



of Home Theater and High Fidelity review

Bryston 14B SST2 Stereo 600 Watt per Channel Power Amplifier - June 2010

“... has to be heard to be believed.”

BY JOHN E. JOHNSON, JR.

INTRODUCTION

Bryston, renown manufacturer of amplifiers with a 20 year warranty, markets products with a full gamut of power output ranges. The 14B SST2 is a stereo power amplifier rated at 600 watts per channel output into 8 ohms. That's a lot of power. Is all that power useful? Is it necessary?

Well, that all depends on a couple of things. One is the type of music you listen to and how loud you listen to it. If you like heavy metal or Beethoven's symphonies, then yes. If you have speakers that are not very sensitive (e.g., 85 dB/w/m), then yes. The reason is the overhead. Most of the time, regardless of the music, the power delivered to your speakers

will be less than 20 watts per channel. But, with powerful transients, such as the leading edge of a steel string guitar, crash of a cymbal, or a big crescendo, the power demand can easily go to hundreds of watts. That is because for 10 times the wattage, the sound only doubles in loudness. So, if you are using 20 watts, and along comes a demanding passage, you had better have at least 200 watts or more in reserve. Otherwise, it will either clip, or the amplifier will limit the output and it won't sound as if the passage is as loud as it should (dynamics are an important part of the “you are there” listening experience).

I am a firm believer in having as much power in reserve as possible. I use 1,200 watt monoblocks as a reference. The Bryston 14B

“... produces clean, low distortion, neutral sound, at power levels few of us have experienced.”

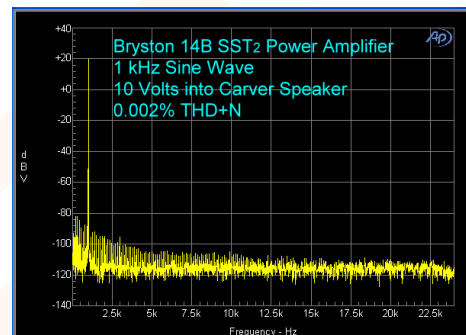




ON THE BENCH

Distortion measurements were made within an 80 kHz bandwidth. I used XLR connections throughout. Instead of an 8 ohm power resistor as the load, I used one of my Carver Amazing Mark IV speakers. So, the load for the first four graphs shown below was an actual speaker (the THD+N vs. Power Output and Frequency Response measurements were made into an 8 ohm power resistor). This is something new I am experimenting with, and the results are enlightening.

At 1 kHz, THD+N was a scant 0.002%.



SST2 is rated at 600 watts rms per channel output into 8 ohms. That is only 3 dB less in loudness capability than 1,200 watts (power is an exponential variable).

So, let's take a look.

"... superb performance."

THE DESIGN

The Bryston 14B SST2 is a Class AB solid state amplifier. It has separate power supply transformers for each channel, and 30,000 µF of capacitance for each channel as well, making the amplifier essentially a dual mono design.

It has true balanced XLR as well as unbalanced RCA inputs, and a selectable sensitivity switch for use with preamplifiers that have more or less output (gives you more range in the volume control).

The rear panel has the XLR and RCA input jacks, switch for selecting XLR or RCA, sensitivity switch, five-way binding posts, and grounded AC receptacle. There is also a main power on/off toggle (the standby switch is on the front).

The review unit was 19" wide, but it also is available in a 17" wide version for rack mounting. It's a hefty 85 pounds and has handles on the front as well as the rear for moving it into position.

The 14B is a beautiful animal. It seemed to roar from its shelf in the test lab even when it

was only in standby mode. Expect your lights to dim when this thing puts out full power.

"The 14B is a beautiful animal!"

IN USE

I tested the Bryston 14B with a McIntosh MCD500 SACD player, Lamm L2 Reference preamplifier, and Carver Amazing Mark IV ribbon speakers. Cables were Emotiva, Slinkylinks, and Legenburg.

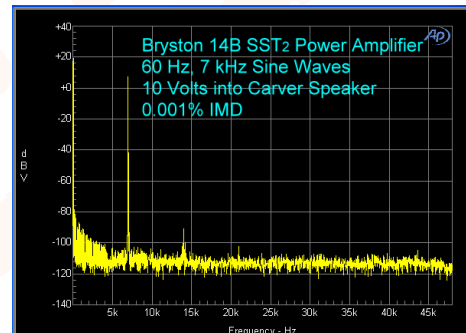
Man, this thing cranks! I thought the plaster was going to come off the ceiling. Fortunately, it doesn't have any plaster (;>=>

I shoved some bombastic SACDs and CDs through the 14B, with nary a crackle of distortion. I have a feeling that the dynamic power (overhead) is considerable.

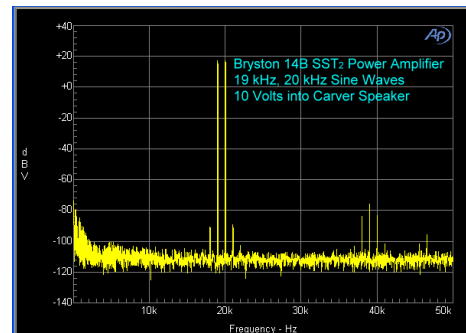
The sound of the 14B is on the neutral side. I did not perceive any tendency for bass, mids, or highs to be forward or recessed. It does not have a sound of its own, unless you can hear huge biceps flexing. It's rated at 600 watts, but it's like having a 12 gauge shotgun, loaded with double 00 buckshot and magnum powder charge.

I listened to some of the most demanding albums I have, and the 14B never faltered. The deepest bass was not diminished. The high register horns never sounded harsh or edgy. It was just great music, and plenty of it.

IMD was also very low, at 0.001%.

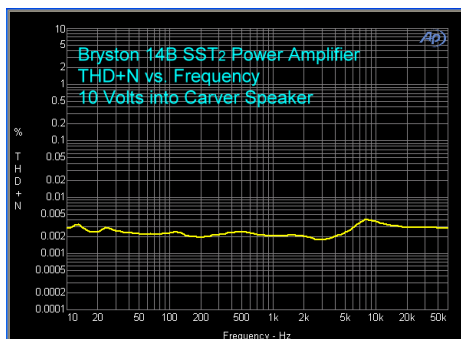


19 kHz and 20 kHz test tones resulted in only two side bands near the fundamentals. This is excellent performance.

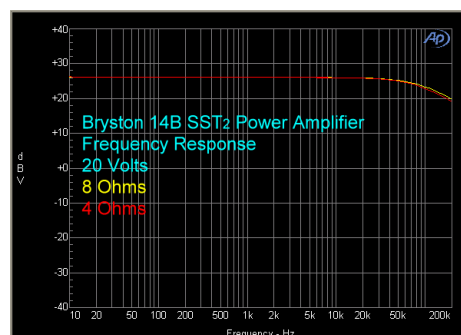


"Man, this thing cranks!"

The THD+N vs. Frequency test resulted in an almost flat distortion curve all the way out to 50 kHz.

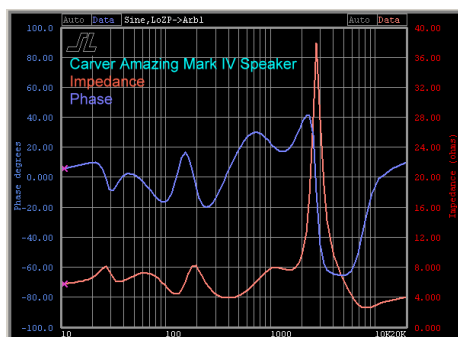


The measured frequency response was down 3 dB at 100 kHz.

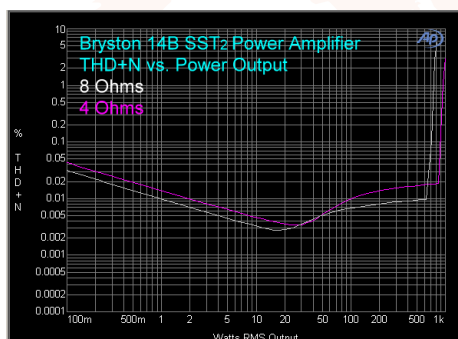


"... the 14B never faltered."

Here is the Impedance/Phase graph for the Carver Amazing Mark IV speaker. Note the low impedance and - 600 phase in the 3 kHz to 8 kHz range. This is a combination of impedance and phase that would be a challenge for an amplifier, and there is a small peak in the distortion curve (the graph above) at 8 kHz. Still, the curve is nearly flat, which represents superb performance.



Power output showed its first knee at 18 watts with an 8 ohm load, and 30 watts with a 4 ohm load. The second knee occurred at 620 watts and 850 watts respectively, before the rapid rise to clipping (1% THD+N) at 750 watts and 950 watts respectively.



CONCLUSIONS

The Bryston 14B SST2 is a marvelous power amplifier. It produces clean, low distortion, neutral sound, at power levels few of us have experienced. Regardless of how much power one has, we typically listen to music at only a few watts. But the overhead with an amplifier like the 14B means delivers a dynamic range that has to be heard to be believed.

Specifications:

- Design: Solid State Stereo Power Amplifier; Class AB
- Power: 600 Watts RMS x 2 into 8 Ohms, 900 Watts into 4 Ohms
- MFR: 1 Hz - 100 kHz
- THD+N: 0.007%
- S/N: 112 dB
- Input Impedance: 50 kOhms Unbalanced, 20 kOhms Balanced
- Input Sensitivity: 4.5 Volts Balanced - 500 Watts Output
- Inputs: True Balanced XLR and Unbalanced RCA
- Dimensions: 7" H x 19" W x 17.25" D
- Weight: 85 Pounds
- MSRP: \$8,695 USA



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