

Since 1984

# Boulder

# 1161

**Stereo  
Power  
Amplifier**

*An introduction to the technology within the  
Boulder 1161 Stereo Power Amplifier.*



## Welcome

For years Boulder has built the world's finest high-powered, high-performance amplifiers, amplifiers whose power output required substantial and heavy casework to contain all of the electronics inside. In every one of these cases, these amps also needed a heavy wooden crate for transport, a large, obtrusive power connector, and multiple people for installation.

When we were asked to create an amp that could be shipped in a carton, carried by a single person, and installed in a shelf or cabinet without any decrease in musicality, we gave it a lot of thought.

And then we did it.

## Basic Architecture

Physically, the 1161 is the smallest amplifier in the 1100 Series and comes in at 150W per channel, half the power output of the larger 1160 Stereo Amplifier. As a member of the 1100 Series, it is also fully-balanced and includes the equivalent circuitry and functional features of its larger siblings. The chassis is cut from solid slabs of metal, there are a host of external control options, all types of active protection are in place, and power is substantial and conservatively rated.

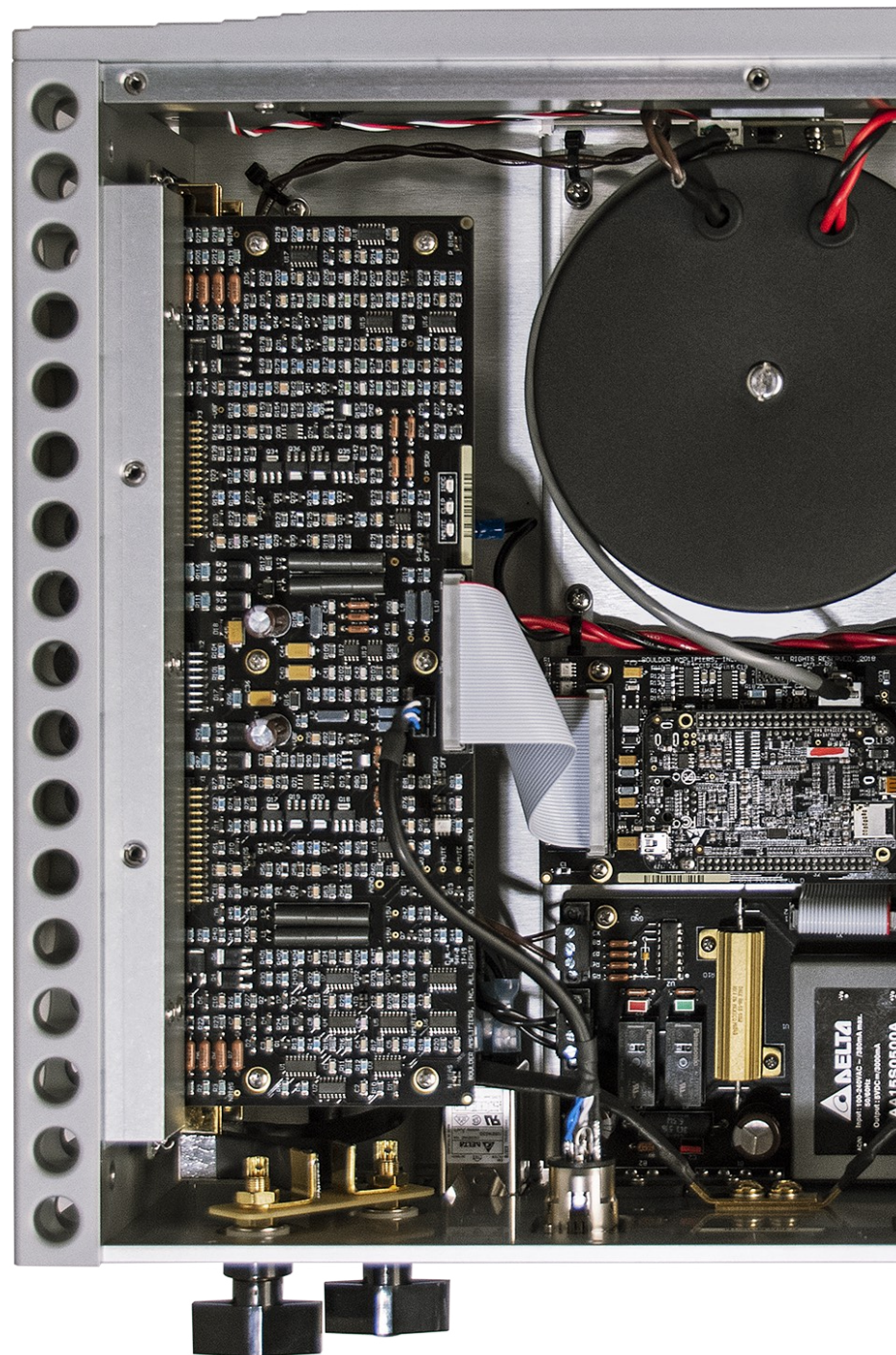
## Power Where it's Needed

One could initially assume that cutting the power output in half would mean a marked drop in dynamics and control for the 1161. This is most certainly not the case. While the amplifier's 150W

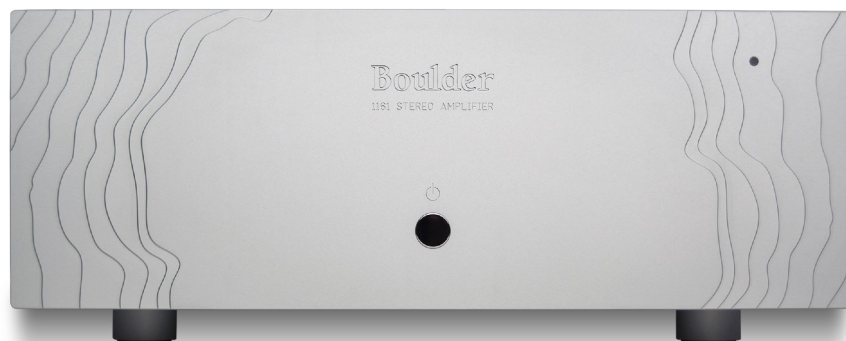
continuous power output is half that of the larger 1160, it is still a Boulder. All of the control, neutrality, and detail are there. A new transformer design and current limiting circuit have given the 1161 capabilities far beyond what is expected from 150W. Other than limitations in absolute maximum output level, the 1161 is perfectly at home with any of its 1100 Series stable mates.

The key to control of a loudspeaker while remaining clear and transparent, regardless of the delicacy or complexity of the audio signal, is the ability to deliver undistorted power from a noise-free background into any reasonable load. The 1161 accomplishes this with a combination of balanced inputs and outputs to reduce noise to vanishingly low levels and more output devices than are typically found in a 150W amplifier. The 1161's extremely low output impedance makes it non-reactive regardless of how the speaker's load changes during playback. This guarantees that the 1161's character will never change, regardless of what you connect it to.

The output section also makes use of multiple smaller, faster filter capacitors instead of fewer larger, slower caps to deliver prodigious and dramatic dynamic impact. As in all other 1100 Series products, Boulder's 983 gain stage is featured and is capable of pushing substantial current swings into the output section whenever necessary without flinching. Even small details like a new bias circuit based on output to eliminate the







manual bias setting at the factory mean that the amplifier is always optimized regardless of use or age.

The 1161 has a new feature, however, that sets it apart: It's the first amplifier to take advantage of a new current limiting circuit. Current limiting senses current through each output device, operating on a governor. It is generally used for protection to keep the amplifier safe by shutting down the outputs in the event of a short or a crossed speaker cable. Boulder's engineers theorized that this same circuit could be used to manage maximum power during very high output and demanding passages of music. By adjusting the way the circuit operates and relaxing the time limits that it will allow from the amplifier for very short durations, extreme power outputs can be achieved without any additional distortion. Cleanly executed dynamics or explosive transients in music or film scores are easily taken in stride by the 1161.

What does all this technical info mean to you? Other than achieving ultimate loudness, the 1161 runs neck and neck with Boulder's larger amplifiers and won't get between you and the way your music collection was recorded.

### Available Technology

Technology should make things easily accessible when needed but be out of the way when not. The 1161 is perfectly at home in a stripped-down, less-is-more, two-channel setup in the heart of a music lover's system. A 12V

trigger port is available for straightforward theater systems or automatic turn-on with a Boulder preamplifier. Yet complete IP control capability is also available to connect it to an integrated cinema or smart home's network for fully-automated control and monitoring. There's even a USB port for software updates. Because all of this operates through the amplifier's built-in ARM system controller, it's incredibly flexible for those who will need it and invisible to those who won't.

### Mechanical Design

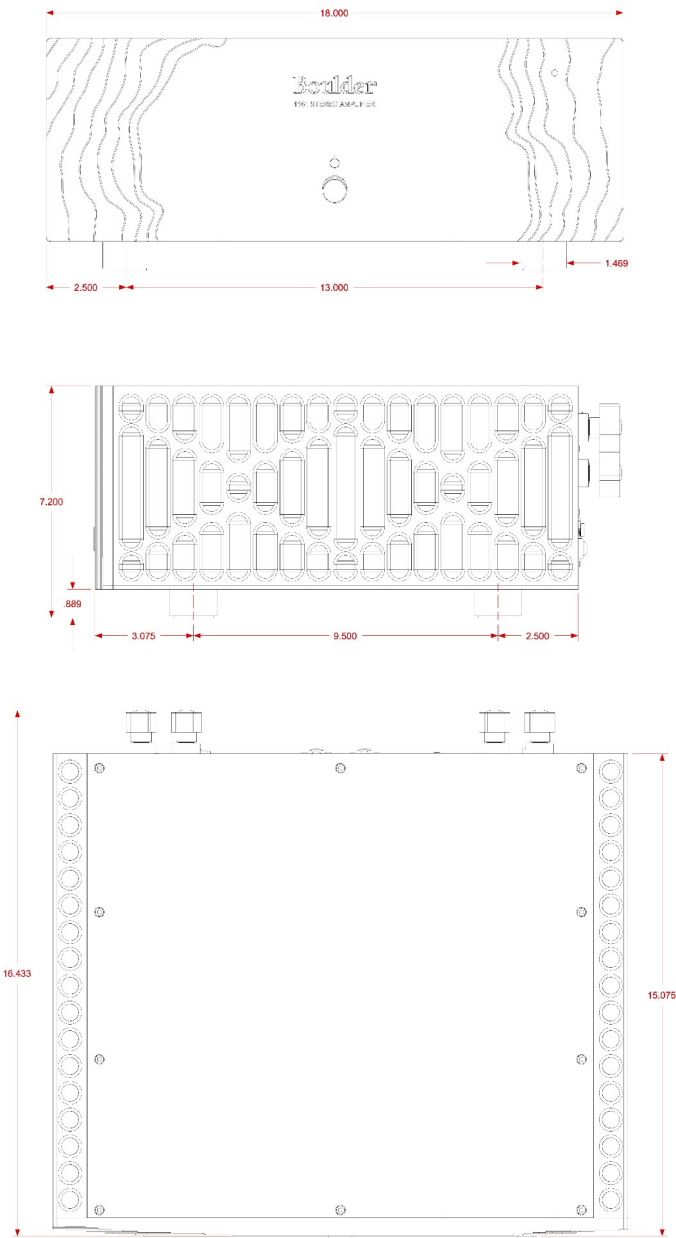
Every panel in the 1161's casework is precisely carved from solid blocks of aluminum and damped during assembly to prevent mechanical resonance from affecting the audio. We've also potted, canned, and damped the transformer to prevent any mechanical hum or vibration from interfering with your enjoyment of the music passing through. It should be evident by now that no shortcuts were taken when it came to developing the smaller 1100 Series amplifier.

### The Truth is in the Listening

Every song played through the 1161 is a personal expression and every film soundtrack is a way to put you in the center of the action. Likewise, there are songs of incredible intimacy and cinema features of intense drama. The 1161 was created to let you hear and feel everything the performers wanted without any size, connection, or installation limitations.

It's time you had it all.

Dimensions



Technical Specifications

Peak Power	450W, 2 ohms
Continuous Power	150W, 8, 4, 2 ohms
Inputs	3-pin XLR
Outputs	0.25-inch (6mm) wingscrew
Input Impedance	Balanced: 200k ohms, Unbalanced: 100k ohms
Voltage Gain	26 dB
Equivalent Input Noise (EIN), 20 kHz, BW	1.5 $\mu$ V
Magnitude Response, 20 Hz to 20 kHz	+0.00, -0.04 dB
Magnitude Response, -3 dB at	0.015 Hz, 150 kHz
Common Mode Rejection (Balanced only)	60 Hz: 90 dB, 10 kHz: 70 dB
Crosstalk, L to R or R to L	-100 dB or better, 20 Hz to 20 kHz
Power Requirements	100, 120, 200, 240 VAC, 50-60Hz
Power Consumption	100W nominal, 1000W maximum
Amplifier Dimensions	18" W x 16.43" D x 7.2" H 45.7 cm W x 41.7 cm D x 18.3 cm H
Amplifier Weight	54 lbs. (24.5 kg)
Amplifier Shipping Dimensions	24" W x 23" D x 14" H 61 cm W x 58 cm D x 36 cm H
Amplifier Shipping Weight	64 lbs. (29 kg)

All specifications measured at 240VAC mains power

# Boulder Amplifiers

255 S. Taylor Avenue

Louisville, CO 80027

Tel: 303-449-8220

e-mail: [sales@boulderamp.com](mailto:sales@boulderamp.com)

web: [www.boulderamp.com](http://www.boulderamp.com)

facebook: [www.facebook.com/BoulderAmplifiersInc](http://www.facebook.com/BoulderAmplifiersInc)

instagram: [@boulderamplifiers](https://www.instagram.com/boulderamplifiers)

twitter: [@BoulderAmps](https://twitter.com/BoulderAmps)