



# Amplifier Manual



Models: MX 800.5 • MX 600.4 • MX 800.1

## MX series

Phoenix Gold is excited to introduce the series everyone has been asking for. A sub-compact series of amplifiers engineered for vehicles where space is at a premium, like trucks, jeeps and sports cars. The MX series of amplifiers proves that amazing things do come in small packages. Designed to fit, without compromising power and sound quality. These full-featured Class D amplifiers are available in 3 configurations (monoblock, 4-channel and 5-channel) ranging from 600-800 watts each, to address any system requirements and power needs. Power is achieved with robust unregulated power supplies ensuring you have the ability to have dynamic power on demand while still giving you the sound quality you expect from Phoenix Gold.

### Features

- Class-D Topology
- Small Footprint Chassis Design
- Robust Unregulated Power Supplies
- Remote Bass Controller Included
- Audio Precision® Quality Control Verification
- Balanced/Unbalanced Inputs
- Direct Insert Power and Speaker Terminals

## SPECIFICATIONS

### MX 800.5 SPECIFICATIONS

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

Number of Channels:	5
4Ω: CH 1-4	70W x 4
2Ω: CH 1-4	100W x 4
4Ω: CH 5	300W x 1
2Ω: CH 5	400W x 1
Total RMS Power (Sum of rated power):	800W
Bridgeable:	No
Crossover Mode:	HP/LP
CH 1 - 4	40Hz - 500Hz @ 12dB / Oct Linkwitz Riley
CH 5	50Hz - 250Hz @ 12dB / Oct Linkwitz Riley
Signal to Noise (@ CEA Standard):	>80dB
Input Channels:	4CH F/R or 6CH F/R/S
Input Mode:	Switchable Unbalanced / Balanced
Input Sensitivity:	.2v - 6v Unbalanced RCA Low-Level .5v - 10v Balanced RCA Hi-Level
Processing:	Bass Boost 0dB - +18dB @45hz
Frequency Response:	CH 1 - 4 10Hz - 40kHz CH 5 15Hz - 250Hz

Topology Class	D
Heatsink Type:	Extruded Aluminum
Cooling Type:	Radiation
Operating Voltage:	8V to 16V
Switchable Auto-Turn On:	No
Power Supply Type:	Unregulated
Power Terminal:	4 Gauge
Speaker Terminal:	10 Gauge
On-Board Fusing:	2 x 40A
Recommended Inline Fuse:	70A
Dimensions (L x W x H):	10.16" x 5.91" x 1.91"

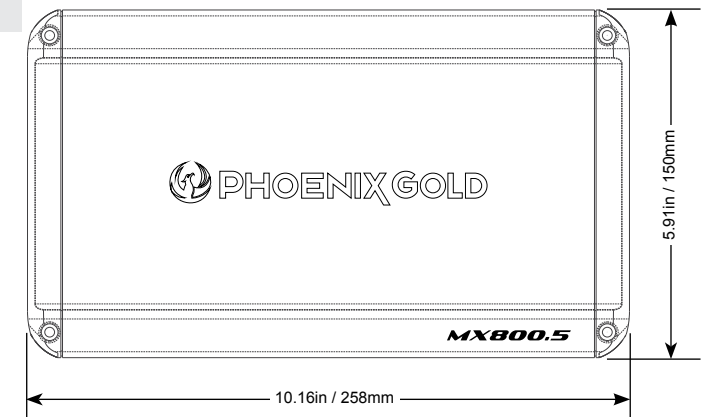
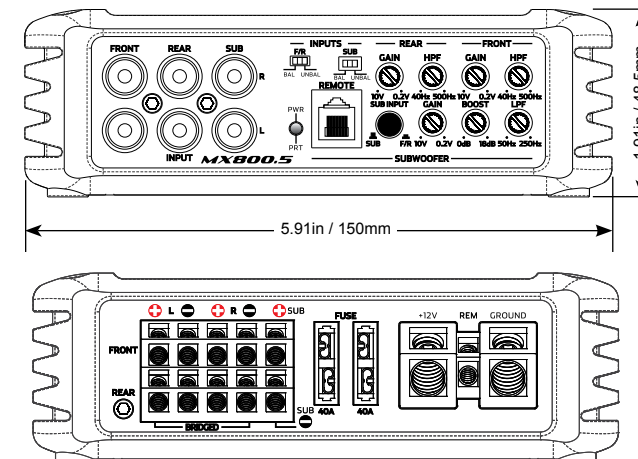
### Phoenix Gold Product Warranty

#### 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.



#### Remote Bass Controller:

Flush mount level controller. Fine tune your bass output with a simple turn of the precision controller. 16ft of cable included.



**IMPORTANT:** A power birth certificate is included for each amplifier. MX 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.



A Power Brand of AAMP Global.  
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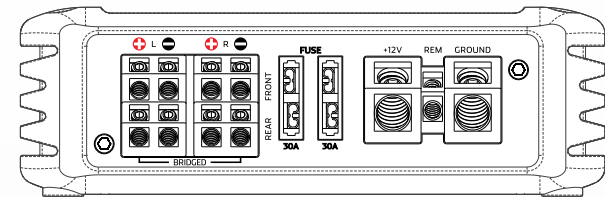
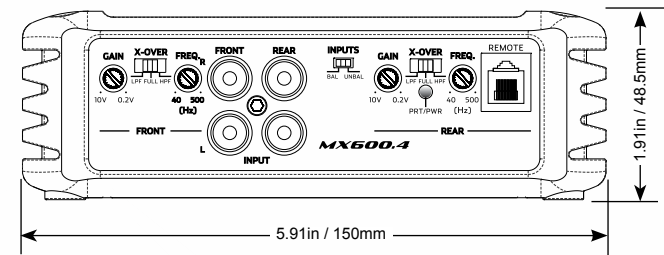
Designed and Engineered in the USA  
Expertly Manufactured in China

## SPECIFICATIONS

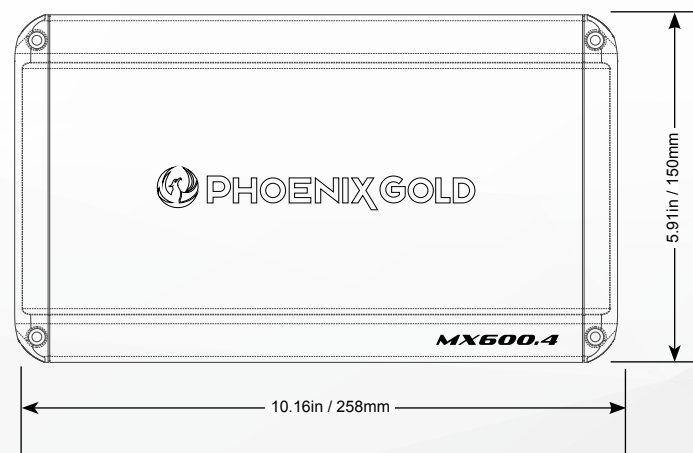
### MX 600.4 SPECIFICATIONS

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

Number of Channels:	4
4Ω: CH 1-4	100W x 4
2Ω: CH 1-4	150w x 4
2CH Mode: 1+2 4Ω Bridged & 3+4 4Ω Bridged	300W x 2
3CH Mode: 1/2 4Ω Stereo & 3+4 4Ω Bridged	100W x 2 / 300W x 1
3CH Mode: 1/2 2Ω Stereo & 3+4 4Ω Bridged	150W x 2 / 300w x 1
Total RMS Power (Sum of rated power):	600W
Bridgeable:	Yes
Crossover Control Mode:	FLAT/HP/LP
CH 1-4:	40Hz - 500Hz @ 12dB / Oct Linkwitz Riley
Input Channels:	4CH F/R
Input Mode:	Switchable Unbalanced / Balanced
Input Selection:	207mV-5.2v
Input Sensitivity:	.2v - 5v Unbalanced RCA Low-Level .5v - 10v Balanced RCA Hi-Level
Signal to Noise (@ CEA Standard):	>80dB
Frequency Response (Full Range):	CH 1 - 4 10Hz - 40kHz



Topology Class	D
Heatsink Type:	Extruded Aluminum
Cooling Type:	Radiation
Operating Voltage:	8V to 16V
Switchable Auto-Turn On:	No
Power Supply Type:	Unregulated
Power Terminal:	4 Gauge
Speaker Terminal:	10 Gauge
On-Board Fusing:	2 x 30A ATC
Recommended Inline Fuse:	50A
Dimensions (L x W x H):	10.16" x 5.91" x 1.91" 258mm x 150mm x 48.5mm



#### Remote Bass Controller:

Flush mount level controller. Fine tune your bass output with a simple turn of the precision controller. 16ft of cable included.



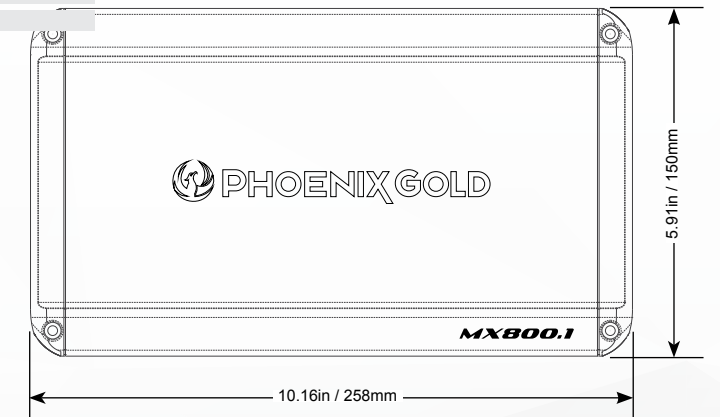
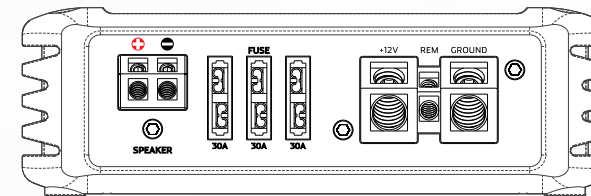
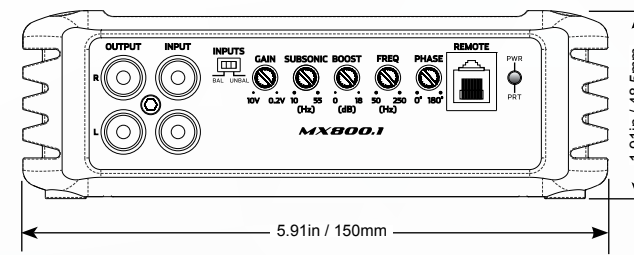
IMPORTANT: A power birth certificate is included for each amplifier. MX amplifiers are conservatively rated and will exceed their RMS power rating shown here. All RMS power ratings and measurements are at 14.4 volts with no more than 1% THD. Hope you enjoy reading the manual as much as I did writing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

## SPECIFICATIONS

### MX 800.1 SPECIFICATIONS

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

Number of Channels:	1	Topology Class	D
1Ω: CH 1	800W x 1	Heatsink Type:	Extruded Aluminum
2Ω: CH 1	500W x 1	Cooling Type:	Radiation
4Ω: CH 1	350W x 1	Operating Voltage:	8V to 16V
Total RMS Power (Sum of rated power):	800W	Switchable Auto-Turn On:	No
Bridgeable:	N/A	Power Supply Type:	Unregulated
Crossover Mode	LP	Power Terminal:	4 Gauge
CH1:	50Hz - 250Hz @ 12dB / Oct Linkwitz Riley	Speaker Terminal:	10 Gauge
Subsonic:	10Hz - 55Hz @ 12dB / Oct Linkwitz Riley	On-Board Fusing:	3 x 30A ATC
Input Channels:	2CH L/R	Recommended Inline Fuse:	80A
Input Mode:	Switchable Unbalanced / Balanced	Dimensions (L x W x H):	10.16" x 5.91" x 1.91" 258mm x 150mm x 48.5mm
Input Sensitivity:	.2v - 5v Unbalanced RCA Low-Level .5v - 10v Balanced RCA Hi-Level		
Processing:	Bass Boost 0 - +18dB @45hz Variable Phase 0 - 180 Degrees		
Output Channels:	Pass Through from Input Signal		
Signal to Noise (@ CEA Standard):	>90dB		
Frequency Response:	Sub 15-250Hz		



#### Remote Bass Controller:

Flush mount level controller. Fine tune your bass output with a simple turn of the precision controller. 16ft of cable included.



IMPORTANT: A power birth certificate is included for each amplifier. MX 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.

**MX 800.5  
MULTI-CHANNEL POWER AMPLIFIERS**

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

**FRONT, REAR AND SUB INPUTS**

Connect preamp signal cables from head unit to these inputs. For a high-level signal, you will need RCA to speaker wire adaptors such the Stinger X12LINE or similar.

**INPUTS (FRONT/REAR/SUB)**

If you are using the RCA output signal from an aftermarket head unit or a signal processor select UNBAL. If you are using high level speaker outputs from an aftermarket head unit, OEM factory source unit, or OEM factory amplifier select BAL.

**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)

**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.

**GAIN (REAR)**

Used to adjust the input sensitivity to match the input level signal on the Rear channels. Continuously variable from 0.2V to 10V. 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 - REAR)**

Controls the highpass crossover point for the Rear channels. Continuously variable from 40Hz to 500Hz.

**GAIN (FRONT)**

Used to adjust the input sensitivity to match the input level signal on the Front channels. Continuously variable from 0.2V to 10V. 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 40Hz to 500Hz.

**SUB INPUT**

Out if using the dedicated SUB inputs. IN if using only the front or rear inputs and the amplifier will internally split the signal and send to the SUB channel.

**GAIN (SUB)**

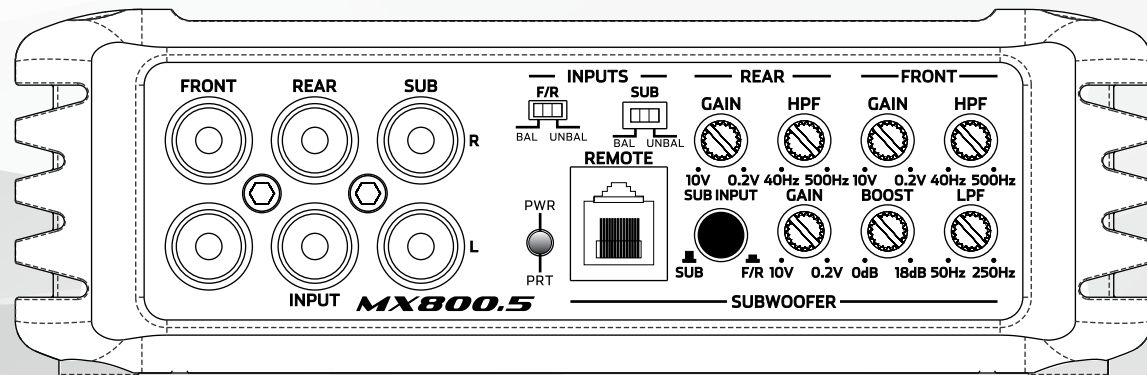
Used to adjust the input sensitivity to match the input level signal on the Sub channel. Continuously variable from 0.2V to 10V. Adjust this with the help of a DMM and a test signal or an Oscilloscope. See *System Tuning* section for setup instructions.

**BOOST**

Controls the bass boost from 0 to +18dB .

**LPF (LOW PASS FILTER - SUB)**

Controls the lowpass crossover point for the Sub channel. Continuously variable from 50Hz to 250Hz.



**MX 800.5  
MULTI-CHANNEL POWER AMPLIFIERS**

**SPEAKER OUTPUTS**

Used to connect the amplifier to speakers. The MX 800.5 minimum impedance is 2 Ohms on channels 1-4 and 4 Ohms on SUB output. If Front or Rear channels are bridged, minimum impedance is 4 ohms on the bridged channels.

**FUSE**

On-Board fuse protection via ATC fuses. If blown, only replace with same value fuses (2 x 40A) or risk damage to unit and voiding the warranty.

**+12V**

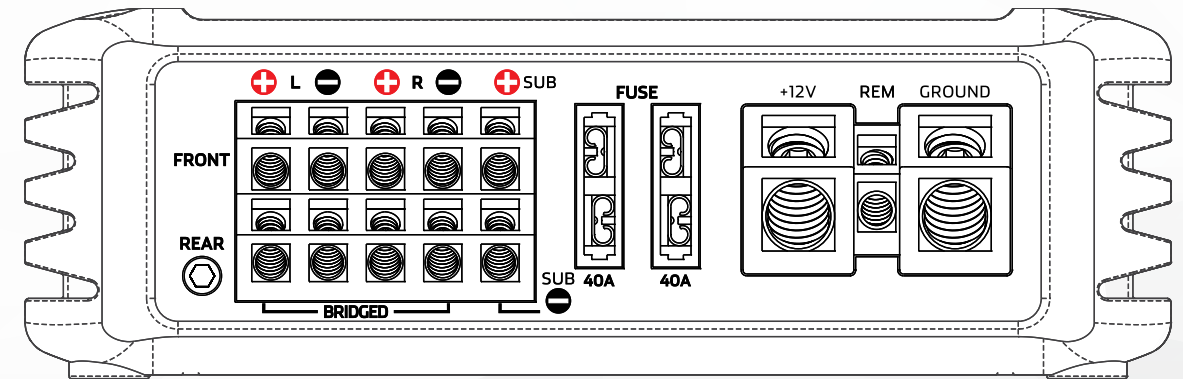
This must be connected to the fused positive terminal (+12V) of the car's battery. A fuse must be located within 18 inches of the battery to protect the vehicle. This inline fuse should be rated at, or below, the amplifiers onboard fuse rating.

**REMOTE (REM)**

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.





**MX 600.4  
MULTI-CHANNEL POWER AMPLIFIERS**

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

**GAIN (FRONT)**

Used to adjust the input sensitivity to match the input level signal on the Front channels. Continuously variable from 0.2V to 10V. Adjust this with the help of a DMM and a test signal or an Oscilloscope. See *System Tuning* section for setup instructions.

**X-OVER (FRONT)**

**Full, HPF, LPF** 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) or **LPF** (Low Pass Filter) to activate the internal crossover which is continuously variable from 40Hz to 500Hz using **FREQ**

**FRONT, REAR RCA INPUTS**

Connect preamp signal cables from head unit to these inputs. For a high-level signal, you will need RCA to speaker wire adaptors such the Stinger X12LINE or similar.

**INPUTS (FRONT/REAR)**

If you are using the RCA output signal from an aftermarket head unit or a signal processor select UNBAL. If you are using high level speaker outputs from an aftermarket head unit, OEM factory source unit, or OEM factory amplifier select BAL.

**GAIN (REAR)**

Used to adjust the input sensitivity to match the input level signal on the Rear channels. Continuously variable from 0.2V to 10V. Adjust this with the help of a DMM and a test signal or an Oscilloscope. See *System Tuning* section for setup instructions.

**X-OVER (REAR)**

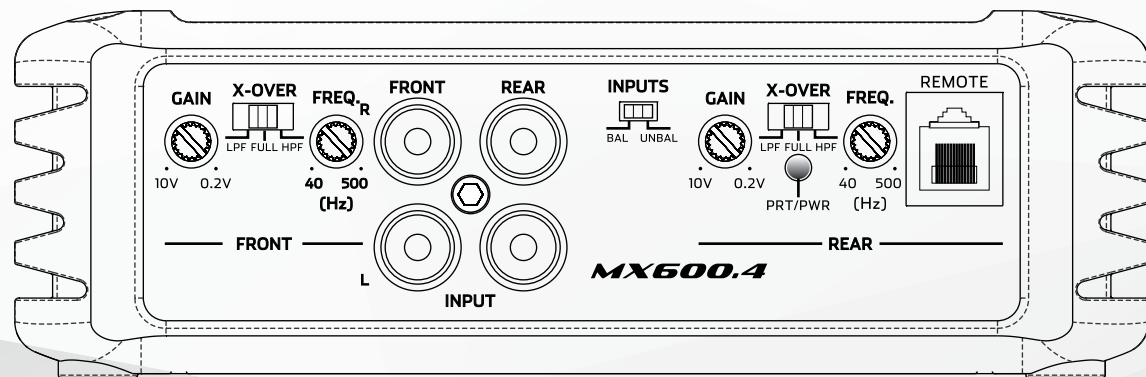
**Full, HPF, LPF** is selectable. Select Full if you are using an outboard crossover/processor or you wish the Rear channels to amplify full range signal. Select **HPF** (High Pass Filter) or **LPF** (Low Pass Filter) to activate the internal crossover which is continuously variable from 40Hz to 500Hz using **FREQ**

**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*)

**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. Note: Remote level control affects only the rear speaker outputs when LPF is selected on the rear channel X-OVER.



**MX 600.4  
MULTI-CHANNEL POWER AMPLIFIERS**

**SPEAKER OUTPUTS**

Used to connect the amplifier to speakers. MX 600.4 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 buy using RL+ and RR- output.

**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.

**+12V**

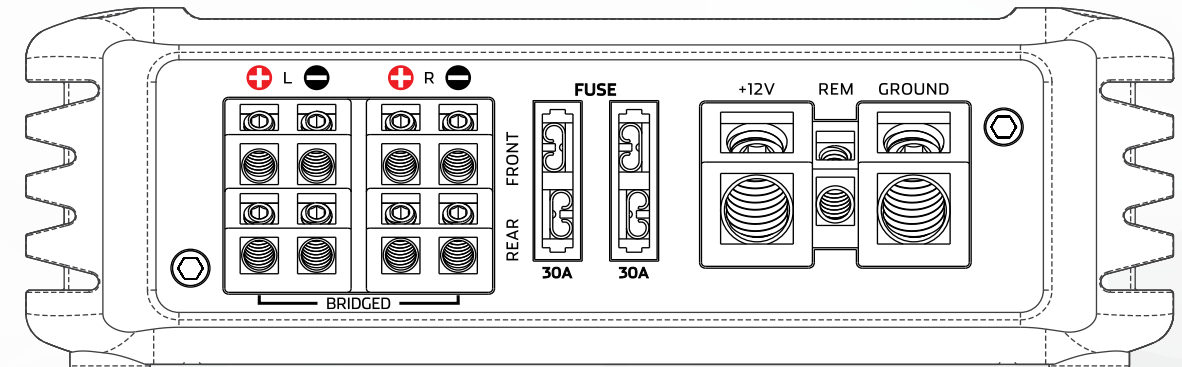
This must be connected to the fused positive terminal (+12V) of the car's battery. A fuse must be located within 18 inches of the battery to protect the vehicle. This inline fuse should be rated at, or below, the amplifiers onboard fuse rating.

**REMOTE (REM)**

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



**MX 800.1  
MONOBLOCK POWER AMPLIFIERS**

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

**RCA OUTPUT**

Used to connect to a secondary amplifier without degrading signal strength via internal line driver.

**RCA INPUT**

Connect preamp signal cables from head unit to these inputs. For a high-level signal, you will need RCA to speaker wire adaptors such the Stinger X12LINE or similar.

**INPUTS (SWITCH)**

If you are using the RCA output signal from an aftermarket head unit or a signal processor select UNBAL. If you are using high level speaker outputs from an aftermarket head unit, OEM factory source unit, or OEM factory amplifier select BAL.

**GAIN**

Used to adjust the input sensitivity to match the input level signal. Continuously variable from 0.2V to 10V. Adjust this with the help of a DMM and a test signal or an Oscilloscope. See *System Tuning* section for setup instructions.

**SUBSONIC**

Continuously variable from 10Hz-55Hz to remove low inaudible frequencies to increase system efficiency and protect speakers.



**BOOST**

Controls the bass boost from 0 to +18dB

**FREQ**

Low Pass Filter which is continuously variable from 50Hz to 250Hz

**PHASE**

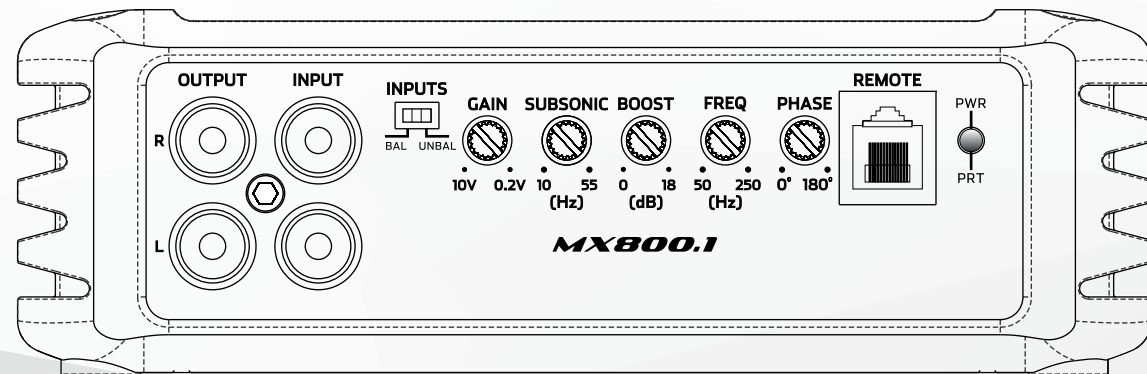
Controls the Phase from 0-180° from the listening position. Properly adjusting phase will allow enhanced bass response, dynamics and impact at any volume.

**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.

**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)



**MX 800.1  
MONOBLOCK POWER AMPLIFIERS**

**SPEAKER OUTPUTS**

Used to connect the amplifier to speakers. MX 800.1 minimum impedance is 1 Ohm.

**FUSE**

On-Board fuse protection via ATC fuses. If blown, only replace with same value fuses (3 x 30A) or risk damage to unit and voiding the warranty.

**+12V**

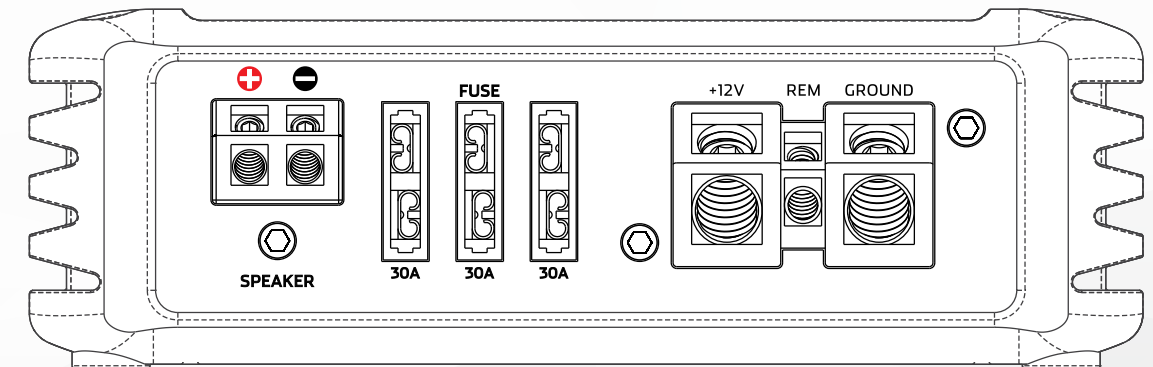
This must be connected to the fused positive terminal (+12V) of the car's battery. A fuse must be located within 18 inches of the battery to protect the vehicle. This inline fuse should be rated at, or below, the amplifiers onboard fuse rating.

**REMOTE (REM)**

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



## 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.