

Since 1984

# Boulder

# 1108

**Phono  
Preamplifier**



*An introduction to the technology within the  
Boulder 1108 Phono Preamplifier.*

## Welcome

As time goes by and greater technical knowledge is accumulated, we apply these ideas to new products and see where the improvements will take us. In the case of the 1108, all of the new design ideas took us much further than we expected. The 1108 Phono Preamplifier is Boulder's second generation of 1000-level phono preamplifier and our highest-performing single-chassis phono stage.

## Basic Architecture

A phono cartridge's tiny audio signal is susceptible to any number of outside effects that can have an impact on the quality of its reproduction. EMI, RF, vibration, even the layout of the circuitry involved can mean the difference between recreating an engaging performance and background music.

Keeping the various sections of a phono preamplifier quiet is key to its performance, so each portion of the 1108's circuitry is isolated on its own circuit board. The control section utilizes logic circuitry to reduce any form of interference. Even the power supply componentry was selected to avoid adding any distortion.

## Advanced Circuitry

All of the enthusiasm in the world means nothing if the will to take advantage of available technical breakthroughs isn't there. There were no nods to tradition: changes either resulted in an improvement or not.

All circuit boards within the 1108 were engineered and manufactured at

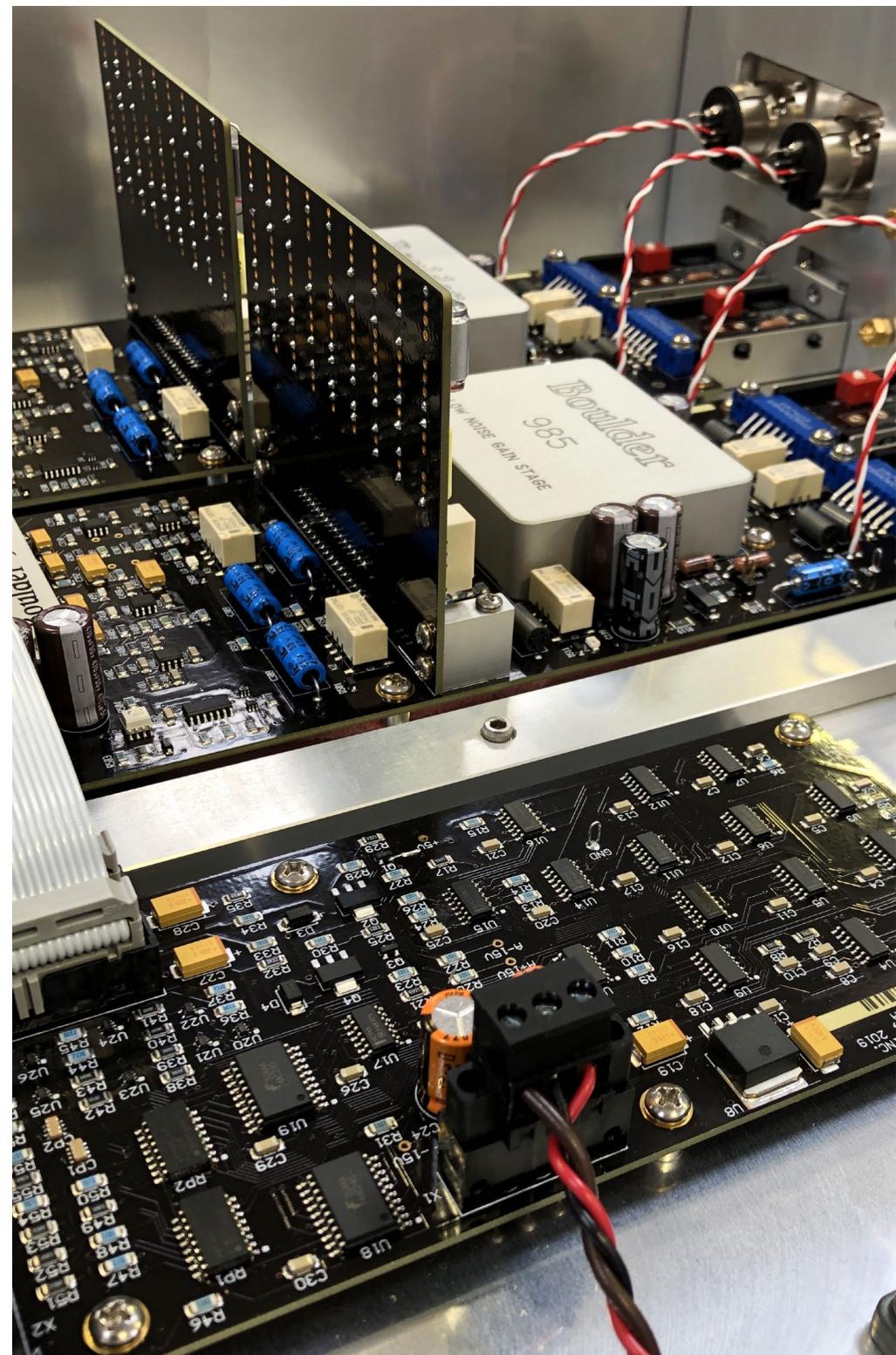
Boulder by Boulder's own technicians. Whenever possible, the opportunity to include the latest thinking in small-signal amplification was applied.

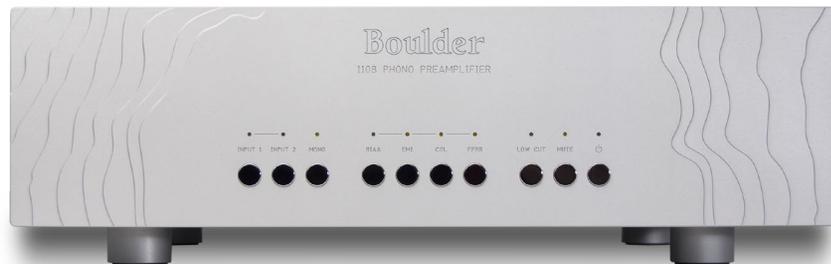
Reliability and optimized circuit layout have been improved via extensive use of surface mount design (SMD) technology wherever possible. In addition to improving multiple technical parameters, SMD also results in a marked improvement in audio clarity. SMD has given our engineering team the tools to design every board with an eye towards optimized placement of components and ground planes. To you this means retrieving much more information and detail hidden in the grooves of your records than would otherwise be possible. It also means that you can feel secure in the knowledge that every aspect of design was taken into account, including longevity and long-term reliability.

## Controls and Connections

The 1108 has a complete array of logic-controlled functions available on the front panel via ten hand-polished, stainless steel buttons: Standby, Mono (to optimize the playback of historic mono recordings with stereo cartridges), EQ selection (standard RIAA as well as EMI, Columbia, and FFRR for playback of collectible LPs produced before 1955), a Low Cut filter to eliminate noise from warped or damaged records, and Input selection.

Logic is the perfect form of control for a phono preamplifier because it's noise-free when not in use. There is no host computer or microprocessor to radiate





noise and interfere with the music as it travels through the phono preamplifier.

The rear panel hosts connections for two pairs of balanced inputs, two pairs of balanced outputs, two binding posts for ground (earth), and customizable Personality Cards where each input is fine tuned to match the needs of virtually any phono cartridge. Regardless of your choice of turntable and cartridge, the 1108 can be tailored to mate perfectly with them.

### Analog Design

The 1108 is capable of incredible resolution and massive dynamic swings as a result of its advanced audio design. Specific resistive or capacitive loading as well as MM or MC cartridge selections can be adjusted. Gain stages are Boulder's proprietary and discrete 983 and 985. Input and output connections are fully-balanced via 3-pin XLR connectors and the output impedance is specified at 100 ohms for a non-reactive and neutral output capable of driving any preamplifier's inputs through extremely long interconnects.

Balanced circuitry eliminates noise and maximizes resolution where it's needed most: relative to the tiny analog signal. Because a phono cartridge is actually a balanced source, balanced operation is used throughout the 1108 to maintain every last bit of clarity.

Cartridge loading is set from the factory at 100 ohms for moving coil (MC) cartridges and 47k ohms for moving magnet (MM). Loading is adjusted with

a single resistor through a pair of rigid, low-resistance connections. There are no remote circuits, relays, or switches in the signal path to minimize anything that would come between the cartridge and the 1108's initial gain stage.

Phono equalization is accomplished on an independent and isolated circuit board. This carefully tuned topology takes advantage of 30 years of expertise in building the world's finest phono pre-amplifiers and ensures extremely accurate playback EQ.

### Mechanical Design

Every piece of metal in the 1108's casework is precisely carved from solid blocks of aluminum and damped. Resonance and vibration never make their way to the delicate analog signal passing within.

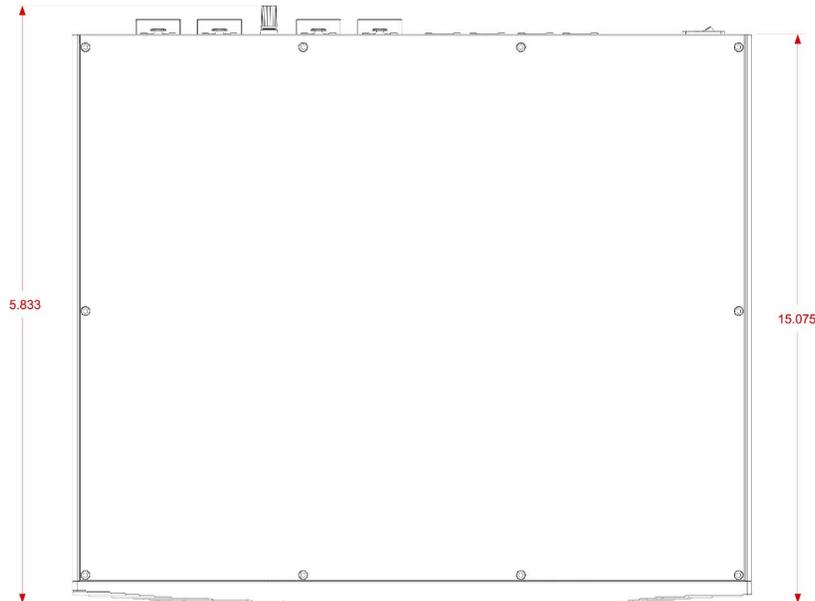
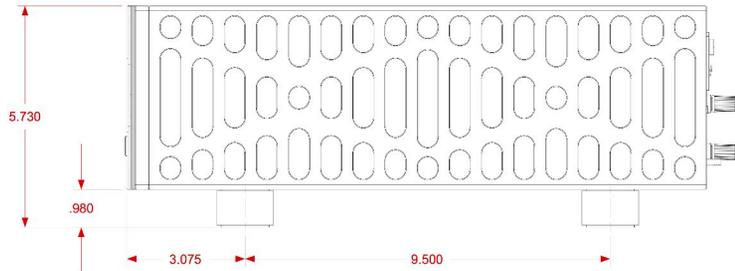
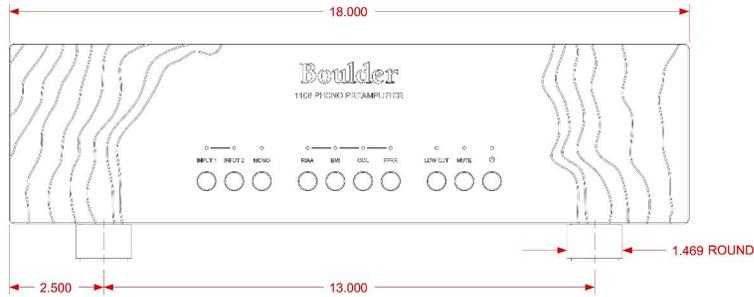
### The Truth is in the Listening

Boulder has created some of the most sought after and revered phono preamplifiers in the history of the audio industry and the 1108 Phono Preamplifier has a lot to live up to. It does so with aplomb. The soundstage is vast and deep while every image is tightly focused. Your records are played back with the delicacy or impact and speed or warmth the artists created. It never inserts any coloration of its own. It's the perfect window to the original performance.

Every record has a stunning amount of music hidden in its grooves.

We think it's about time you heard it all.

## Dimensions



## Technical Specifications

<b>Inputs</b>	2 pairs, via 3-pin XLR
<b>Outputs</b>	2 pairs, via 3-pin XLR
<b>Input Impedance, Maximum</b>	MC: 1000 ohms, MM: 47k ohms
<b>Output Impedance</b>	100 ohms, balanced
<b>1 kHz Gain, RIAA</b>	MC: 70 dB, MM: 44 dB
<b>Frequency Response, RIAA</b>	±0.10 dB, 20 Hz to 20 kHz
<b>Distortion, THD</b>	0.01%
<b>Noise (EIN), MC</b>	98 nV Flat, 20 Hz to 20 kHz
<b>Crosstalk, L to R or R to L</b>	-100 dB or better, 20 Hz to 20 kHz
<b>Maximum Output Level</b>	16 Vrms
<b>Power Requirements</b>	90-240 VAC, 50-60Hz
<b>Power Consumption</b>	32W Maximum
<b>Phono Preamplifier Dimensions</b>	18" W x 15.83" D x 5.73" H 45.7 cm W x 40.2 cm D x 14.6 cm H
<b>Phono Preamplifier Weight</b>	37 lbs. (16.8 kg)
<b>Phono Preamplifier Shipping Dimensions</b>	24" W x 23" D x 14" H 61 cm W x 58 cm D x 36 cm H
<b>Phono Preamplifier Shipping Weight</b>	51 lbs. (23.2 kg)

*All specifications measured at 120VAC mains power*

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