HOME THEATER
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HIGH END

Test Bench

BY Fred Manteghian

Bryston SP3 Surround Processor and 9B SST² Amplifier

PRICE: $17,595 **AT A GLANCE:** No-compromise musicality in a home theater • Clean and powerful • No-frills design

Speaking Power to Truth

If you've ever spent an afternoon at a big-box store courting eye strain and knee pain comparing the lineup of AVRs, then you've doubtless discovered that, superficially at least, the offerings have more in common than not. Sure, the more you spend, the more buzzwords are silk-screened across the front panel, the more HDMI connections you find around back, and, when it comes to power, the more exaggeration you get. One thing about Bryston and power—it's not within theirs to lie. My first audiophile speakers, Magnepan MG-IIIa speakers, didn't turn amazing until they met a Bryston 4B amp. If current is what your speakers crave, a Bryston amp could be their best friend.

The 9B SST² is a nothing-held-back five-channel amplifier with both balanced and single-ended connections. Using a blade-like arrangement, each 120-watt channel card (200 watts into 4 ohms) has its own substantial toroidal transformer and heat sinks seemingly large enough to cool off a Google server. No Class D power tricks here, just pure old-school class A/B amplification.

Between the XLR and RCA connector of each channel of the 9B SST² are switches to select which style input to use, that channel's polarity, and a three-position gain setting with selections for 17, 23, or 29 decibels. The latter is recommended for single-ended connections, while 23 dB is recommended if you're using balanced connections. I used balanced XLR outputs from the SP3 processor but heard no ill effects even at the 29-dB setting, so that's where I kept it for most of the review.

Knobsolescence

Bryston is the only amp manufacturer that gives you a 20-year transferrable warranty on its analog components like the 9B SST². That's confidence that speaks of quality. But even Bryston's flagship SP3 digital surround processor comes with a 5-year warranty. At $9,500, the SP3 is one of the more expensive processors you can buy, so come expecting a lot, at least sonically. But, as with other high-end processors from the likes of Classé

Bryston SP3 Surround Processor
AUDIO PERFORMANCE ★★★★★
VIDEO PERFORMANCE ★★☆☆☆
FEATURES ★★★★☆
ERGONOMICS ★★★☆☆
VALUE ★★★☆☆

• The SP3 does not include room equalization software.

SPECS

BRYSTON SP3 SURROUND PROCESSOR

AUDIO DECODING:
DOLBY: TrueHD, Digital Plus, Digital EX, Pro Logic IIx
DTS: DTS-HD Master Audio, DTS, Neo: 6
AUDYSSEY: No
OTHER: Club, Natural
3D: Yes
THX CERTIFICATION: No
VIDEO PROCESSING: None
AUTO SETUP/ROOM EQ: None
DIMENSIONS (W X H X D, INCHES): 19 x 6.5 x 15.5
WEIGHT (POUNDS): 24
PRICE: $9,500

and Cary, and perhaps some others, don't expect a plethora of bells and whistles. The old adage of a straight-wire-with-gain is still the corporate mentality at this Canadian bastion of audiophilia. So other than video switching for eight HDMI source inputs and two HDMI display outputs, the SP3 forgoes legacy component video, S-video, and composite video inputs and outputs and all the video scaling, deinterlacing, and cross-conversion circuitry that brings along. There are work-arounds, of course, for legacy (non-HDMI) video equipment, like wiring video directly to your display. But seriously, if you have to ask, you can't afford the Bryston SP3 anyway. The worst of it, for me anyway, was not being able to see the volume setting or surround modes displayed on the TV.

Let's talk about the heavy square metal brick of a remote. Even though it doesn't look like it, motion-detection backlighting can be programmed in within seconds. I recommend that you do this, as it greatly improves the readability of the small white font/black background controls. The layout, with rows of identical buttons, is far from ergonomic. But, again, if you're investing this much money, you'll probably program (or have your dealer program) a fancier remote to control your whole room from sound to lights. When that breaks, you'll use this.

The SP3 has a 7.1-channel analog audio input (single-ended) for an SACD or DVD player if needed. There are six two-channel single-ended (RCA) inputs, assigned to the six sources (CD, Tuner, Cable/Sat, DVD, DVR/Tape, and Tape) and two two-channel balanced (XLR) inputs assigned to two other sources. Each of those eight sources is then also assigned one of the eight HDMI inputs. Using either the HDMI button on the front panel or the remote, you can switch the source you've currently selected to use either the analog or HDMI input associated with it. The SP3 remembers the last setting for each of the sources selected, so in practice, it's set it and forget it. I connected three HDMI-equipped devices (a Blu-ray player, an HD DVD player I sometimes use as a DVD player/CD transport, and an HD DirecTV receiver) to the first three sources on the SP3, my turntable/phono stage to the analog input for the fourth source, and I still had plenty of HDMI, digital, and analog inputs left. Both HDMI video outputs are simultaneously active, so choosing between my Pioneer plasma or JVC projector simply meant turning one off and the other on.

Back to the minimalism—Bryston does not offer room equalization software in the SP3, either. The company isn't a big believer in room EQ, citing in a white paper by Bryston's James Tanner, in which he says it essentially boils down to attempting to undo what your speaker designer undoubtedly spent many a sleepless night perfecting. In this view, electronic room EQ is no substitute for proper speaker positioning and some modest room treatment. While the AVRs I've reviewed in the past few years have attempted to provide flat frequency response in up to eight different listening seats—and have frequently done a decent job of it—when all is said and done, I've usually ended up turning off the EQ.

You should plug the SP3 into your home network to facilitate firmware updates. This is a high-end processor, but the HDMI standard it supports is a hornet's nest that small manufacturers like Bryston find challenging to keep up with—but not for lack of trying. From delivery through the short review period, Bryston released not one, but two firmware updates. I ran into a problem with a new Blu-ray player in which a fast-forward/rewind/pause over a few seconds caused the SP3 to lose the bitstream signal, and it defaulted to PCM processing when I hit play. Not a pretty sound, I can assure you! But Bryston was ahead of me, and its latest firmware update corrected the vagaries with my player. And the process was stupid simple, even for a neophyte, which I somtimes wish I was.

Vinyl vs. Digital

Not many reviewers still keep vinyl in their stable, and I'll confess that I go through long stretches where I'm perfectly satisfied with low-bit Pandora. But when you get something as sweet as the Bryston combo to review, you'd be a fool not to use your best audio sources. Even with my aging Grado cartridge in play, there's still that sense of body that is sorely lacking in even the best digital delivery.

The crisp *thwack* of drumstick tip to cymbal on "Flamenco Sketches" from Miles Davis' *Kind of Blue* was not tizzy or etched, just rounded, splashy, but with realistic upper-frequency weight. John Coltrane's tenor sax on "All Blues" was haunting once again, but with a solidity that felt like my lips were tingling in sympathy with his reed. I ran all this in 2-Channel Bypass mode, of course, meaning pure analog in, analog out, and no sub (selectable in the setup) with my Revel Salon main speakers—

HT Labs Measures

BRYSTON SP3 SURROUND PROCESSOR

Analog frequency response in Bypass mode:
–0.07 dB at 10 Hz
–0.01 dB at 20 Hz
–0.06 dB at 20 kHz
–0.42 dB at 50 kHz

Analog frequency response with signal processing:
–0.22 dB at 10 Hz
–0.07 dB at 20 Hz
–0.10 dB at 20 kHz
–12.32 dB at 50 kHz

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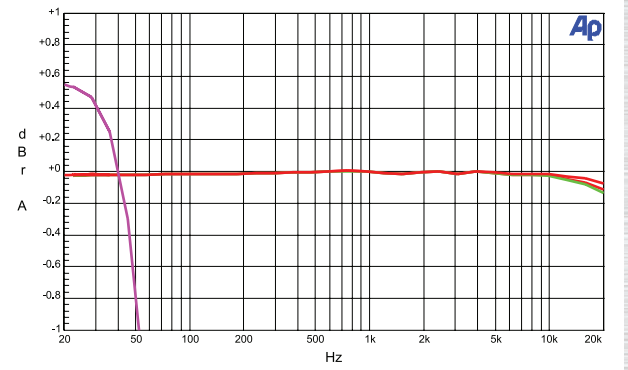
The chart below shows the frequency response of the left (aqua), center (green), LFE (purple), and left surround (red) channels at the preamp outputs of the Dolby Digital decoder. The left channel measures –0.02 decibels at 20 hertz and –0.11 dB at 20 kilohertz. The center channel measures –0.02 dB at 20 Hz and –0.13 dB at 20 kHz, and the left surround channel measures –0.02 dB at 20 Hz and –0.07 dB at 20 kHz. The LFE channel, normalized to the level at 40 Hz, is +0.54 dB at 20 Hz, reaches the upper –3-dB point at 67 Hz, and reaches the upper –6-dB point at 82 Hz.

Response from the multichannel input to the main output measures –0.05 dB at 10 Hz, –0.01 dB at 20 Hz, –0.06 dB at 20 kHz, and –0.42 dB at 50 kHz. The analog THD+N was less than 0.022 percent at 1 kHz with a 100-millivolt input and the volume control set to +2.5. Crosstalk with a 100-mV input was –92.92 dB left to right and –93.44 dB right to left. The signal-to-noise ratio with "A" weighting was –121.59 dBrA.—**MJP**

BRYSTON SP3 SURROUND PROCESSOR



CONNECTIONS

INPUTS: VIDEO: HDMI 1.4a (8) **Audio:** Coaxial digital (4), optical digital (3), 7.1-channel analog (1), stereo analog (6 RCA, 2 XLR), AES (XLR, 2), USB (1) **ADDITIONAL:** 12-volt trigger (1) **OUTPUTS: VIDEO:** HDMI 1.4a (2) **AUDIO:** 7.1-channel XLR (1), 7.1-channel single-ended (1), stereo analog (3), optical digital (1), 0.25-inch headphone **ADDITIONAL:** RS-232 (1), 12-volt trigger (3), Ethernet (1)

● **The SP3 includes both single-ended and balanced 7.1-channel outputs.**

3:2 HD	2:2 HD	MA HD	3:2 SD	2:2 SD	MA SD	VIDEO CLIPPING	LUMA RESOLUTION	CHROMA RESOLUTION	PASSES 3D
N/A	N/A	N/A	N/A	N/A	N/A	FAIL	PASS	PASS	YES

Motion-detection backlighting can be programmed into the remote control.

and it sounded great. The Bryston's noise level is very low, so I heard the boulder scraping the canyon wall that is vinyl, but nothing else.

It's *Never a Dull Moment* while listening to Rod Stewart's "You Wear It Well" on some classic and rare DCC 180-gram vinyl. Channel separation was excellent, and the electric and acoustic guitars held their definition superbly. A friend of mine is a mastering engineer, and he told me he'd recently been listening to a lot of older music (like this) and just marveling at how honest and defined it was. Or maybe that's just me interpreting what he said into audio reviewer terms. So much of what is produced today lacks natural dynamics. It's just a wall of sound with little definition. One big, phat note, clubbing you into submission. How great to hear the horns on "I'd Rather Go Blind" blended into the mix with the guitars, neither of them losing their space or definition. The SP3 and 9B SST² are capable of such natural, detailed, and honest resolution, it made me jump up and dance when "Twistin' the Night Away" came on.

Dripping with old-time charm, Ray Charles' "Crying Time" from a 1998 Rhino greatest-hits LP reminded me of what a hi-fi from the early '60s might have sounded like cranking out Ray. The sound was deep and warm, with resolution and depth commensurate with a top-notch tube system of that day. It's probably passé to mourn analog these days, but the Bryston has a purity of sound that brings back those memories. Get up and peer into the SP3 and 9B SST², and you won't see the orange glow of tubes. But sit back, shut your eyes, and you'll swear you're in your basement rec room with your bare toes swimming in a multicolored shag and your mother yelling down from the top of the stairs something about smelling smoke.

Expanding two-channel music with various Dolby Pro Logic and DTS Neo:6 modes is possible and even enjoyable for a purist like me. I found that the Neo:6 Cinema mode worked best on a live recording of Eva Cassidy's *Live at Blues Alley* CD, while Pro Logic II Natural did wonders for the Moody Blues' *To Our Children's Children's Children*. In the latter recording, Pro Logic complemented the excessive reverb in the recording by building a tangibly believable acoustic environment. In straight stereo, it sounded dated and overdone.

Jack White's latest solo CD, *Blunderbuss,* was recorded on analog tape, and while I've lost some of that groove by picking it up on CD instead of vinyl, it still exhibits dynamics more reminiscent of a late-'70s recording. The Bryston components presented a solid and stable center image while a reverberant piano and a drier acoustic guitar spread naturally across the soundstage on "Hypocritical Kiss." The hum of the too-hot guitar amp at the startup of "I'm Shakin'" is easily, and unfortunately, exposed throughout the rest of the songs. The title cut has a live underground club feel with soothing instrumentation and breathy vocals. The Bryston SP3 and 9B SST² are resolution champs, shaking out the good with the bad, as it should be.

VIDEO TEST BENCH The Bryston SP3 performs no video processing; therefore, the only applicable tests above apply to 1080p in to 1080p out. The processor does fine with resolution and passes a 3D input but unfortunately does not pass above-white or below-black information.

Consumer digital video signals extend across a brightness range specified as levels 16 to 235. However, a video passthrough device such as a surround preamp/processor or AVR should accommodate the entire 0-to-255 digital video range (or close to it) to account for any excess in the source. Clipping at the bottom end in such a device will rarely cause viewing issues but does make it more difficult to set the display's black level. While you won't notice white clipping most of the time either, it can smear the gradations in, for example, white clouds on a bright day. This basic requirement is met even by most of the inexpensive AVRs we've tested, but the SP3 actually clipped a few steps prior to 235. Serious enthusiasts might consider bypassing the video switching in the SP3, though I don't consider that a reasonable compromise in so expensive a processor.—**TJN**

All You Zombies

I've had *Zombieland* in my stack of Blu-rays to watch for some time. The DTS-HD Master Audio soundtrack is pristine, with a lot

● **The 9B SST² has balanced and single-ended connections.**

HT Labs Measures

BRYSTON 9B SST² AMPLIFIER

Two channels driven continuously into 8-ohm loads:
- 0.1% distortion at 133.2 watts
- 1% distortion at 151.3 watts

Five channels driven continuously into 8-ohm loads:
- 0.1% distortion at 129.6 watts
- 1% distortion at 148.7 watts

Frequency response RCA input:
- –0.03 dB at 10 Hz
- –0.00 dB at 20 Hz
- –0.27 dB at 20 kHz
- –4.10 dB at 50 kHz

Frequency response XLR input:
- –0.03 dB at 10 Hz
- –0.00 dB at 20 Hz
- –0.27 dB at 20 kHz
- –4.12 dB at 50 kHz

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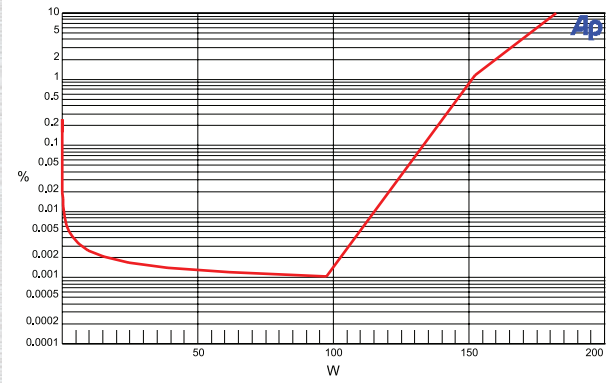
This graph shows that the 9B SST²'s left amplifier channel, with two channels driving 8-ohm loads, reaches 0.1 percent distortion at 133.2 watts and 1 percent distortion at 151.3 watts. Into 4 ohms, the amplifier reaches 0.1 percent distortion at 225.9 watts and 1 percent distortion at 245.5 watts. An input level of 101.5 millivolts was required to produce an output of 2.83 volts into an 8-ohm load, indicating an overall gain of +28.93 decibels using the RCA input and the manufacturer recommended 29-dB gain setting. When using the XLR input, a level of 202.1 millivolts was required to produce an output of 2.83 volts into an 8-ohm load, indicating an overall gain of +22.95 dB using the recommended 23-dB gain setting.

THD+N from the amplifier was less than 0.005 percent at 1 kilohertz when driving 2.83 volts into an 8-ohm load using the RCA input. When using the XLR input under the same conditions, THD+N was less than 0.003 percent. Crosstalk at 1 kHz driving 2.83 volts into an 8-ohm load was –104.90 dB channel 1 to channel 5 and –103.79 dB channel 5 to channel 1 using the RCA inputs and –112.79 dB channel 1 to channel 5 and –112.53 dB channel 5 to channel 1 using the XLR inputs. The signal-to-noise ratio with an 8-ohm load from 10 Hz to 24 kHz with "A" weighting was –105.13 dBrA using the RCA input and –111.10 using the XLR input.—**MJP**

BRYSTON 9B SST² AMPLIFIER



SPECS

BRYSTON 9B SST² AMPLIFIER

NUMBER OF CHANNELS: 5
RATED POWER (WATTS PER CHANNEL): 120 into 8 ohms, 200 into 4 ohms
SPECIFIED FREQUENCY RESPONSE: 1 Hz to over 100 kHz
DIMENSIONS (W X H X D, INCHES): 19 x 5.25 x 19.1
WEIGHT (POUNDS): 76
PRICE: $8,095

CONNECTIONS

BRYSTON 9B SST² AMPLIFIER
INPUTS: XLR (5), RCA (5) **OUTPUTS:** Five-way binding posts (5)

Bryston 9B SST2 Amplifier
PERFORMANCE ★★★★★
FEATURES ★★★★★
ERGONOMICS ★★★★★
VALUE ★★★★½

of music in the soundtrack. The SP3 did a great job with this movie, offering excellent dialogue intelligibility even with the music pumped up. Turning to a movie with very little in the way of contemporary music, the gunshots in *Safe House* sounded extremely realistic, even from upstairs, rooms away, at least according to my son who was trying to study.

Besides movies, of course, I spent a lot of time watching HD material courtesy of DirecTV, and frankly, even the news sounded good. But shows like *Sons of Anarchy* and *Homeland* gained the good theatrical edge one would expect from a premium sound system. The classic rule of thumb in reviewing—if it sounds great on music, then it's going to sound good on movies and TV—certainly held true.

Yup, the Bryston duo is expensive. The SP3 has no Internet radio streaming, but there is a USB input that accepts digital audio. No tuner, no room EQ, no video scaling or conversion, no component video routing. Umm...$9,500. So it better sound great, right? Well, it does, I have to admit. The 9B SST² amp is even easier to recommend, as it is super professional in build, performance, and finish. The combo will absolutely astound and connect you with your music. It will also impress your speakers, especially if they're hard to drive.

I'm going to call the combination a Top Pick, as I did with the Cary Cinema 12 surround processor and 7.125 amp (*Home Theater*, March 2012) and the Classé CT-SSP and CT-5300 (*Home Theater*, October 2010), even though I know I'm going to get a rash of, er, stuff from our readers. But here's why. As long as HDMI is a viable video standard, the SP3 is unlikely to be truly obsolete. As long as firmware updates are available to keep your investment current, you won't have to swap out boards, and you won't have to throw it away. As far as the amp goes, I've got a 20-plus-year-old Bryston 4B that, despite a power switch that has a hunk of metal and packing tape on it to keep it pushed in, still works and works great.

So go ahead, give me a rash of hash. I'm all in!

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