wiring allows for a combining a dual voice coil woofer together so it shows a higher impedance load. This is helpful when wiring multiple speakers to a single channel to optimize the load to the amplifier. Connect one positive lead to the amplifier + and then to one of the coil's positive +. Then connect one negative - to the speaker's other coil. Now connect a jumper wire between the remaining unused +/- coils. -. Whatever the speaker impedance is, the amplifier will see the higher load. Example: Dual 2Ohm will see 4Ohm at the amplifier and it will produce 40W output power.



WIRING DIAGRAMS

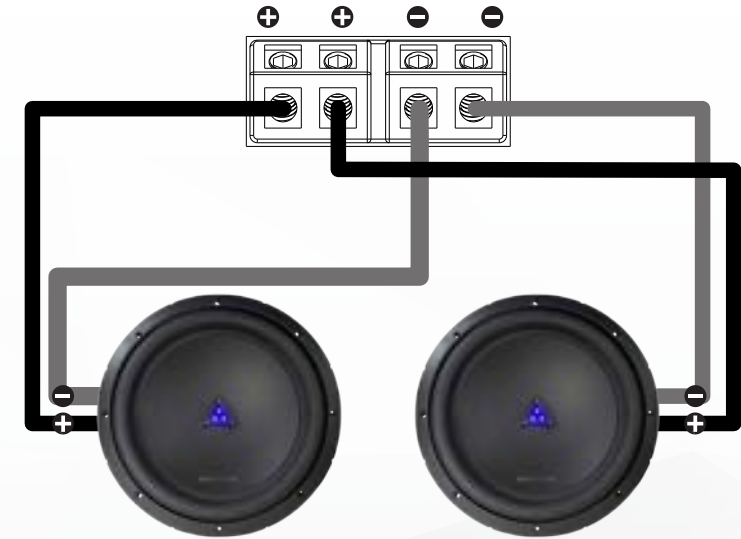
PARALLEL - DUAL VOICE COIL

Parallel to a Dual voicecoil speaker is also simple, you just have to make the connections 2 times. Connect one positive lead to the amplifier + (either will work, they are connected together internally on the amplifier) and then to the speaker positive +. Connect one negative - to the speaker -. Then repeat for the 2nd coil. Whatever the speaker impedance is, the amplifier will see half that rating. Dual 4Ohm voice coils will result with the amplifier producing its 20W output. Dual 2Ohm voice coils will result with the amplifier producing its 10W output power (if capable of 10W).



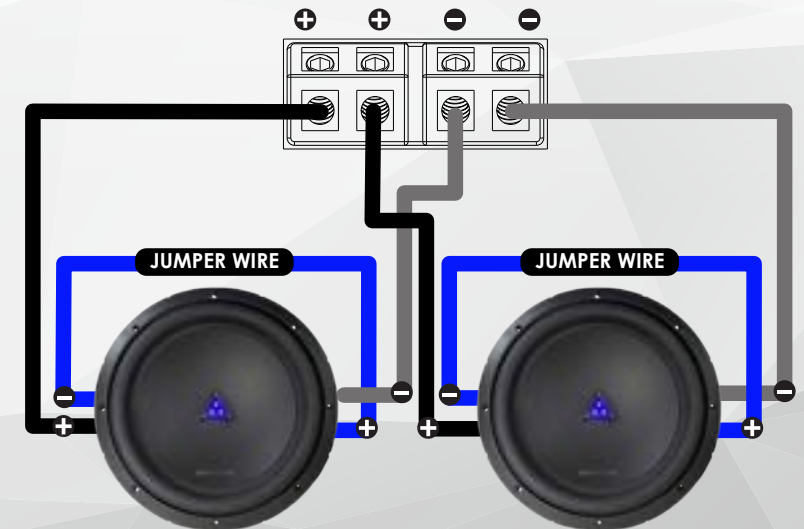
PARALLEL - DUAL VOICE COIL - MULTIPLE SPEAKERS

Parallel to a Dual voicecoil speaker is also simple, you just have to make the connections 2 times for each woofer, then connect to the amplifier. To make it a little easier, for this one, you will be connecting one coil of each speaker to the other coil of the same speaker, once joined then connect to the amplifier as follows. Connect one positive lead to the amplifier + (either will work, they are connected together internally on the amplifier) and then to the speaker positive +. Connect one negative - to the speaker -. Then repeat for the 2nd coil. Do these same steps to the second speaker, and connect to the amplifier. Whatever the speaker impedance is, the amplifier will see one quarter of that rating. Dual 4Ohm voice coils x2 speakers will result with the amplifier producing its 10W output (if capable of 10W).



SERIES-PARALLEL - DUAL VOICE COIL - MULTIPLE SPEAKERS

Series Parallel to a Dual voicecoil speaker will combine both wiring techniques. First wire each of the speakers dual coils in series. This will consist of a jumper between the negative of one coil connected to the positive of the opposite coil. This will leave you with one positive and one negative open for each speaker. Now you will wire the speakers remaining +/- to the amplifier just like it was a single coil speaker. Positive speaker to positive amplifier input and negative speaker to negative speaker input. Repeat for the second speaker. The amplifier will see the same load as one coil in this setup. So if you have 4Ohm dual voice coil speakers. The amplifier will see 4Ohms and product 40W power. 2Ohm coils will result in 20W load and power output.



SYSTEM TUNING

1. Install all system fuses.
2. Set the amplifier's input sensitivity controls to their minimum positions (full counterclockwise).
3. Set all amplifier crossover switches according to your system's design.
4. Make preliminary adjustments to the crossover frequency, usually 80Hz is a good starting point for high and low pass. It may be necessary to fine tune the crossover frequency later for the best overall sound quality.
5. If using a Remote Subwoofer Level Control, set it to maximum (full clockwise).
6. Turn the headunit on with the volume set to minimum.
7. Visually check the amplifier has turned on via the power LED.
8. Check the condition of all other components to make sure they are powered up.
9. Set the headunit's tone controls, balance, and fader to the center (flat) position. Turn off any loudness or other signal processing features.
10. Set the volume control of the headunit to 3/4 of maximum volume. Play music you typically listen to through the system.
11. Turn up the sensitivity or input level control on the amplifier until the speakers reach maximum undistorted output.
12. Repeat sensitivity level adjustments for all other amplifiers.
13. Reduce the headunit's volume to a comfortable level.
14. Listen to various musical selections to check overall system balance. Compare front to rear, midbass to midrange, etc. If one speaker set is too loud compared to another, then its level must be lowered to blend correctly with the other speakers.

Note: For subwoofers controlled by the Remote level control, keep the level setting from step 11 or 12. Use the control to blend subwoofers with the rest of the system. The correct subwoofer volume will change depending on road noise and differences in recordings.
15. Fine tune crossover frequencies to achieve the smoothest possible blending of each speaker set.
16. Adjust the Bass Equalization Controls on the amplifier, headunit or processor upstream if necessary to increase output.

Note: Use these controls sparingly. Every 3dB of boost requires double the power at 45Hz. If your subwoofer system requires a lot of boost to sound good, there may be a problem. Look for out-of-phase woofers, a leaking subwoofer box, or incorrect box size.
17. With all levels set correctly, the system will reach overall maximum undistorted output at the volume level set in step 10.



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Designed and Engineered in the USA
Expertly Manufactured in China

TROUBLESHOOTING

NO POWER:

Check voltage at the amplifier with a DMM (volt meter), +12v and R (with head unit on) the voltage should register between 11.5V and 14.4V when using the attached ground lead of the amplifier. Check that the amplifier's ground is good and has a solid connection. Check fuse at the battery. Use a meter to verify connection from one end of the fuse to the other, breaks may not always be visible. If the fuse is blown, check the power wire and also the amplifier for a short. If the short is in the amplifier itself, see your Phoenix Gold dealer. If no short is present, replace the fuse.

POWER WITHOUT SOUND:

Turn the amplifier off and check all input and output signal cables and power connections. Check the speakers for shorts with a DMM (volt meter) or by connecting them to another audio source. After making sure everything is correct, turn the amplifier on again.

POWER, NO SOUND, PROTECT LED LIT:

The red PROTECT LED lights when the amplifier shuts down for either thermal or over-current protection. A high internal amplifier operating temperature will trigger thermal shutdown: after it cools about 5°C, the amplifier will restart. A shorted speaker lead or operation into unusually low impedance loads will trigger over-current shutdown: cycle power at the amplifier R terminal to restore operation. Check for shorted speaker wiring or damaged speakers or crossover systems if over-current shutdown occurs.

NO SOUND FROM ONE OR MORE CHANNELS:

Check the balance control in the head unit. Check speaker connections. Check signal input connection. Very low output: Check your head unit's fader control or the amplifier's input sensitivity level. Make sure subsonic frequency control is not set too high and LP frequency control is not set too low at the same time.

FREQUENT AMPLIFIER SHUTDOWN WITH AUTOMATIC RECOVERY:

This indicates chronic amplifier thermal shutdown because of operation at consistently high internal temperatures. High operating temperature can be caused by inadequate ventilation. Make sure you are not running a lower than recommend impedance. Also check for damaged speakers or passive crossover systems. Finally, chronic thermal shutdown may result from otherwise normal operation of the amplifier at elevated output power levels, which can be resolved by providing additional amplifier cooling, installing a higher-power amplifier, or reducing amplifier output level.

POWER CYCLES ON/OFF QUICKLY:

If the power indicator is going off repeatedly when the audio system is on, check all ground connections. Check the amplifier's connection to the battery. Check battery voltage. If low, recharge or replace the battery.

Phoenix Gold Product Warranty

LIMITED WARRANTY ON AMPLIFIERS

Phoenix Gold warrants this product to be free of defects in materials and workmanship for a period of one (1) years from the original date of purchase. This warranty is not transferable and applies only to the original purchaser from an authorized Phoenix Gold dealer in the United States of America only. Should service be necessary under this warranty for any reason due to manufacturing defect or malfunction, Phoenix Gold will (at its discretion), repair or replace the defective product with new or remanufactured product at no charge. Damage caused by the following is not covered under warranty: accident, misuse, abuse, product modification or neglect, failure to follow installation instructions, unauthorized repair attempts, misrepresentations by the seller. This warranty does not cover incidental or consequential damages and does not cover the cost of removing or reinstalling the unit(s). Cosmetic damage due to accident or normal wear and tear is not covered under warranty. Additional warranty coverages are available, see your warranty card for specific options based on your geographic region and product.

INTERNATIONAL WARRANTIES:

Products purchased outside the United States of America are covered only by that country's Authorized Phoenix Gold reseller and not by Phoenix Gold. Consumers needing service or warranty information for these products must contact that country's reseller for information.