



**Boulder 2060**  
**600 W Class A**  
**Stereo Power Amplifier**

**Owners Manual**

V1.0 10/10/97

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## **GETTING STARTED**

### **PLACEMENT OF THE 2060 POWER AMPLIFIER**

Your Boulder 2060 Power Amplifier is designed to reduce interference from external magnetic and radio fields (RF). While placement is not critical, known magnetic fields should be avoided.

Because the power amplifier is heavy, a solid, stable surface should be used.

As it will generate some heat, there should be good air circulation around it. In particular, make certain that the heat sinks are not blocked.

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

It is recommended to keep the speaker cables as short as possible and have the input cables as long as necessary.



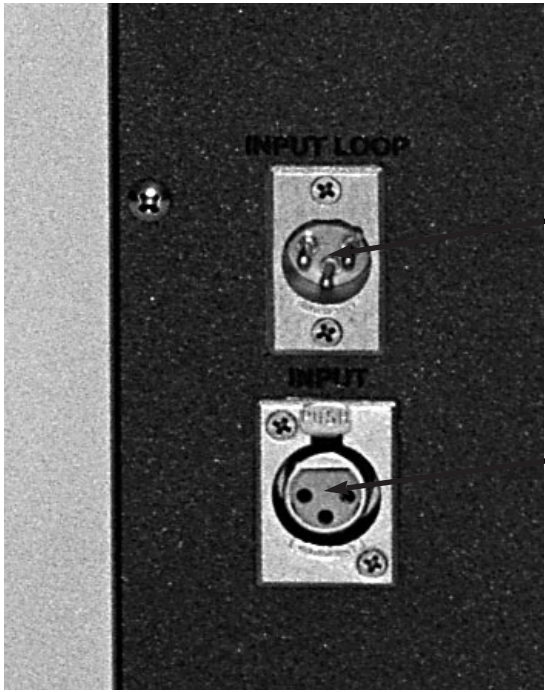
## CONNECTING TO THE MAINS OUTLET

Your 2060 Power Amplifier is supplied with a mains cord suitable to the location where it was purchased. It is constructed of a large enough wire gauge and a cable plug appropriate for the voltage you intend to use. Do not substitute another power cable.

The voltage appears in a small window on the rear panel. If you require a different mains voltage, consult your dealer or contact the factory.

Exact voltage and frequency compatibility is stated in the specifications section.

Once the 2060 Power Amplifier is connected to a live mains outlet, the indicator will be illuminated. The indicator will be of orange color, showing that the supervising microprocessor is powered up and ready.



Loop Out

Input

## CONNECTING A BALANCED SOURCE

To fully realize the sonic potential of your 2060 Power Amplifier, use balanced connections whenever possible. Balanced cables reduce interference from magnetic and RF sources to an absolute minimum.

Connect your preamplifier to the inputs provided. A loop through (male 3-pin) connector is provided for passing the signal on to a second amplifier for the purposes of passive bi-amping.

## CONNECTING AN UNBALANCED SOURCE

Although the inputs are 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 the input of the 2060 Power Amplifier.

The minus input (pin 3) should be wired to ground at the RCA phono connector. This brings the minus input reference of the 2060 to the unbalanced source ground, thus reducing ground loops to a minimum for an unbalanced source.



## **OPERATION**

### **POWERING UP**

With all your connections made, you are ready to listen to your Boulder 2060 Power Amplifier.

To turn the amplifier on, press the POWER button on the front panel. The amplifier will perform a warm up cycle and the indicator will alternate between red and amber for 45 seconds. This power up sequence is mandatory, and cannot be avoided.

Because of the large inrush currents associated with the powerful dual toroidal transformers, four power relays are used to turn on the amplifier. These are under the control of the supervising microprocessor. During the power up sequence, you will hear 2 relay clicks followed by an additional 2 relay clicks after 2 seconds.



The indicator will then turn amber and stay so during normal operation.  
To turn the amplifier off, press the POWER button again. The indicator will be orange.

## **INPUT DC OFFSET VOLTAGE DETECTION**

The Boulder 2060 Power Amplifier is a direct-coupled power amplifier with a servo for zeroing out any DC voltage offset coming from the preamplifier or other source connected to the amplifier's input.

If this input DC is sufficient to cause 3 volts or more at the output, a loudspeaker protection circuit will mute the amplifier output by electronically disconnecting itself from the loudspeaker. The power indicator will turn red.

This condition will continue until the DC is removed.

If the indicator remains red, it is recommended that the user correct the DC offset of the source device before continuing.

## **CLIP DETECTION**

Clipping of the waveform results when any amplifier is driven at too high a level. A clip detection circuit is included in the 2060 Power Amplifier.

The indicator will indicate clipping by momentarily turning from amber to red. Both voltage and current modes of clipping will be detected, although generally it is only voltage clipping which occurs.

## **REMOTE CONTROL OPERATION**

Operation of the Boulder 2060 Power Amplifier by remote control is possible through the 2010 Preamplifier.

## **BOULDER 2060 BALANCED ISOLATED POWER AMPLIFIER SPECIFICATIONS**

THD at Continuous Power, 20 to 2KHz	0.0005%
THD at Continuous Power, at 20KHz	0.0025%
Continuous Power, 8 $\Omega$	600 W
Continuous Power, 4 $\Omega$	600 W
Continuous Power, 2 $\Omega$	600 W
Peak Power, 4 $\Omega$	1200 W
Peak Power, 2 $\Omega$	2400 W
(200 to 240 volt operation may be required for maximum output)	
Magnitude Response, 20 to 20KHz	+0.00, -0.04 dB
Magnitude Response, -3 dB at	0.015Hz, 200kHz
Voltage Gain	Low Setting: 18dB, High Setting 26dB
Signal to Noise Ratio (re:1000W/8 $\Omega$ )	-133dB, unweighted, 20 to 22kHz
Input Impedance	Balanced: 400K $\Omega$ , Unbalanced: 200K $\Omega$
Common Mode Rejection (Balanced only)	60Hz: 90dB, 10kHz: 70dB
Inputs	3-pin Balanced with loop through capability
Output Connectors	2 sets of custom 5/16" thumbscrews
Crosstalk, L to R or R to L	-133dB
Size, Inches, W X H X D	18.0 x 10.75 x 26.75 (add 12 inches for power connector)
Power Requirements	100, 120, 200, 220, 240VAC, 50-60 Hz, 240 W nominal, 5000 W at maximum output

	<b>TROUBLESHOOTING</b>	
<b>SYMPTOM</b>	<b>CAUSE</b>	<b>REMEDY</b>
No power indication	Power switch is not on	Turn on power switch
	Power amplifier is not plugged in	Connect to an AC outlet
	Home circuit breaker is tripped	Reset circuit breaker
Red power indication	Low line voltage	Have line voltage checked
	Power supply's breakers tripped	Reset breakers on rear panel
	Defective power supply cables	Have cables tested
	Defective power supply or preamp	Return to dealer for service
Amber power indication, but no sound is heard in one channel	No signal in one channel from source	Check source controls, cables, and connections
	One channel is muted by balance control	Push BALANCE and recenter
	Output balance offset is offset in Program Mode	Go to Program Mode, push BALANCE and return to 0.0dB
	No signal out to power amplifier	Check connections to power amp
	No power supply to this channel	Turn off power supply, check cables
	Preamp is faulty	Return to dealer for servicing