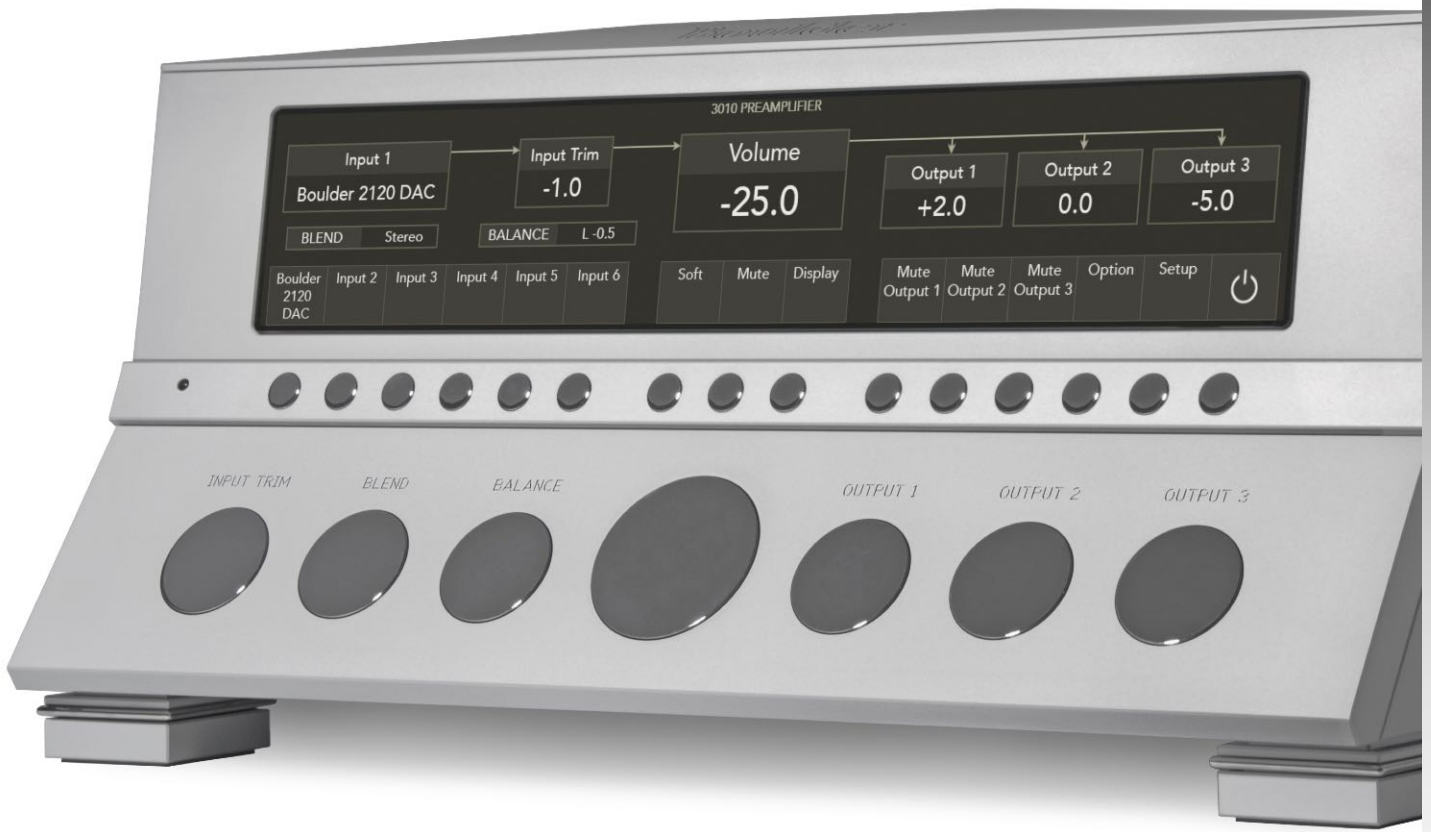
Since 1984

Boulder



3010

Preamplifier

An introduction to the technology within the Boulder 3010 Stereo Preamplifier.

Welcome

The 3000 Series has become synonymous with the ultimate in sound quality; a level of performance reserved for only the finest audio systems in the world. But doesn't traditional thought say that the more features and functions added to a preamplifier, the more of an effect they have on sound quality?

Once again, Boulder's engineers have proven traditional wisdom wrong and achieved something very special. The 3010 is easily the greatest preamplifier in the history of the company. It's also the most flexible preamp we've ever designed.

Isolated Architecture

The 3010 is a four-chassis preamplifier with each major portion of circuitry isolated from the others to maximize performance. The four portions of the 3010's casework include a separate housing for the four individual power supplies (left analog, right analog, supervision and user interface, and standby), the left-channel analog gain and output, right-channel analog gain and output, and the largest portion of the chassis for the display, controls, and computer supervision.

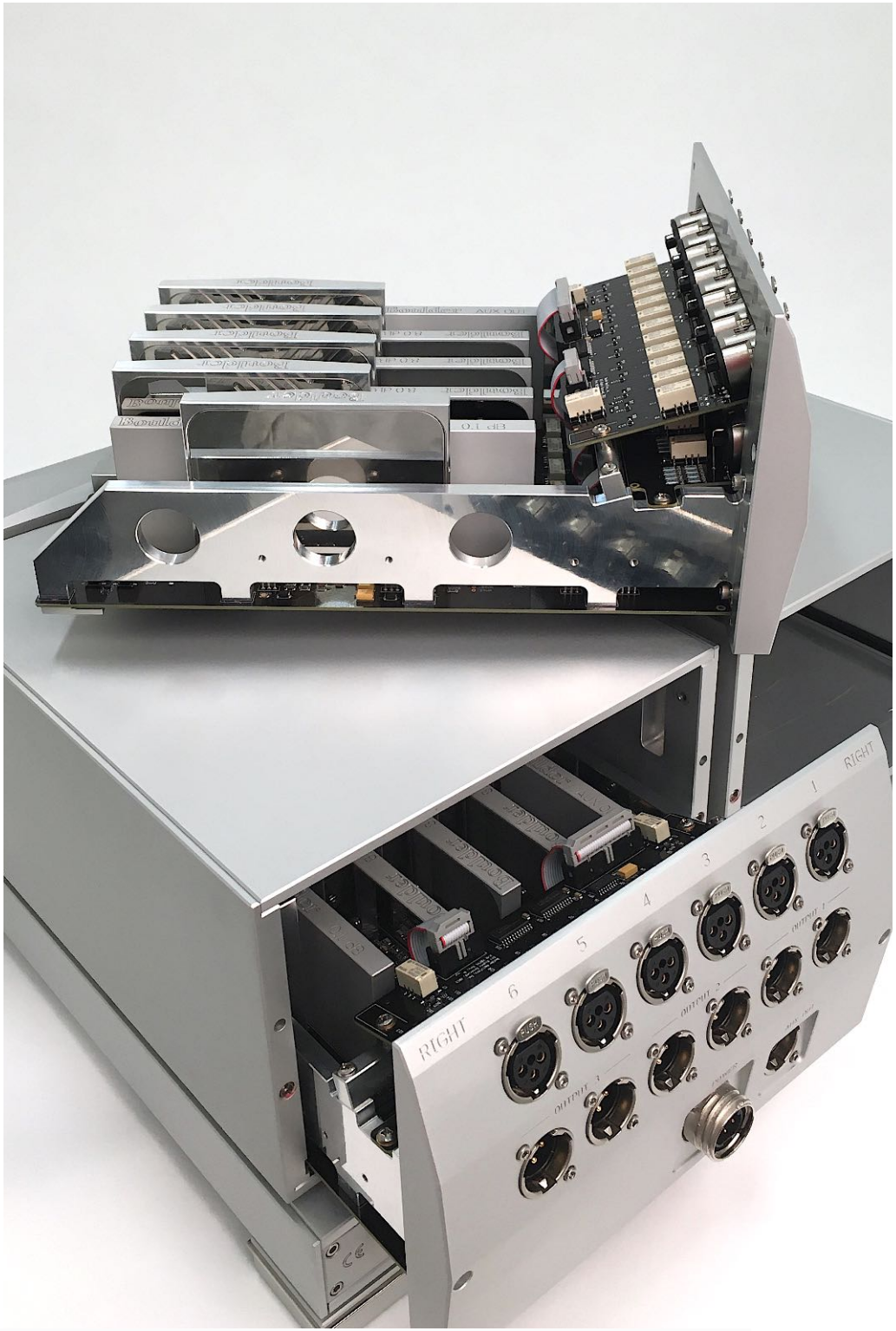
By isolating each section of circuitry and their respective power supplies, Boulder has eliminated crosstalk between channels and prevented any of the analog gain stages from picking up noise generated by any of the power supplies, the host computer, or the display. As a result, Boulder has achieved a -102 dB noise floor for the preamplifier and channel-to-channel crosstalk of -135 dB. RF and EMI interference is also vanishingly low. While numbers and specifications are open to interpretation, the sonic capabilities of the 3010 are not: it is quite simply the clearest, most detailed and accurate preamplifier ever built.

Front Panel Controls and Full-function Display

By far the most flexible preamplifier Boulder has ever created, the 3010 's front panel hosts seven control knobs to tailor the preamplifier's configuration to suit the preferences of the user. Adjustments for Input Trim (to adjust and even the level of each input), Balance, Blend (to merge the left and right channels when listening to recordings with hard-panned images or mono LPs), Volume, and even level adjustments for each of the three balanced outputs. Individual output adjustments can be used to vary the level of multiple zones around the home or to manage loudspeaker response in bi- or tri-amplified systems.

The front panel of the preamplifier is dominated by a large, 14.9-inch (38 cm) LCD display that shows the selected source and all settings and adjustments for the complete signal path. The chosen input name, volume, input trim, output trim and any shift in balance or polarity are all clearly indicated on the front panel.

In addition to current playback status, the front panel display is also used in tandem with the front panel buttons for a comprehensive set of programmable Setup and Option configurations.



Analog Design

Boulder's heritage lies in the broadcast and recording studio industries where we made use of the best possible gain stage: the original discretely implemented 993. The 993SD gain stage is the latest generation of 993 and unique to the 3010. It is the heart of the preamplifier and the primary reason why it performs at such a high level.

The 993SD combines two gain stages in a single package and features better thermal tracking and a new grounding scheme. It is contained in a machined clamshell housing manufactured by Boulder on our own CNC machining centers and potted in a unique resin that allows heat to be distributed evenly throughout the gain stage and maintain stable operation. Each 993SD is responsible for amplification of the audio signal and buffering between the preamplifier and the amplifier. The result is immediately and audibly superior.

3000 Power Supply

In order to maintain ideal separation for the standby, left channel analog, right channel analog, and control/user interface sections, four independent power supplies are mounted in a separate chassis called the 3000.

The standby power supply is a small, ultra-efficient supply that keeps the supervisor section of the unit awake when in standby mode in order to meet even the toughest power consumption regulations. The standby power supply is then turned off and completely switched out of the active circuit when the 3010 is powered on. The analog and control/user interface supplies have their own transformers and regulation, each of them larger than some small power amplifiers.

Transformer hum is not permitted. To prevent the transformers from humming or emitting mechanical noise due to vibration, each is potted in a proprietary compound and encased in a riveted steel enclosure. A DC blocking circuit is then added to maintain absolutely silent operation.

Mechanical Design

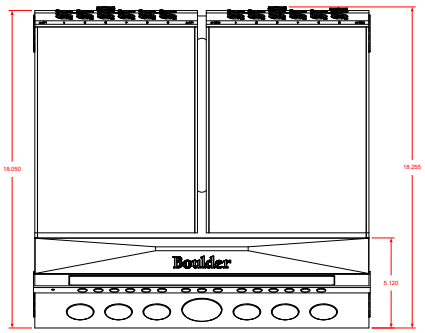
All parts of the 3010's casework are machined from solid plates of aluminum on Boulder's own CNC machining centers. Boulder remains one of the last high-end electronics companies to keep every aspect of manufacturing under our own roof.

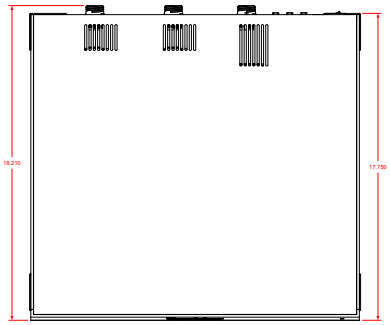
Each portion of the 3010 has its own enclosure: the display/processor/clock/DSP section, left channel analog, right channel analog, and the power supply: left, right, digital, and standby.

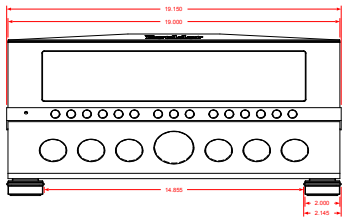
Because every portion of the 3010 is damped and isolated from the others, nothing interferes with each other or the delicate audio signal of your favorite records or soundtracks.

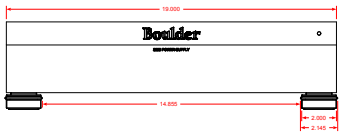
All of these features make the 3010 the most powerful and transparent preamplifier available today. You hear exactly what the artists, producers, and engineers wanted you to hear.

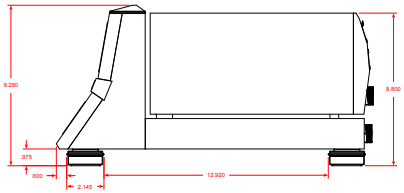
Dimensions

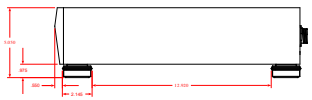












Technical Specifications

Balanced Inputs	6, via 3-pin XLR
Balanced Outputs, Dual	3, via 3-pin XLR
Auxiliary Balanced Output	1, via 3-pin XLR
Maximum Input Level	7 Vrms
Maximum Output Level	28 Vrms
THD+N, 2V Output, 20 Hz to 5 kHz	0.0008%, (-102 dB)
THD+N, 2V Output at 20 kHz	0.001% (-100 dB)
Maximum Voltage Gain	20 dB
Volume Range	100 dB
Volume Steps	0.1, 0.5, 1.0 dB ± 0.01 dB
Auxiliary Path Gain	+1 dB
Frequency Response, 20 Hz to 5 kHz	+0.00, -0.03 dB
Frequency Response, -3 dB	0.02 Hz and 300 kHz
Input Impedance	333kΩ, Balanced
Output Impedance	100Ω, Balanced
Power Requirements	90-120V, 200-240 VAC, 50-60Hz
Power Consumption	240W Maximum
Preamplifier Chassis Dimensions	19” W x 18” D x 9.25” H 48.25 cm W x 46 cm D x 23.5 cm H
Preamplifier Chassis Weight	78 lbs. (35.4 kg)
Power Supply Chassis Dimensions	19” W x 18” D x 5.1” H 48.25 cm W x 46 cm D x 13 cm H
Power Supply Chassis Weight	45 lbs. (20.4 kg)
Shipping Dimensions	27” W x 33” D x 26” H 68.6 cm W x 84 cm D x 66 cm H
Shipping Weight	235 lbs. (106.6 kg)

All specifications measured at 120VAC mains power

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