

## Bryston's new Squared amplifiers sound well rounded in musical terms

The 7 series of amplifiers has been in Bryston's line-up for about 16 years beginning with the 7B, followed by the 7BSST and now replaced by the 7B SST Squared models. Though there have been changes as technology advanced over the years, the new Squared 7B monoblocks hold Bryston's latest and highly evolved audio technology. Many design elements have been improved upon, critical parts have been changed and even the faceplate has been refined.

### Appearance

While the amps still maintain the traditional Bryston look, I noticed that the faceplate is now beveled, giving the amps more pleasing visual appeal. The front, centered on/off switch is now a mechanical device replacing the earlier relays. It and the indicator light (red for standby, green for operation) are still flush mounted. On the units' rear, there are provisions for balanced and single-ended connections, a master AC toggle, the fuse, a ground lift switch and a 12-volt trigger switch. The binding posts have been improved and can accommodate spades or banana plugs.

Each amp measures 19" long, 5.25" high, and 12.5" deep and weighs about 50 pounds. The amps are available in silver and black finishes.



### The Sound

I used a pair of Gershman X1 with matching (passive) subs to burn in the amps. I used my in-house preamplifier, the Weytech Lab Ruby model (a finished prototype), a Pioneer Elite transport and an AA DAC and clock made up the balance of the auditioning system. Two sets of cables — from BISAudio and UltraLink Argentum — I had previously reviewed served as interconnects, speaker and AC cables.

As Bryston connects all amplifiers for 100 hours before delivering them to their destination, the after-burning-in [sic] can be regarded as the final step to achieve their best performance. Thus, I played them for hours, before I sat down to some serious listening. I'd like to mention here that, to my surprise, they didn't sound cold or edgy, even before the necessary burning in period. However, they did begin to show their sonic disposition after but a few hours of operation and I noticed steady improvements over the next few hours. At the beginning of the listening sessions, they sounded surprisingly smooth — as in mellifluous — but didn't reach the operating stage that provides a good perception of the music's harmonic structure. Nevertheless, imaging and instruments' tonal characteristics were discernible. A few more hours later, I began to hear harmonics, better focused imagery and improved tonal balance.

Another 40 hours later, the amps were sufficiently "burnt" and ready for the final auditions. For these I used, first the Gershman and later the Ethera Vitae speakers (my preference).

You may have seen in some of my other reviews that I am a stickler when it comes to harmonics, and to ascertain an amp's ability to reproduce them, I always use a few piano recordings. They include music played on Yamaha, Steinway, Baldwin and Boesendorfer grands.

I used my Jazz CDs on the Concord label with Gene Harris on a Steinway, Dave Brubeck on a Baldwin and Oscar Peterson on a Boesendorfer. On the Three Blind Mice label, the sound of a Yamaha grand is clear. I chose these recordings, not only for their production quality, but also because small ensembles (quartets, trios, etc.) perform the music. As each piano has a unique sonic signature with which I am familiar, I can focus my attention on their characteristics. Consequently, judging the amps' ability to reveal the personality of the pianos is not very difficult.

The 7Bs did not disappoint. They easily elucidated the personality of the pianos and that affirms their ability to recreate likely up to ten harmonics. Most of the piano music is in the critical midrange area from about 160Hz to 1300Hz and the amps simply did what they are supposed to do. As all great amplifier designs, the 7Bs didn't accentuate the midrange region, nor did they conceal a single note, thereby making it possible to listen into the music and discern inner detail and micro dynamics.

Though midrange is likely the most dominant segment of music, it is a small part for the amplifier to deal with. The section above the midrange — that is all the upper and top frequencies from about 2600Hz to 20kHz — is important, since it must handle some fundamentals produced by instruments, as well as loads of harmonics. This is where the new 7Bs literally shine — not to be confused with glare or sparkle with brightness. The entire upper midrange is smooth, seems exquisitely balanced with the midrange and finishes with finesse and sonic refinement at ultra-highs. The 7Bs' achievement in this frequency segment is likely the reason why the important harmonics are reproduced appropriately. This and the amps' tonal balance makes listening to female and male vocals a joy. With large orchestral works, first and second violins, violas and cellos come to life, but do not have an annoying strident attribute, often found in solid-state amplifiers.

And then there is the bass. The 7B series of amps always had awesome bass. The sheer power of these beasts combined with dynamic firmness and easily made even inefficient loudspeakers render the most satisfying bottom octaves. The strength of the earlier 7Bs was resolution across the audible spectrum — a characteristic that sometimes resulted in a bit of hardness at top frequencies. However, it assisted the bottom end of all speakers that reach into the pedal-note frequencies. I remember bi-amping loudspeakers with the 7BSSTs to maximize bass performance that many other amps couldn't achieve (my friend and ex-partner Sol can attest to this as he drives his subs with 7BSSTs in a superb audio set-up).

Having said this, it's time to talk about the new 7B Squared. The bass part of these amps has become a little softer in temper; not as resolute as the previous model, but more organic in sound quality. Listening to some Jimmy Smith B3 recording, I found that pedal notes are a bit more harmonious, a little more pleasing to the old ears. My Fidelio recording Sept Patroles Du Christ features a pipe organ with a 16Hz note and is a great test for any system. I found that the 7Bs handled the note down to around 28Hz — the point at which the auditioning loudspeakers simply quit. Nevertheless, the amplifiers' organic attributes made the organ sound realistic, reaching in the bass area without hesitation and with plenty

### TECHNOLOGY

Each amplifier delivers 600 watts into an 8 ohm load and 900 watts into 4 ohms. Gain is selectable with either 2.3 or 4.6 volts @ 8ohms; input impedance  $\leq$  50Kohms single ended, 20Kohms balanced; distortion — IM and THD is quoted as <0.005% at 600 watts and 0.007% at 900 watts; signal to noise ratio is >110dB from 20Hz to 20kHz (superb, and the reason for the very low noise floor); slew rate is 120 volts/ms; bandwidth is <1Hz to over 100kHz.

When idle, the amps consume 215 watts each; when in full operation, they'll gobble up to 1284 watts.

These amplifiers boast a lot of design and component changes, beginning with new power supply transformers that feature very high energy storage. This eliminates narrow peaks of up to 50 amp current, thereby eliminating voltage dropouts caused by the continuous recharging of filter capacitors by the transformer. The design differs from the standard transformers used by most manufacturers and came about by adopting some of the technology used in the Torus power-line conditioner (for these amps, you needn't use a line conditioner). It recharges the filter capacitors directly from its own energy storage capacity, and then takes up the energy from the wall socket over the full 60 Hz waveform. This method optimizes the amplifiers' performance regarding focus, dynamics and imaging.

Furthermore, new and improved capacitors were employed. Bryston's research department discovered new input and feedback capacitors that will lower total harmonic distortion and improve the sound quality across the upper frequency range from 20kHz to 60kHz. The caps are now used in all Bryston amps. However, only the 28B SST, the 14B SST and the 7B SST — the most powerful units — have the transformer changes.

Bryston checks each amplifier's specifications, and I noticed that the amps under review actually delivered 625 watts before clipping, the noise floor was 6dB lower than the spec sheet stated and THD was on average 20% better than quoted.

According to Bryston's James

authority. The aforementioned CD also has female vocals along with the bass, and reproducing both together requires an amplifier that provides body and texture for the bottom end, as well as a great deal of finesse for the midrange. The 7B Squared passed this test easily. I had a clear impression of the vocals, not dominated at all by the music's rich body in the bass area. All this in the appropriate spaces on the sound stage — centre stage up high for the voice, rear stage slightly left for the organ bass.

All in all, the new amplifiers offer a more natural flow of the music and handle all frequency segments with equal strength, which at the end sounds more realistic when live music is used as a yardstick.

Another realist element is the 7Bs ability to set up a mean sound stage. They help making the system disappear and provide out-of-the-box imagery, behind and well above the confines of the loudspeakers. In fact, the sound-stage height, focus on instruments and voices, front-to-back layering and spatial elements are the amplifiers' most remarkable features, matching the 28B SST's performance.

#### Synopsis

My memory banks fail when it comes to names, model numbers, and a whole lot of other things, but, surprisingly, I remember sound quite well. Thus, I remember the sound of earlier 7Bs and I can attest to the sonic changes and admirable improvements of the new 7B SST Squared.

Tanner, the company design criterion was to "get the first watt to the last watt" at equivalent quality. This translates to the amplifiers' ability to maintain an ideal power curve through the first and last watt (most solid state amps work best at one/third of their power rating). Both monoblocks are full balanced, whereby positive and negative terminals are amplified. Those who are interested can contact Bryston for a white paper, which describes the technical details.

These amplifiers are the best Bryston ever made since the inception of the 7B series a couple of decades ago. In my opinion, the only amps that will outperform the new 7BSST Squared units are the 28B monoblocks I have reviewed about three years ago (review is posted in out archive section). Both sets of amplifiers have delightful sonic characteristics that cannot be categorized easily. Both designs boast what solid state is all about — loads of kinetic energy, great dynamics, speed and control. However in addition to those elements, these amplifiers have a warm blossoming quality that is customarily found in (expensive) tube gear. As the 7B Squared amplifiers offer a bit of both, they may be the solution to achieve a high degree of musicality with any loudspeakers rated under 90dB efficiency. They will, however, sound great with any loudspeakers under the sun. They are still offered at a very reasonable price, which, in my opinion is not indicative of their performance in the high-end category of the audio industry. They may well be the least expensive high-end monoblocks on the market.

If you wish to get the most out of the amplifiers, it is wise to use good speaker cables and interconnects. A super preamp and good source components are mandatory. Before you spend your bucks, I suggest an audition at your Bryston dealership.

#### MODELS

Bryston 7B SST Squared (2) Monoblock Amplifiers

#### RATING



#### PRICE

\$4,195.00 each (US & CDN)

#### Dimensions

#### MANUFACTURER

Bryston Ltd.

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