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UNLEASH
YOUR MUSIC

Marantz's breakthrough NA-11S1
network audio player

HENRY ROLLINS
On the pursuit of audio excellence

SAM TELLIG
Embracing Bluetooth with
Musical Fidelity's M1SDAC

A CABLE FOR EVERY TASK
Bridges & Falls from AudioQuest

SOUND vs MEASUREMENTS, REPRISED
Croft's enigmatic Phono Integrated amplifier

THE LAST FRONTIER
OF CD PLAYBACK
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A PAIR OF DIAMONDS
Hot speakers from Wharfedale

PLUS:
THE BASICS OF
SYSTEM SETUP

Physically, Bryston's new BDP-2 is very similar to the BDP-1.

Preservation PRE036); massed voices in Debussy's *Invocation*, performed by Cantus, on Stereophile's *Editor's Choice* (CD, Stereophile STPH0016-2); remastered jazz classics such as Miles Davis's *In a Silent Way* (SACD/CD, Columbia/Legacy/Mobile Fidelity Sound Lab UDSACD2088); modern rock recordings like Jenny Hval's *Innocence Is Kinky* (CD, Rune Grammofon RCD2142); or adventurous electronic music, like Zomby's *With Love* (LP, 4AD CAD3305), the Croft was sweet without being cloying, resolute without being overbearing, and always invigorating. Listening to that last LP, I distinctly remember screwing up my face and bobbing my head in time to the big, bad music. My notes tell me there was better tone color, more space, more force, and, ultimately, so much more *music*. I underlined *music* three times.

Straining, somewhat desperately, to hear something wrong with the Croft, I did think there were times when strummed guitars—especially acoustic guitars—rang out longer than they should, seeping into areas of the music they shouldn't have, like watercolors streaking across paper. Was this the distortion JA was talking about? Maybe. I noticed it mostly while listening to "Love & Light," from Sandro Perri's excellent *Impossible Spaces* (CD, Constellation CST085-2), but, all things considered, it was a really easy thing to forgive and forget.

Anyway, I've probably said more than enough. JA's going to cut half of this and think twice before asking me to do another Follow-Up.

Regarding whatever Art said about the Croft Phono Integrated, I agree. He wants the amplifier back when I'm done writing this. I don't blame him. —Stephen Mejias

Bryston BDP-2 digital media player

I was surprised when Bryston, manufacturers of the BDP-1 digital player ($2195), released a new version, the BDP-2 ($2995), a scant 21 months after I'd reviewed the BDP-1 in the June 2011 *Stereophile*.[2] This jolted me—I'd purchased the review sample of the BDP-1 to use as my reference source for playing high-resolution digital files. Having my new reference player superseded less than two years after its purchase reminded me how fast computers become obsolete, compared to audiophile amplifiers and preamplifiers.

Both BDPs are basically computers running the Linux operating system and dedicated to streaming audio files with sample rates of up to 192kHz. The purpose of this update is to describe the differences between the BDP-2 and its predecessor.

Why did Bryston decide to upgrade the original so soon after its release? Bryston listened to users, who liked the BDP-1 but wanted more. They wanted to be able to manage large libraries of up to 30,000 files; shorter load times, so that a 1-terabyte (1TB) hard drive would load in 4 minutes rather than 15; to be able to power terabyte USB drives via USB instead of being limited to 500GB USB drives; to be able to mount a SATA solid-state drive (SSD) inside; and to plug faster eSATA hard drives into the rear panel. The BDP-1's power supply, processor, and 256MB of internal RAM memory couldn't handle all these new features, so Bryston designed the BDP-2 as "a BDP-1 on steroids."

The design brief for the BDP-2 was twofold: more power and more speed. It incorporates an Intel Atom N450 processor running at 1.6GHz, rather than BDP-1's AMD Geode LX processor running at 0.5GHz. Bryston's Chris Rice, a digital engineer, ran benchmarks on the two versions using Sysbench, and found that the BDP-2 ran the CPU-max-prime test twice as fast as the BDP-1. But the '2s bigger processors generate more heat; it required a large heatsink physically

2 See www.stereophile.com/content/bryston-bdp-1-digital-audio-player. Manufacturer: Bryston Ltd., PO Box 2170, 677 Neal Drive, Peterborough, Ontario K9J 6X7, Canada. Tel: (800) 632-8217, (705) 742-5325. Fax: (705) 742-0882. Web: bryston.com.

linked to the unit's top panel when it's closed, which makes the entire case a heatsink. The BDP-2's power supply, with its much larger toroidal power transformer, now provides 5 amps (10A peak) shared between the USB ports instead of the BDP-1's 1A linear supply. The BDP-2's rear panel now boasts two Ethernet connectors (the BDP-1 had one), six USB ports (the BDP-1 had four), and a new eSATA connector. The BDP-2's motherboard has SATA connectors, and the chassis has been adapted to include an accessory SSD drive. My review sample came with a fast (3GB/second) Other World Computing Mercury Extreme Pro 240GB SSD loaded with demo music files.

Inside the BDP-1 were a small power transformer, a small motherboard sporting a Kingston 4GB compact flash drive that contained the Linux operating system, and large unoccupied areas. Looking inside the BDP-2 was a revelation. Its motherboard and power transformer are bigger. More space is occupied by the additional SSD drive. Most impressive is the CPU's heatsink, not present in the BDP-1—it measures 3" by 4" and covers most of the 6.5"-square motherboard.

The review sample was finished in a highly attractive, black-anodized aluminum. The front-panel controls and the iPhone/iPad app remote control ran just the same as the BDP-1's. I used a Bryston AES/EBU cable to connect the BDP-2 to my Bryston BDA-1 external DAC. I controlled the BDP-2 remotely with my iPhone 4, using the MPoD app.

I plugged my external USB hard drive and USB flash drives into the BDP-2's front and rear panels; it played my files flawlessly, leaving little between me and the music. Load times for external and internal drives were much shorter, the BDP-2 loading two 16GB USB sticks, a 500GB USB hard drive, and its internal 240GB SSD in 40 seconds, vs the 90 seconds required by the BDP-1. As with the BDP-1, playing hi-rez digital audio files revealed layers of detail. Highs were open, transparent, and more effortless than through the BDP-1. Playing the 24-bit/192kHz digital audio file of our "Recording of the Month" for February 2011, Markus Schwartz and Lakou Brooklyn's *Equinox* (see http://tinyurl.com/l3d9psd), I was blown away by the deep, wide soundstage, huge dy-

namics, totally black background, and translucent highs.

After my main listening session, I turned off the BDP-2. When I tried to turn it on again, it hung up during its boot-up sequence. Bryston's Chris Rice decided that the BDP-2's Linux computer had lost its factory settings and was putting the accessory internal SSD first in the boot sequence. When it couldn't find the Linux operating system on the internal SSD, it stopped. Rice attributed this to a coin-sized backup battery on the motherboard that had run down. It was designed to maintain all system settings when the unit was turned off. Rice suggested a quick fix: open the top cover and unplug the internal SSD's power connector from the motherboard, which would force the motherboard to look for the Linux OS in the compact card first during boot-up. It worked. I waited until the BDP-2 gave a beep to indicate completion of boot-up, then quickly plugged the SSD's power cable back in. This allowed me to access the music files on the internal SSD drive.

That said, I was impressed with the quality of Bryston's customer support

and service. Their engineering staff can now troubleshoot hardware or software problems remotely, and answer questions online or over the phone. Most helpful are Bryston's "How To" videos on YouTube, which explain how to upgrade firmware, or transfer files from an external drive to an internal SSD. Help is also available online at a forum for Bryston users on audiocircle.com.

Overall, I really liked the new, black, hot-rodded Bryston BDP-2: it not only looks great, it doubles the BDP-1's processing power, RAM, USB connector power capabilities, and ability to manage large libraries of music files. Providing beefed-up USB ports that can power several-terabyte hard drives, and providing space for an internal 2.5" SSD drive, network associated storage drivers, and fast eSATA drives greatly enriches this digital player's versatility and value.

The BDP-2 sounds as good as, and in some instances better than, the high standard established by the BDP-1. I know that I must return the BDP-2 to Bryston for evaluation and repair. I also know that I will miss it.

—Larry Greenhill ■