
1. Boulder
VOL -99.9dB

Boulder 2010
Isolated Preamplifier

Owners Manual

V1.1 1/15/98

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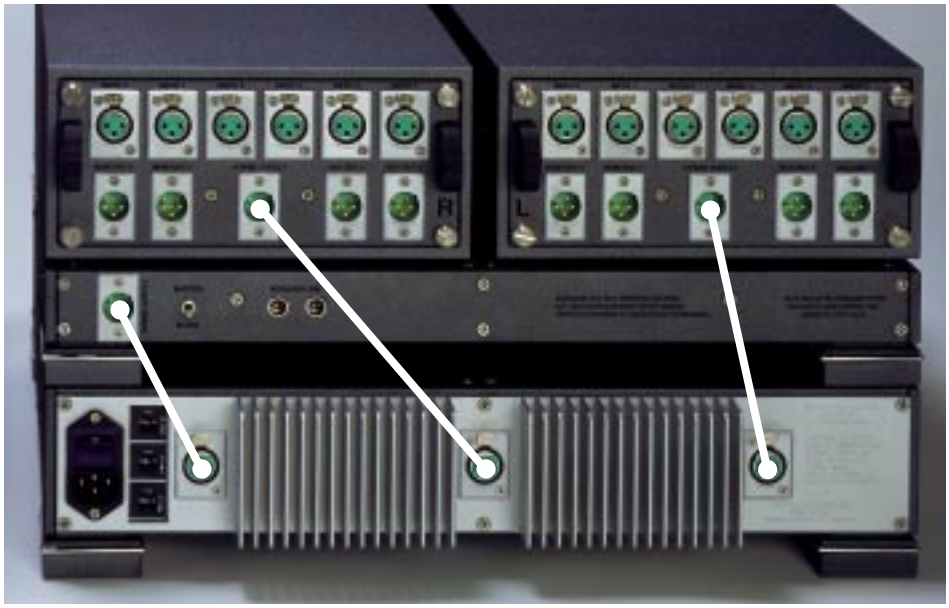
GETTING STARTED

PLACEMENT OF THE 2010 PREAMPLIFIER

Your Boulder 2010 Preamplifier is designed to reduce interference from external magnetic and radio fields (RF). While placement is not critical, known magnetic fields should be avoided. Line of sight from the listening position is necessary for the remote control to function properly.

Because the preamplifier and its power supply are heavy, a solid, stable surface should be used. As both will generate some heat, they should be allowed to have good air circulation around them. In particular, make certain that the fins on the rear of the supply are not blocked.

You may want to have some access to the rear panels for cable changes.



CONNECTING THE POWER SUPPLY TO THE MAIN CHASSIS

Your Boulder 2010 Preamplifier is supplied with a Boulder 2000 Triple Power Supply. Each of the three supplies is independent of the others except for the front panel LED which confirms correct power supply operation of all three supplies.

Three cables are provided for connecting the power supply to the main chassis. Two of these cables have 4 pin connectors and are used for connecting the left and right audio supplies (±27V). The third one has 5 pin connectors and is used for the digital supplies (+5V).

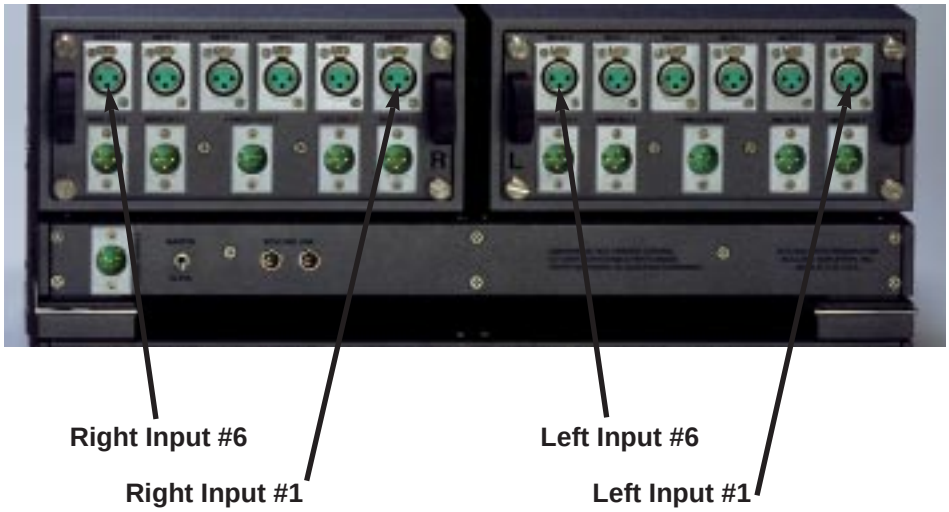
Care must be taken not to confuse these as any attempt to insert the wrong connector will result in a damaged connector.

CAUTION: Connect and disconnect these cables only with the power supply turned off.

CONNECTING TO THE MAINS OUTLET

Your 2000 Power Supply is supplied with a mains cord suitable to the location where it was purchased.

One of the features of the 2000 is its universal automatic voltage-selecting power supply. Simply plug it into any standard outlet. (Exact voltage and frequency compatibility is stated in the specifications section.)



CONNECTING A BALANCED SOURCE

To fully realize the sonic potential of your 2010 Preamplifier, use balanced connections whenever possible. Balanced cables reduce interference from magnetic and RF sources to an absolute minimum.

The Boulder series XXXX Balanced Cables will give the best performance possible.

Connect each source to one of the six inputs provided. Later, you will be able to name each input with the source's name, so you might want to make a list as you connect them.

CONNECTING AN UNBALANCED SOURCE

Although the inputs are all of the 3 pin type, an unbalanced source is easily accommodated by using a special cable. This cable has an RCA phono type connector on the source end and a 3 pin connector for going to an input on the 2010 Preamplifier.

The Boulder series XXXX Input Adapting Cables are best for this application because they use the same balanced cable construction as above, except that it has the minus input (pin 3) wired to ground at the RCA phono connector. This brings the minus input reference of the 2010 to the unbalanced source ground, thus reducing ground loops to a minimum for an unbalanced source.

Another option for accommodating unbalanced sources is that of the Boulder XXXX Input Adapter. It converts a balanced input into a phono input right at the rear of the 2010.

Like the above cable, the minus input of the 2010 is connected to the ground of the RCA phono. However, this minus side will then share the shield wire with the chassis ground and will not have very good hum rejection.

Again, keep track of what sources you connect because you will be able to name them later.

POLARITY

Please note that the 2010 Preamplifier conforms to the new standard of pin 2 as the high or hot pin for all balanced inputs and outputs with pin 3 high as an option. Because input and output polarities are handled through program-

ming setups and front panel switches, no concern for polarity is needed while connecting up sources.

CONNECTING TO A BALANCED INPUT AMPLIFIER

With your 2010 Preamplifier's balanced output driving a balanced input power amplifier, you can take sonic advantage of short speaker cables and correspondingly longer input cables. With the 2010's low output impedance, distances of more than 50 meters between preamplifier and power amplifier are practical.

Right Main Outputs **Left Main Outputs**

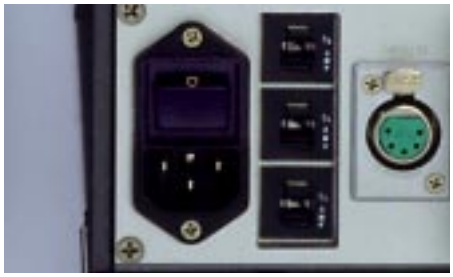
The Boulder series XXXX Balanced Cables will give the best possible sonic connection.

Connect each amplifier input to one of the main outputs labeled "MAIN OUT 1" and "MAIN OUT 2." If you are passive bi-amping (using separate amplifiers for bass and treble), you may simply connect each amplifier's input to the main outputs without need for a splitter box or cable assembly. If it is desired to use 3 or more amplifiers, splitters will be required.

CONNECTING TO AN UNBALANCED INPUT AMPLIFIER

The Boulder series XXXX Output Adapting Cables may be used to connect the balanced preamplifier outputs to an unbalanced amplifier input. This cable connects pin 1 to the shield and pin 2 to the center pin. It leaves the output pin 3 unconnected.

If another brand of cable is used, be certain that this same electrical connection is made. 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 a cable is wired.



OPERATION

POWERING UP

With all your connections made, you are ready to listen to your Boulder 2010 Preamplifier.

Push on the upper portion of the rocker switch on the rear panel of the 2000 Triple Power Supply. The indicator on the supply will first turn red, then amber.

The indicator will be amber during normal operation. If for any reason, any of the power supplies' voltages are low, the indicator will change to red.

During the powerup sequence, "Boulder" and "2010" will slowly appear in the left and right display windows.

The front panel power switch can later be used for everyday turn on and off. This switch mutes the audio, turns off the display, and puts the preamplifier in a standby mode.

INPUT SELECTIONS

Select an input by pressing one of the pushbuttons labeled ONE through SIX. The respective input will be displayed in the left display and that signal will be routed to the main output. For example, if input one is chosen, "1. INPUT 1" will show in the left display.

Holding down any of the pushbuttons labeled ONE through SIX for several seconds will cause no input to be selected, and "SOURCE NONE" will show in the left display.

VOLUME

Because the precise feel of the Boulder 2010's volume control may be different than you are used to, we recommend starting the source device so that an audio signal is fed to the 2010 before increasing the volume.

The right display will show "VOL INFINITE" to indicate maximum attenuation or no sound. By placing a finger on the center rotating control and moving it slowly so it turns in a clockwise direction, the volume will increase and an indication such as "VOL - 40.0dB" in the right display will show the respective volume.

At this point you should be listening to music.

The level of volume step resolution may be changed– see the programming section.

BALANCE

To change the level balance, press the BALANCE pushbutton. "BAL CENTERED" will show in the right display. Now rotating the center control will change the balance instead of the volume for as long as "BAL..." is displayed.

Turning the control counterclockwise (left) will cause an indication such as "BAL R -1.8dB" in the right display. This means that the right channel has been attenuated -1.8 dB below the left channel, regardless of volume setting, making the left channel louder.

The range of balance offset is limited to -20.0 dB. If the control is then rotated further counterclockwise, the "BAL R MUTED" will be displayed to indicate that only the left channel is on.

After several seconds of not changing the balance, the right display will return to the "VOL..." indication. You may also return to controlling volume by again pressing the BALANCE pushbutton. The balance resolution will be the same as programmed for the volume control.

MUTE

To temporarily reduce the volume, press the MUTE pushbutton. "MUTE -60.0dB" will show in the right display, replacing the volume indication. Again pressing the MUTE pushbutton will return the volume to normal level.

While muted, the level of both channels will be reduced by the amount indicated in the display, regardless of volume setting.

The amount of mute level reduction may be changed– see the programming section.

POLARITY

NOTE: Often polarity is mistakenly called phase. As phase indicates <u>any</u> angle between two channels from 0 to 360 degrees, the correct term of polarity is preferred to indicate the 180° phase change, or inversion, available in the 2010 Preamplifier.

To activate a polarity change only in one channel, start by pressing either the L POLARITY or R POLARITY pushbuttons. "POL NORMAL" will show in the right display. If you want to change the polarity in the left channel, press the L POLARITY pushbutton while "POL..." is displayed. "POL L INVRTD" will show in the right display and the output polarity of the left channel main outputs will be inverted.