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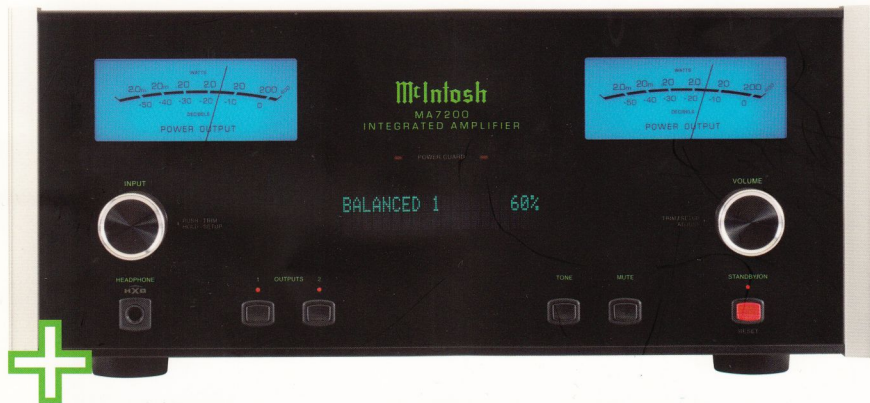
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Boulder 1110 Pre-amplifier and 1160 Amplifier

by Eric Neff

Boulder Amplifiers, Inc. of Louisville, Colorado, USA has over thirty plus years in developing an enviable reputation for world class audio electronics. Manufactured entirely in-house, most of their designs stay current for many years. Indeed, changes to or new models of their lines come only from years of research to determine if something merits taking a place in the line-up over its progenitor. The 1060 amplifier had been around for nearly eighteen years before the 1160 made its debut. The 1010 pre-amplifier had over a 12-year run before the 1110 was developed. Putting long term quality ahead of short term annual upgrade models speaks to their excellence as an aspirational brand.

Upon delivery I assisted the driver in moving the amp to my study. In its wooden shipping crate the 1160 amp weighs in at 98 Kg. The 1110 preamp is a more manageable 22.25 Kg in its carton. Unpacking the 1160 requires a power drill and screwdriver bit. Two to four people are recommended for extraction from the crate. Moving the amp into its position we then placed the pre-amp on top. The CNC'd casework on both pieces line up to show a relief of the topographical map of Flagstaff Mountain west of Boulder, Colorado. The effect is quite stunning and a nice change from the typical amp case work.

Connecting sources to the 1110 pre-amp also includes an ethernet cable to your home router. Both the 1110 and 1160 have an advanced ARM (Advanced RISC Machine) computer processor in them. The 1110 preamp uses the services of the chip to manage communications, protection, and

operations. Software allows the pre-amp to be upgraded or refined as needed over the internet. Trouble shooting can also be done remotely saving time and potentially shipping costs. Input naming functions, input re-assignments, and home theatre audio integration can now be done from your home computer via the 1110's internal web page rather than scrolling through a multi layered on screen menu. To adjust settings, I entered the local IP address for the preamp on my Mac and up came the 1110's web page. I entered my input names for their sources, Input 1 for my PS Audio DirectStream DAC, Input 2 for 'Home Theater By-Pass' and Input 3 for my Moon 610 LP phono pre connected to the VPI Prime Signature turntable. Inputs 4 and 5 remained empty. They instantly changed on the preamp itself. Simple!

The 1160 amplifier accepts spade connections only via beefy knobs to allow for a solid connection. Attaching my AudioQuest Castle-Rock spade-ended speaker cables was straight forward. As with the preamp the amp is balanced only and accepts XLR as its single connection to the preamp. The 1160 also utilizes an ARM chip. The chip is used to regulate power and protection circuitry. Errors can be sent to a row of LED's on the amp's circuit board for fast identification of error types. It also allows for the creation of an error log to be sent directly to the factory to speed analysis for faster repairs.

Being fully balanced each of the five preamp inputs accept only XLR cabling. The preamp uses a standard IEC power cable. I used a new AudioQuest NRG-Y3 power cable. The 1160 amplifier uses a higher rated 32A IEC connector. This included cable came with a standard North American three prong power plug on the other end allowing for use in any home. However, since the amplifier can draw up to 25 amps and 3000 watts the goal was not to have the amp limited on its end. I had the 1160 plugged into a dedicated 20-amp circuit and experienced no issues with power during the review period.

The 1110 does offer a 'Home Theater Bypass' function which can be assigned to any of the five inputs. In my home theatre system using a Denon AVR-X8500H Flagship receiver I needed single ended output capability from the 1110 pre-amp. Boulder can provide a stereo pair of male XLR to female RCA to facilitate the appropriate connections. Take your time matching output levels so when you hand off volume control of your front L/R speakers from the 1110 pre-amp to the receiver you do not have too much power going to your speakers. The 1160 amp is powerful and could cause damage if you are not careful when operating in home theatre bypass mode. Once configured, the Boulder pair fit right into my home theatre system.

Given the long and highly regarded shelf life of the previous pieces I was curious what changes could be found inside each unit. For the 1110 ▶



"I have always appreciated any listening that offered a more visceral experience, and this was a good one."

► preamp the elimination of the phono-pre (they have a stand-alone model 1008 that most 1010 owners bought anyway). The 1000 series products were Boulder's first efforts at surface mount technology. Boulder has learned a lot in 18 years! The goal was to increase resolution, dynamics, clarity, and transient speed. This was accomplished with better board management incorporating lessons learned with its 2000 series and flagship 3000 series. Speaking to Rich Maez, Boulder Amplifiers, Inc.'s Director of Sales and Marketing, Boulder is particularly proud of the soundstage in the 1100 series. My time with the 1110/1160 definitely illustrated why they felt the way they do. The soundstage is huge, precise, and satisfying. The inclusion of the aforementioned ARM chips allowed for better device management, which is also part of the improved sound characteristics.

The 1160 amp has better heat management. It is faster than the 1060 and the inclusion of the ARM chip allows for better circuit protection capabilities. The in-house CNC work had an unexpected result too, as the metal working team suggested the topographical relief map on the front of the case. Every member of the Boulder team had input into this new design. The 1160 remains a world-class AB amplifier and should provide the same decades long excellence in performance as its predecessor.

One benefit of receiving a review unit that has been to a few locations before I received it is no downtime burning in the units. After some warm up time, I was able to dive right in. First up was testing home theatre integration. I run a 7.2.4 Dolby Atmos setup using a pair of SVS subs and front and rear height channels. The Denon AVR0X8500H is the current best of breed for AV receivers offering 13 channels of power. Inserting the

Boulder gear into this setup to drive the front L/R was straight forward. Putting on the 4K disc of *The Matrix I* sat back to enjoy the show. The remixed for Dolby Atmos sound track is incredibly active with a completely enveloping sonic experience. The Vandersteen Quatro CT's performed exactly as they needed to be powered via the Boulder gear. The Denon seamlessly controlled volume between the nine speakers plus two subs connected to it and the front L/R Vandersteen's powering off the Boulder 1160 amp. I would say it was a bit of overkill for home theatre but if you have the toys handy...

Getting back to our main course, Audio, I queued up the new re-issue of Dido's *No Angel* on multicoloured (red and black like the album cover) vinyl [Sony]. 'Hunter' has been a tune I have enjoyed for nearly twenty years. What was striking from the beginning was how Dido had more dimension and body. The sense of her being more "there" was wonderful. I have always appreciated any listening that offered a more visceral experience, and this was a good one. Vocal purity was clear and clean adding to the quality of the presentation.

Next up was Peter Gabriel's *Shaking the Tree - Sixteen Golden Greats CD* [Real World]. This was an opportunity to experience the soundstage as both 'Mercy Street' and 'Shaking the Tree' offer wide expansive soundstages as well as height. The use of triangle and chimes generally at high and wide positions create a delicate aural framing for 'Mercy Street'. 'Red Rain' came through with power and detail. The crashing drums detonate throughout the song as if they were the storm. Transitioning from a song like 'Mercy Street' to 'Red Rain' really shows off the range of power and control that the 1160 amplifier brings to a system. Nuance shines through without being overpowered by the powerful impact brought by the 1160. Most impressive.

Over the years I have tried to acquire as many well mastered SACD's as I can. One of my favourites is Dire Straits' *Brothers in Arms* [Mercury] played on my PS Audio DirectStream Memory Player through the i2s connection with the DirectStream DSD Dac - it is as perfect a playback as I have available to me. Connected to the 1110 pre-amp via AudioQuest Columbia XLR cables I experienced what the engineers at Boulder were aspiring to: speed, clarity, and super-fast transients. Throughout the disc, I heard the crisp and fast attack by Mark Knopfler on his guitar strings. The bass guitar was held in an iron grip by the amplifier as it delivered solid powerful song-driving low end. Never was it out of control. The depth was very impressive. After turning up the volume to a louder than usual level the walls were shaking but the clarity and spot on imaging never wavered. Drums had snap and thunder. There is something about the sound of the head of the drumstick as it snaps off the top of the snare drum. The effect was lifelike and crisp.

Another of my favourite SACD's is Grover Washington Jr.'s *Prime Cuts The Columbia Years 1987-1999* [Sony]. Grover's Sax playing was always so sweet and pure. He could rasp when it was the thing, but few can make a reed ►

▶ sound so smooth. The 1110/1160 combo allowed the notes to flow on 'Take Five (Take another Five)'. It was like watching a river of music deep and clear flow past on a warm summer evening. Once again, the Boulder pair allowed the music to have an easy jazzy flow by processing things at speed. You never had the sense that things were not keeping up. Snare drums were precise and snappy. Percussion framed the soulful sax with crisp staccato crack and snap. Claves and Guiro were crisp and natural.

I have had the opportunity to review Boulder gear in the past (The 865 Integrated in issue 144) and it was a wonderful experience. The 865 is one of the two or three best integrated I have ever used. I had very high expectations for this new launch of the 1100 series and frankly my expectations were exceeded. When a manufacturer builds to such a high-quality level that it takes over a decade to surpass their previous versions that says volumes about what an audio consumer can expect when the gear gets home. Boulder Amplifiers' ability to manufacture everything in their factory provides the highest level of quality control.

Thirty-four years of engineering focus has given Boulder time to learn more efficient and effective ways to construct its gear, with build quality that routinely functions for a decade plus of set-it-and-forget-it life spans, better heat dissipation, plus ARM Chip inclusion for web capabilities as well as advanced power management and circuit protection. I have not found any area that has not been considered for improvement. And, the music! Absolutely musical! I could not detect any colour being inserted by the Boulder siblings. They did not offer a warm, cool, or shaded tonal signature. Everything was by the book, whatever was the disc, LP, or streaming bits. That is what I want from a solid state, state of the art system.

Boulder Amplifiers new 1100 series will stand tall next to its bigger brethren. That topographic map is there for a reason; this climbs to new heights. +

TECHNICAL SPECIFICATIONS

1110 Stereo preamplifier

Input connections: 5 pairs balanced line level

Output connections: 2 pairs balanced main, 1 pair balanced auxiliary

Volume: 100 dB range in 0.5 dB steps (200 steps) or 1.0 dB steps (100 steps)

Maximum input level: 6.0 Vrms

Maximum output level: 14.0 Vrms

THD+n, 2v output, 20 Hz–20 kHz: 0.0015% (-96.5 dB)

Maximum voltage gain: 20 dB

Frequency response, 20 Hz–20 kHz: +0.00, -0.03 dB

Signal to noise ratio: 118 dB

Crosstalk, L to R or R to L: -101 dB or better, 20 Hz to 20 kHz

Input impedance: 100k ohms, balanced; 50k ohms, unbalanced

Output impedance: 100 ohms balanced; 50 ohms, unbalanced

Control system: IP (Ethernet), IR, Boulder Net

Dimensions (W×H×D): 45.7 × 14.6 × 38.9cm

Weight: 16.3 kg

Price: £20,500

1160 Stereo power amplifier

Input: 3-pin balanced XLR

Continuous power 8Ω, 4Ω, 2Ω: 300W

Peak power, 8Ω, 4Ω, 2Ω: 300W, 600W, 1200W

THD, 8 OHMS, 300W: 20-2 kHz: 0.0009%, 20 kHz: 0.0048%

THD, 4 OHMS, 300W: 20-2 kHz: 0.0016%, 20 kHz: 0.0071%

THD, 2 OHMS, 300W: 20-2 kHz: 0.002%, 20 kHz: 0.0130%

Equivalent Input Noise: 20 KHz, BW 1.5 μV

Frequency Response: 20 Hz TO 20 kHz +0.00, -0.04 dB

Magnitude Response: -3 dB AT 0.015 Hz, 150 kHz

Voltage Gain: 26 dB

Signal to Noise Ratio (RE 300W/8Ω): -127 dB, unweighted, 20 to 22 kHz

Input Impedance: Balanced: 100k ohms, Unbalanced: 50k ohms

Common Mode Rejection (XLR): 60 Hz: 90 dB, 10 kHz: 70 dB

Crosstalk, L to R or R to L: Greater than 120 dB

Dimensions (W×H×D): 45.7 × 23.6 × 56.5cm

Weight: 61.2 kg

Price: £27,500

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