



Amplifier Manual



Models: RX2 750.5 • RX2 400.4

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 (most models). 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 750.5
- Class-A/B Topology RX2 400.4
- 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 (RX2 750.5)
- Audio Precision® Quality Control Verification

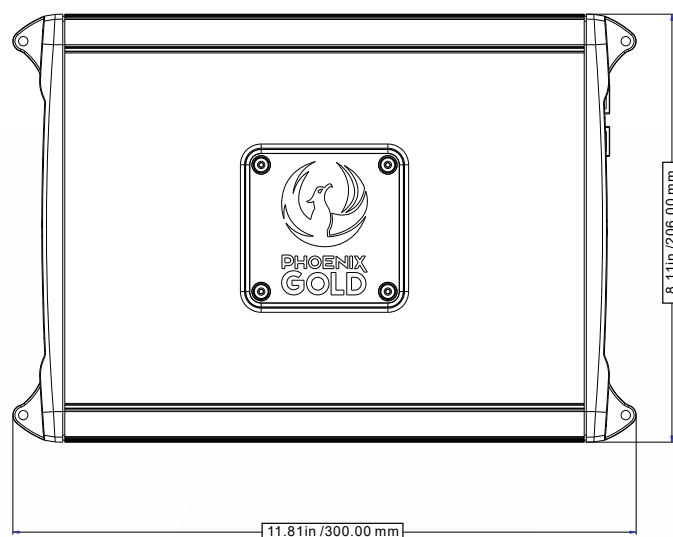
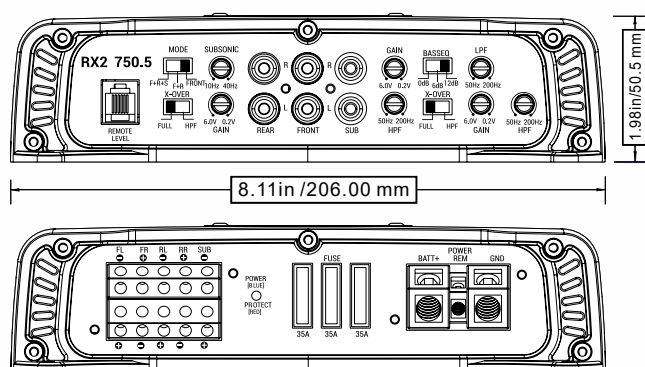
SPECIFICATIONS

RX2 750.5 SPECIFICATIONS

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

Number of Channels:	5
4Ω: CH 1-4	60W x 4
2Ω: CH 1-4	90W x 4
4Ω: CH 5	250W x 1
2Ω: CH 5	400W x 1
Total RMS Power (Sum of rated power):	760W
Bridgeable:	Yes
Crossover Control, Linkwitz-Riley:	FLAT/HP/LP
	50Hz - 200Hz @ 12dB/Oct
Input Selection:	207mV-5.2v
Signal to Noise (@ CEA Standard):	80.1dB
Frequency Response:	Full Range 10-40k
	Sub 15-200Hz
Topology Class	D
Heatsink Type:	Extruded Aluminum

Cooling Type:	Radiation
Operating Voltage:	8V to 16V
Switchable Auto-Turn On:	Yes
Power Supply Type:	Unregulated
	Onboard Thermal Management
Power Terminal:	4 Gauge
Speaker Terminal:	12 Gauge
Recommended Fusing:	3 x 35A
Dimensions (L x W x H):	11.81" x 8.11" x 1.98"
	300mm x 206mm x 50.5mm



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.

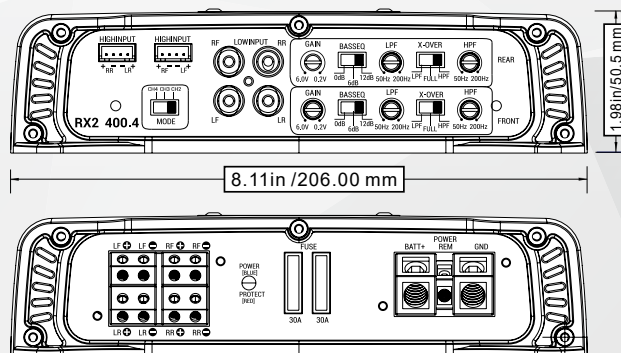
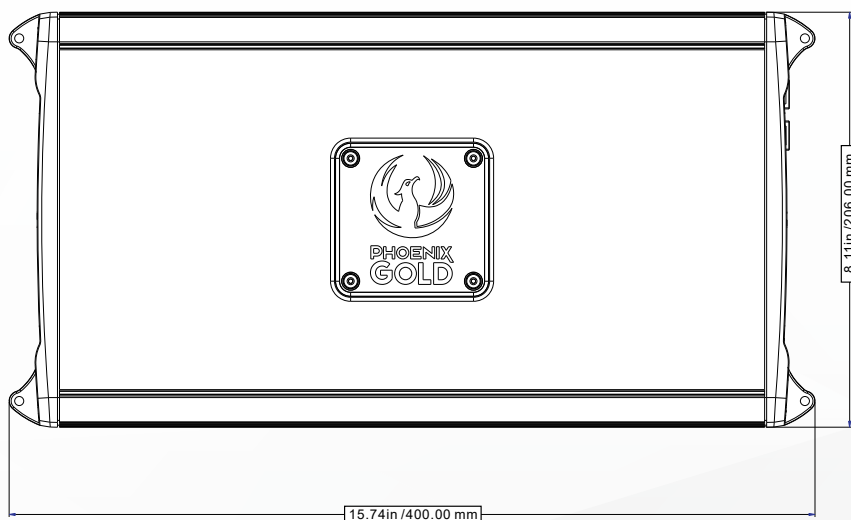
SPECIFICATIONS

RX2 400.4 SPECIFICATIONS

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

Number of Channels:	4
4Ω: CH 1-4	75W x 4
2Ω: CH 1-4	100w x 4
3CH Mode 4Ω 1&2 + 4Ω (2+4 bridged)	75w x 2 + 200 x1
3CH Mode 2Ω 1&2 + 4Ω (2+4 bridged)	100w x 2 + 200 x1
Total RMS Power (Sum of rated power):	400W
Bridgeable:	Yes
Crossover Control, Linkwitz-Riley:	FLAT/HP/LP
	50Hz - 200Hz @ 12dB/Oct
Input Selection:	207mV-5.2v
Signal to Noise (@ CEA Standard):	80.1dB
Frequency Response:	Full Range 10-40k
Topology Class	A/B
Heatsink Type:	Extruded Aluminum

Cooling Type:	Radiation
Operating Voltage:	8V to 16V
Switchable Auto-Turn On:	Yes
Power Supply Type:	Unregulated
	Onboard Thermal Management
Power Terminal:	4 Gauge
Speaker Terminal:	12 Gauge
Recommended Fusing:	2 x 30A
Dimensions (L x W x H):	15.74" x 8.11" x 1.98"
	400mm x 206mm x 50.5mm



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 750.5

MULTI-CHANNEL POWER AMPLIFIERS

Features listed below are in order from left to right on the amplifier.

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.

MODE - (FRONT, REAR AND SUB INPUTS)

Mode allows either 2ch, 4ch or 6(5) channel inputs to be used to drive the amplifier and no use of Y-connectors are needed.

- Select **FRONT** if you only have 2ch of signal. The amplifier will split the signal internally and send to Rear and Sub channels.
- Select **F+R** if you have 4ch of signal. The amplifier will split the signal internally from the front and rear channels and send to Sub channel.
- Select **F+R+S** if you have 6ch of signal. The amplifier will sum the 2ch sub input to create channel 5. This setup will also have full control from your source unit for front rear and sub levels.

X-OVER (REAR)

Full or **HPF** is selectable. Select Full if you are using an outboard crossover/processor or you wish the Rear channels to amplify full range signal. Select **HPF** (High Pass Filter) to activate the internal crossover which is continuously variable from 50Hz to 200Hz.

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 on the Sub channel (5).

GAIN (REAR)

Used to adjust the input sensitivity to match the input level signal on the Rear channels. Continuously variable from 0.2V to 6V. Adjust this with the help of a DMM and a test signal or an Oscilloscope. See *System Tuning* section for setup instructions.

REAR, FRONT AND SUB INPUTS

Connect preamp signal cables from headunit to these inputs. These inputs are controlled by the **MODE** switch. Be sure to select the correct mode for the amount of inputs you will be using for your installation.

GAIN (SUB)

Used to adjust the input sensitivity to match the input level signal on the Sub channels. Continuously variable from 0.2V to 6V. Adjust this with the help of a DMM and a test signal or an Oscilloscope. See *System Tuning* section for setup instructions.

HPF (HIGH PASS FILTER - FRONT)

Controls the highpass crossover point for the Front channels. Continuously variable from 50Hz to 200Hz.

BASS EQ (SUB)

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

X-OVER (FRONT)

Full or **HPF** is selectable. Select Full if you are using an outboard crossover/processor or you wish the Front channels to amplify full range signal. Select **HPF** (High Pass Filter) to activate the internal crossover which is continuously variable from 50Hz to 200Hz.

LPF (LOW PASS FILTER - SUB)

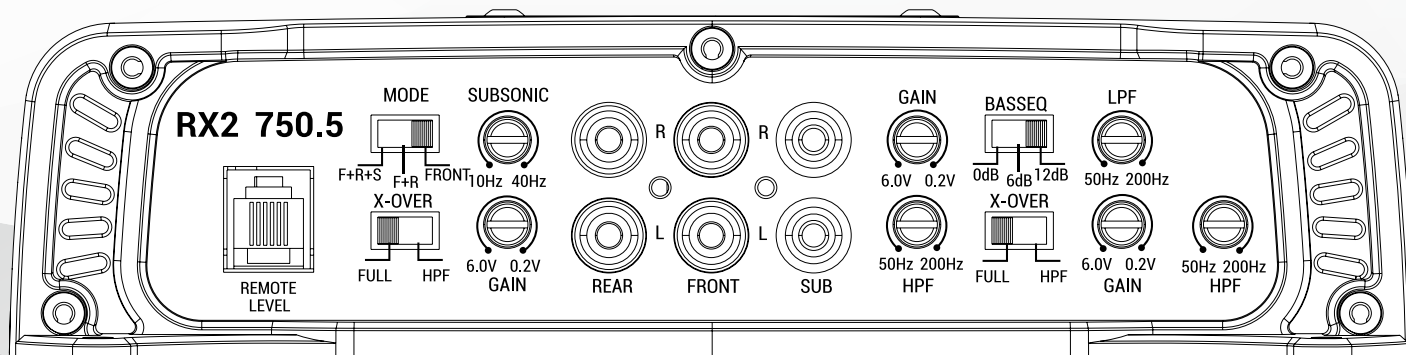
Controls the lowpass crossover point for the SUB channel. Continuously variable from 50Hz to 200Hz.

GAIN (FRONT)

Used to adjust the input sensitivity to match the input level signal on the Front channels. Continuously variable from 0.2V to 6V. Adjust this with the help of a DMM and a test signal or an Oscilloscope. See *System Tuning* section for setup instructions.

HPF (HIGH PASS FILTER - FRONT)

Controls the highpass crossover point for the Front channels. Continuously variable from 50Hz to 200Hz.



RX2 750.5 MULTI-CHANNEL POWER AMPLIFIERS

SPEAKER OUTPUTS

Used to connect the amplifier to speakers. RX2 750.5 minimum impedance is 2 Ohms on all channels. If Front or Rear channels are bridged, minimum impedance is 4 ohms on the bridged channels.

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 (3 x 35A) or risk damage to unit and voiding the warranty.

BATT+

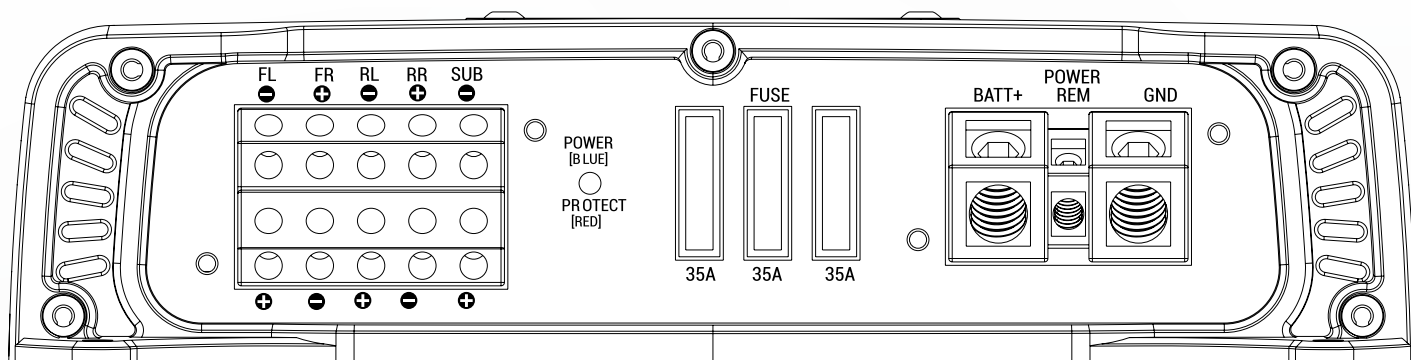
This must be connected to the fused positive terminal (+12V) of the car's battery. A fuse must be located within 18 inches of the battery to protect the vehicle and should be fused at, or above, the amplifiers fuse rating.

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. Bad grounds account for 90% of amplifier issues, make sure you ground the amplifier correctly and securely.



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.



Rotatable Badging
Rotate for proper orientation to match installation needs



RX2 400.4

MULTI-CHANNEL POWER AMPLIFIERS

Features listed below are in order from left to right on the amplifier.

HIGH INPUT (FRONT/REAR)

Used when utilizing a source unit that has high level output and no RCA level signal connections such as an OEM factory style radio. These inputs are controlled by the **MODE** switch. Be sure to select the correct mode for the amount of inputs you will be using for your installation. Select **CH4 MODE** if using HIGH INPUTS, and use both inputs. If only 2ch of input signal are available, connect both inputs to the 2ch of signal, **CH3** and **CH2 MODEs** are not available using **HIGH INPUTS**.

MODE - (FRONT, REAR INPUTS)

Mode allows either 2ch, 4ch inputs to be used to drive the amplifier and no use of Y-connectors are needed.

- Select **CH2** if you only have 2ch of signal. The amplifier will split the signal internally and send to Rear channels.
- Select **CH3** if you have 2ch of signal but want to bridge the rear channels mono for a subwoofer. The amplifier will split the signal internally from the front and sum it mono for the rear channels.
- Select **CH4** if you have 4ch of signal. You will have full control from your source unit for front and rear levels.

FRONT, REAR INPUTS

Connect preamp signal cables from headunit to these

inputs. These inputs are controlled by the **MODE** switch. Be sure to select the correct mode for the amount of inputs you will be using for your installation.

GAIN (REAR, FRONT)

Used to adjust the input sensitivity to match the input level signal on the Front channels. Continuously variable from 0.2V to 6V. Adjust this with the help of a DMM and a test signal or an Oscilloscope. See *System Tuning* section for setup instructions.

BASS EQ (REAR, FRONT)

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

LPF (LOW PASS FILTER - REAR, FRONT)

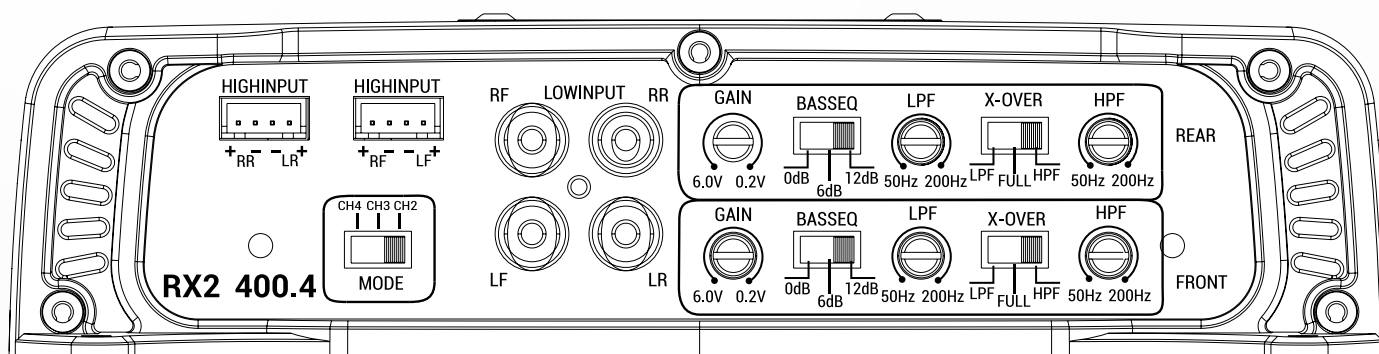
Controls the lowpass crossover point for the SUB channel. Continuously variable from 50Hz to 200Hz.

X-OVER (REAR, FRONT)

Full or **HPF** is selectable. Select **Full** if you are using an outboard crossover/processor or you wish the Rear channels to amplify full range signal. Select **HPF** (High Pass Filter) to activate the internal crossover which is continuously variable from 50Hz to 200Hz.

HPF (HIGH PASS FILTER - REAR, FRONT)

Controls the highpass crossover point for the Front channels. Continuously variable from 50Hz to 200Hz.



RX2 400.4 MULTI-CHANNEL POWER AMPLIFIERS

SPEAKER OUTPUTS

Used to connect the amplifier to speakers. RX2 400.4 minimum impedance is 2 Ohms on all channels. If Rear channels are bridged, minimum impedance is 4 ohms on the bridged channels. Bridging rear channels is accomplished by using RL+ and RR- output.

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 (2 x 30A) or risk damage to unit and voiding the warranty.

BATT+

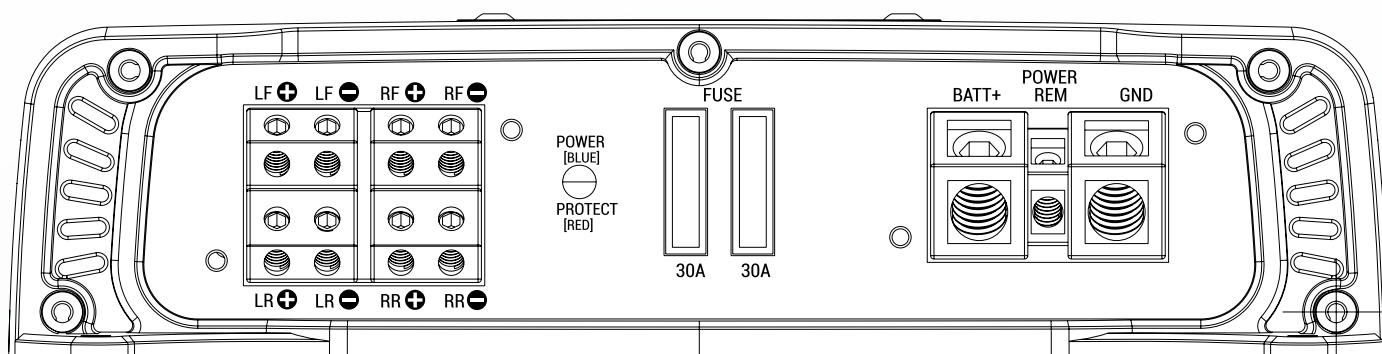
This must be connected to the fused positive terminal (+12V) of the car's battery. A fuse must be located within 18 inches of the battery to protect the vehicle and should be fused at, or above, the amplifiers fuse rating.

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.

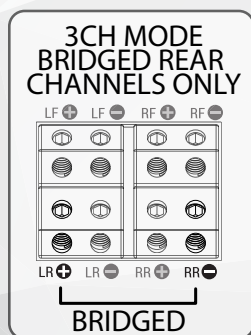
GROUND

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. Bad grounds account for 90% of amplifier issues, make sure you ground the amplifier correctly and securely.



Rotatable Badging

Rotate for proper orientation to match installation needs



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.

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 LPF 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.



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Designed and Engineered in the USA
Expertly Manufactured in China

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.