

Since 1984

Boulder



508 Phono Preamplifier

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P/N: 91053

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About

About Boulder Amplifiers, Inc.

Boulder was founded in 1984 and is the last high-performance audio manufacturer operating in North America to still perform all of its own design, engineering and manufacturing in-house. While this form of production may be more costly than outsourcing, the resulting quality control and reliability of the finished products are never compromised.

In 2016, Boulder moved into a new, purpose-built production facility to increase manufacturing efficiency and offer space for expansion to meet the needs of future growth.



Thank You

Congratulations and thank you for selecting the Boulder 508 Phono Preamplifier for your high-performance sound system. We are certain it will provide you with many years of listening pleasure.

The 508 represents the concerted efforts of numerous Boulder designers, engineers, and technicians working to bring you the best audio playback components in the world. Please take a few moments to read through this instruction manual prior to using your 508. This will help you understand the many functions and capabilities of the phono preamplifier. It will also allow you to maximize the convenience and performance for which it was engineered.

Your Boulder 508 Phono Preamplifier has undergone extensive laboratory tests for safety, functionality and technical excellence. In addition, it has been individually subjected to rigorous listening trials in our sound room utilizing a wide range of musical material. No product ever leaves our factory until we are totally satisfied that it achieves its full potential.

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Getting Started

Introduction

The 508 Phono Preamplifier embodies years of development and is directly descended from the legendary 2008 Phono Preamplifier, one of the greatest Phono Preamps ever developed. Here are some of the features that set the 508 apart from the competition:

Audio features:

- Fully-balanced operation from input to output.
- Surface-mount design (SMD) circuitry wherever possible.
- One pair of balanced inputs on XLR connectors.
- Fully-balanced audio path from input to output.
- Loading settings match a wide range of cartridge loading settings.

Operational features:

- Compact chassis design.
- Switchable gain for MM (moving magnet) or MC (moving coil) cartridges.
- Casework machined from a solid block of aluminum.
- Extremely robust and quiet power supply.
- Ultra-low power consumption.

Getting Started

Unpacking and Care

The 508 Phono Preamplifier features finely finished casework. Please use care when unpacking, lifting, and installing the preamplifier to avoid damage to the metalwork and furniture. The 508 Phono Preamplifier weighs 11.5 lbs. (5.2 kg).

Be sure to save all packing materials! The 508 is shipped in a foam wrap to protect the phono preamplifier's fine finish. Try not to damage this wrap in the event that the unit must be transported elsewhere in the future.

Before You Start

You should have received a large, heavy box. The pieces included inside the box are:

1. 508 Phono Preamplifier
2. Instruction Manual
3. Unbalanced PHRCA phono adaptors
4. AC Mains Power Cable

If any of these pieces are missing or damaged, please contact your authorized Boulder dealer immediately before continuing with the installation.

Getting Started

How to Clean the Casework

If the 508 must be cleaned, use only a soft, lint-free cloth moistened with plain water.

Never use any type of chemical cleaner unless recommended by your dealer or the Boulder factory.

Do not use bleach! Bleach will remove the anodized surface of the casework.

Never use any type of abrasive to clean the casework.

If you have any questions, please contact your authorized Boulder dealer.

Placement and Installation

Your Boulder 508 Phono Preamp is designed to reduce the effects that external magnetic fields and radio frequencies (RF) have on its circuitry. While placement is not critical, because of the high gain of the 508, known magnetic fields should be avoided whenever possible. Power transformers in other pieces of nearby equipment should be placed a minimum of 12 inches (30 cm) away.

Because it is heavy, the 508 must be placed on a sturdy, stable surface.

Do not place in an enclosed rack without ventilation. The 508 must have at least 2 inches (5 cm) of airspace around the chassis for proper cooling and airflow.

Be sure to leave access to the AC mains and interconnect cables when installing the phono preamp. Depending on how easy it is to access the back panel of the 508, it may be wise to pre-install the power and interconnect cables before placement.

Getting Started

Turntable Connection Types

To get started listening, you only need to connect a turntable to the 508 as you would any other phono preamplifier. Please take note of the following:

The 508 can be connected to many different types of analog turntables and will provide excellent sound quality for each. To fully realize the sonic potential of your 508 Phono Preamplifier, use balanced cable connections with XLR terminations whenever possible. Balanced XLR cables minimize interference from magnetic, hum, and RF sources.

Getting Started

Connecting a Turntable

Because a phono cartridge is an intrinsically balanced source, balanced inputs are provided on the 508. Connect the output cables from your turntable to the **LEFT** and **RIGHT CHANNEL** input connections of the 508.



Please follow the following instructions to avoid picking up hum in the system:

Do not short pin 1 (chassis/ground) to either pin 2 or 3 of the XLR connector at any point in the cable, turntable chassis, or tonearm. This will cause hum in the system. Pins 2 and 3 must only be connected directly to the cartridge pins. Proper wiring diagrams are shown on the next page.

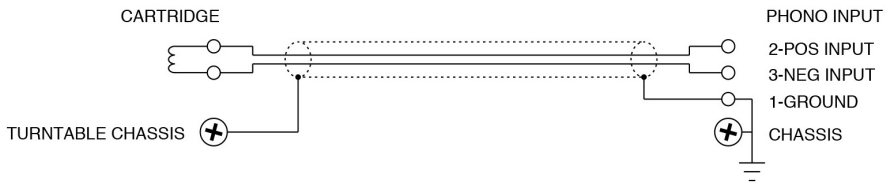
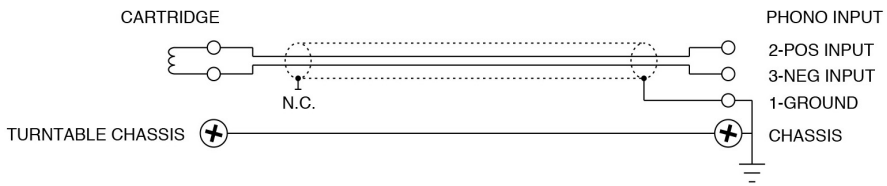
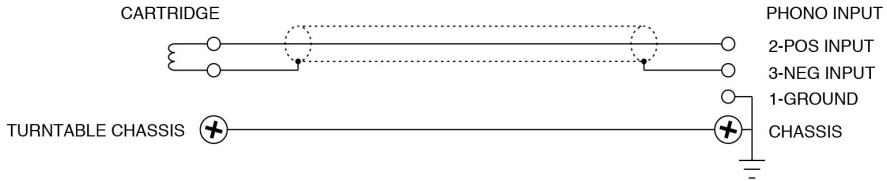
Use only a connection from pin 1 of the turntable's XLR connector to the turntable chassis or the provided ground wire from the 508's rear panel chassis screw terminal to the turntable chassis. Using both may form a ground loop, which will cause hum.

RCA connections can be accommodated. If your turntable does not have XLR connections, one pair of Boulder PHRCA Phono Adaptors is provided. These will convert the 508's inputs to RCA and give acceptable performance. A separate ground wire is also provided.

CAUTION: *If your turntable does not have XLR connectors, do not use the Boulder ABL2 input adaptor or any other "standard" RCA phono to XLR adaptors. These are not intended for phono use, as they short pin 1 to pin 3 and will cause hum in your system. Only use the Boulder PHRCA Phono Adaptors.*

Getting Started

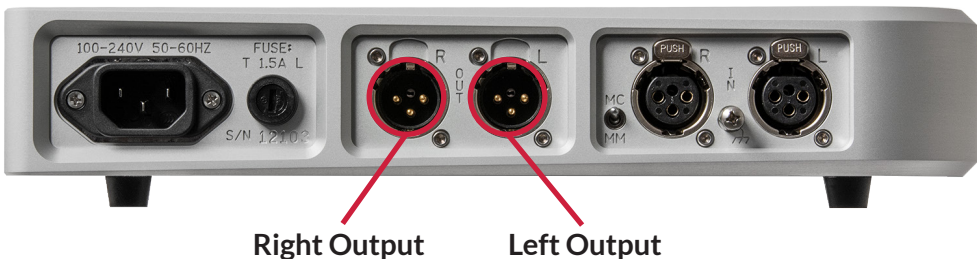
PHONO CABLES



Connecting the Outputs to a Balanced Preamp

With the low output impedance of the 508 Phono Preamp, distances of more than 50 meters between the 508 and preamp are practical.

Connect the LEFT and RIGHT OUTPUT interconnects from the 508 to your preamp. To maintain the best sound quality, Boulder recommends that balanced interconnections always be used.



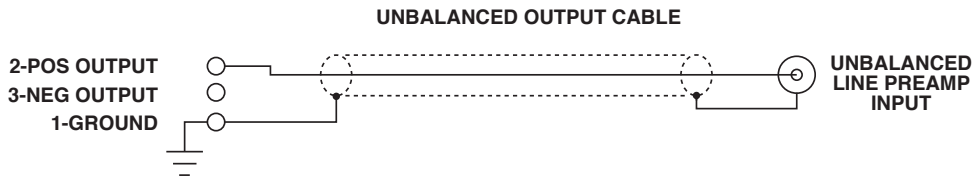
Getting Started

Connecting the Outputs to an Unbalanced Preamp

A special cable is required to make this connection. This cable connects pin 1 to the shield and pin 2 to the center pin of the RCA. It leaves the negative output (pin 3) unconnected.

Connecting the unused output pin (usually pin 3) to ground will cause excessive ground currents and degrade performance. Use an ohmmeter or continuity checker to determine how your cable is wired.

NOTE: *The 508 Phono Preamp* conforms to the standard of pin 2 as high or “hot” for all balanced analog inputs and outputs.



Getting Started

Moving Coil or Moving Magnet Selection

Set the **Rear Panel Cartridge Selection Switch** to either **MC** (Moving Coil) or **MM** (Moving Magnet) depending on the type of cartridge mounted to your turntable.

In the **MC** position, the resistive cartridge loading is **100Ω**. When the Rear Panel Cartridge Selection Switch is set to the MC position, an additional low-noise 26 dB gain stage is inserted at the input for a total of **70 dB** of gain.

In the **MM** position, the resistive cartridge loading is **47kΩ**. This is the recommended impedance for MM. Total gain in the MM position is **44 dB**.



Cartridge Selection Switch

Connection to AC Mains

Your 508 Phono Preamplifier is supplied with an AC mains power cord appropriate for the location where it was purchased.

Connect the AC power cord to the **AC Power Input** connection on the rear panel of the 508 as shown and plug the other end into the AC mains outlet.



AC Mains

Operation

Power

With all of your connections made, you are now ready to listen to your Boulder 508 Phono Preamplifier.

To turn the 508 **ON**, move the large **Power Switch** located on the front panel **upwards**. The small LED above the Power Switch will turn white and the 508 will automatically unmute when it is ready for listening.

To turn the 508 **OFF**, move the large **Power Switch** located on the front panel **downwards**. The small LED above the Power Switch will not be illuminated when the 508 is turned off.

Power Switch ON



Power Switch OFF



Mute

The Boulder 508 Phono Preamplifier provides a Mute feature that is turned on by two different methods.

First, the outputs are muted for 35 seconds when the 508 is powered on.

Operation

Second, the outputs can be temporarily muted at any time for your convenience. To temporarily mute the output, press the front panel **MUTE** button. When the 508 is in Mute mode, the small LED above the Mute button will illuminate amber.

Pressing the **MUTE** button a second time will restore normal output and the LED will not be illuminated.

When the 508 is turned **OFF**, the outputs will be muted.

Mute ON



Equalization

The Boulder 508 Phono Preamplifier provides the standard RIAA record equalization curve. This curve is appropriate for all records produced and manufactured after 1954.

Technical Specifications

Balanced Inputs	1 x 3-pin balanced XLR
Balanced Outputs	1 x 3-pin balanced XLR
Maximum Output Level	16 Vrms
Distortion, THD	0.01%
1 kHz Gain, RIAA	MC: 70 dB, MM: 44 dB
Noise (EIN), MC	116 nanovolts flat, 20 Hz to 20 kHz
Frequency Response, 20 Hz to 20kHz	RIAA: ± 0.50 dB, 20Hz to 20kHz
Low Cut Filter	-3dB @ 10Hz, 18dB/Octave
Input Impedance	MC: 100 Ω , MM: 47k Ω
Output Impedance	100 Ω Balanced
Power Requirements	90-120V / 200-240V, 50 - 60 Hz
Power Consumption	15W Max

All specifications measured at 240 VAC mains Power.

Appendix

Weights and Dimensions

508 Phono Preamplifier Chassis:

11.5" W x 9.45" D x 2.3" H
(11.5 lbs.)

29.2 cm W x 24 cm D x
5.8cm H (5.26 kg)

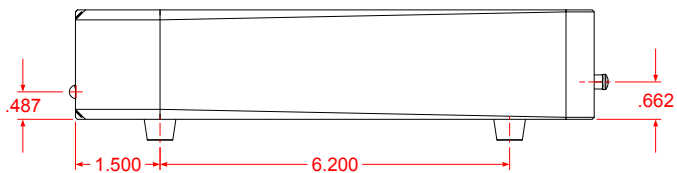
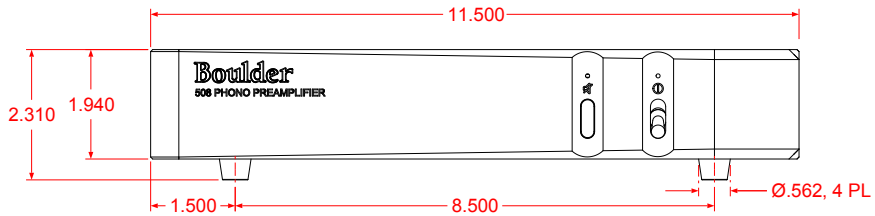
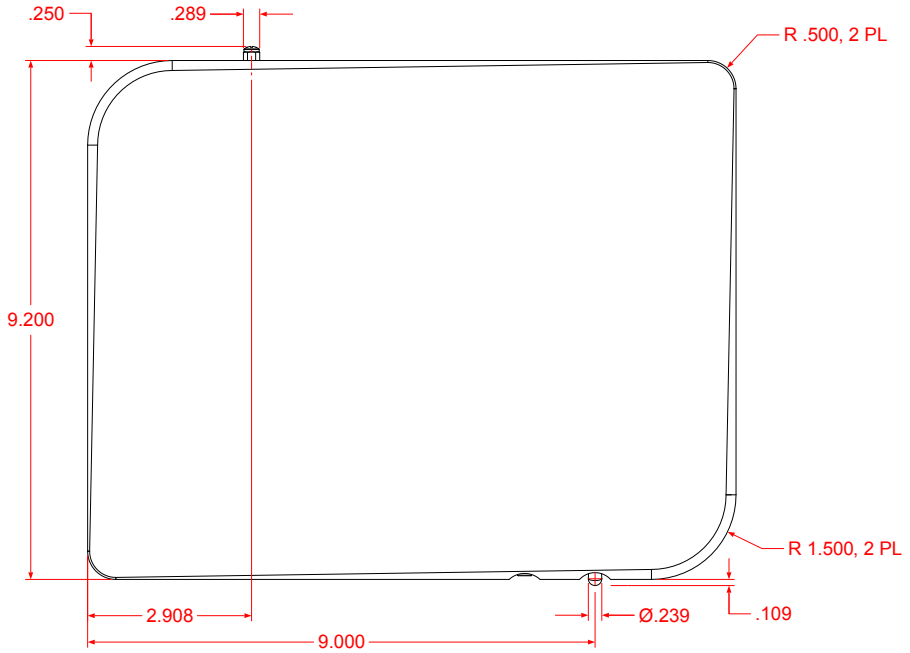
Shipping:

18" W x 20" D x 5" H
(16 lbs.)

45.7 cm W x 50.8 cm D x
12.7 cm H (48.4 kg)

Appendix

508 Phono Preamp Dimensions (Inches)



Appendix

Troubleshooting

SYMPTOM	CAUSE	REMEDY
No power indication	Power Switch is not in ON position	Move Power Switch to ON position
	508 is not plugged in	Connect power cord to AC mains outlet
	508's fuse is blown	Replace 508's fuse
	Home circuit breaker is tripped	Reset home circuit breaker
	Low line voltage	Have line voltage checked
	Defective power cable	Have power cable tested or replaced
	Defective 508	Return 508 to dealer for service
Red LED indicator	508 is Muted	Press Mute button to take 508 out of Mute mode
	Phono preamplifier is booting up	Wait until boot process completes
	Defective power supply	Return 508 to dealer for service
White power indication, but no sound	No signal from one channel of turntable	Check turntable cables and connections
	No signal out to preamplifier	Check cables and connections to preamplifier
Hum through loudspeakers	No ground connection	Check or install ground wire
	Duplicate ground connection	Use only one ground wire to turntable or use the ground in a balanced cable
	508 or turntable is too close to another component's power supply	Move 508 and/or turntable away from power supply

