Exclusive Interview: Focal's Dominic Baker!



and home theatre technology

# Bryston: Digital to die for...



**BDA-1 D/A CONVERTER** 

Sample Rate	
32K0 🔮	• 96KD
44K1 🖲	• 176KA
48K0 🌒	• 19260
88K2 🖲	. LOCK

# Reviews

Bryston BDA-1 DAC Yamaha YST-SW515 Subwoofer Paradigm Studio 10v5 Speakers Musical Fidelity 750k Supercharger Sonique Diamond 750SE Loudspeakers









### **YST: The Australian Connection**



# Bryston BDA-1 Digital To Analogue Converter

#### Bryston is a Canadian audio specialist

company that has been around since the early 1960s and built a well-earned reputation on the merits of its solidly-engineered products products so well-engineered that the company offers an unprecedented 20-year warranty on its solid-state products. No surprise then, that Bryston's amplifiers are preferred by a long and prestigious list of professional users. Bryston still caters for the pro audio market but has been expanding its consumer range for several product generations.

The latest Bryston releases see the company entering into the digital realm for the first time. Last year saw the release of the first Bryston CD player and now the company is offering its first stand-alone digital to analogue converter (DAC).

#### **The Equipment**

The BDA-1 DAC is a single unit standardwidth component in Bryston's current silver guise—though a version in black is also available. Bryston has fitted the BDA-1 with a comprehensive list of features and connection options that more or less encompass the full gamut of possibilities for an audio DAC. Catering for things to come, the BDA-1 even has a USB input. The unit's fascia is a fine example of how to provide useful information whilst still maintaining clean visual lines. A row of small and accurately-countersunk buttons and their corresponding LEDs serve as individual switches for the plethora of connection options. There are buttons respectively for 'Upsample', Optical inputs 1 and 2, no fewer than four SPDIF inputs, one AES/EBU input, and the aforementioned USB input. To the left of this horizontal row of buttons is a dual vertical array of LEDs that inform you of the sample rate in use from 32kHz to 192kHz—and whether the incoming digital signal has been 'locked'.

The rear panel is a far busier piece of real estate. From right to left (starting at the IEC AC socket) we have an RS-232 D-plug to cater for future upgrades and a 12-volt trigger. The bank of input signal connections starts with the two optical inputs and continues with two SPDIF RCA sockets and two BNC sockets, then an XLR AES/EBU three-pin input and finally the USB input. An RCA coaxial SPDIF output is provided for bypass looping to a surround processor or digital recording device. Analog outputs are via fully differential balanced XLR sockets and single-ended RCA terminals. It's clear that Bryston has covered all the bases when it comes to external connections! The BDA-1 continues Bryston's tradition of solid engineering. That bugbear of digital reproduction, jitter, has been given considerable attention in the BDA-1 by Bryson's engineers. As a result, the Bryston BDA1 re-samples and re-clocks the digital input and has particularly high-quality the input receivers and converters. Further attention has been dedicated to the termination interfaces with the use of impedance-matching transformers to deal with signal-degrading impedance variations inherent in the various connection options. This is claimed to further reduce jitter.

The Bryston DAC uses two independent DAC 'chips', namely the multi-bit Delta-Sigma Cirrus Logic CS-4398 and the Burr-Brown PCM2707. A synchronous up-sampling circuit up-samples incoming signals to 192kHz at 24-bits. A front panel switch allows for push-of-a-button up-sample/non-up-sample comparisons. The power supply features independent transformers for the analogue and digital stages and, in further attention to small details, each stage within the digital chain and analogue path is individually supplied and regulated.

Bryston quotes a frequency response of 20 Hz to 20 kHz –0.1dB. The signal-to-noise ratio as measured via an Audio Precision AP2700 analyser is quoted by Bryston as being 140dB unweighted via FFT measurement. That all-important jitter figure is said to be below the measurement capability of the Audio Precision analyser.

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"The BDA-1's truthful timbre is faithful to the instruments: Kick is kick, acoustic bass is acoustic bass."



#### **Listening Sessions**

As I mated the BDA-1 with my reference transport, a high-end CD player with a Philips CDM12 PRO mech, it was immediately reassuring to see the Bryston's 'lock' LED instantly and silently come to life. That's it, once locked onto the correct input you're ready to rock.

The track *My Black Pony* from Doug McLeod's 'Whose Truth, Whose Lies' album not only demonstrates Doug's superlative guitar technique, but also features a prominent-ly-recorded kick drum and stand-up bass that accentuate certain vocal sections of the song. The BDA-1's stellar bass reproduction launches a truly powerful shock-wave that is controlled and has definite authority. The simultaneously-playing bass lines are clearly separated and the BDA-1's truthful timbre is faithful to the instruments: Kick is kick, acoustic bass is acoustic bass.

When all the links in a system's chain are equally adept at resolving instrumental complexities, music takes a further step towards mimicking reality. Here the BDA-1 does not let the team down. The Waifs' Simpson sisters have distinctive and ethereal voices that when singing in unison can homogenise via lesser components. The BDA-1 is a resolution cham-

Sample Rate

RTER

9043

10262

01005

pion; it presented the two sisters not only as two distinctive voices, but also as individual images within a soundstage that, although not the deepest I've heard, was laterally very expansive.

I would hazard a guess and say that the BDA-1's utter smoothness and ease with musical complexity is in no small part due to the DAC's very low jitter performance. Playing musically-satisfying albeit pathetically-compressed and harsh-sounding recordings—such as Kenny Wayne Shepherd's 'Trouble Is...'—revealed superb detailing and tonal capabilities but the BDA-1 somehow reduces the brightness and unwanted sharp edges inherent in this recording. This music is all there... no details are missing... but it's presented in a smoother way that allows further insights into the composition structure and lyrics.

A phenomenon that all reviewers find hard to describe is the experience of hearing the music emerging from a black background. It's actually the 'quietude' between the notes, a kind of silence that can enhance the impression of a note's leading edge and its dynamic contrast between itself and the preceding dynamic contrast... and it's yet another outstanding quality of Bryston's BDA-1; it delivers

• Comprehensive features

Solid engineering

Optional Remote

• Superb sound

### LAB REPORT

Readers interested in a full technical appraisal of the performance of the Bryston BDA-1 DAC should continue on and read the LABORATORY REPORT published on the following pages. Readers should note that the results mentioned in the report, tabulated in performance charts and/or displayed using graphs and/or photographs should be construed as applying only to the specific sample tested.

that rare and extraordinary 'silence between the notes'.

#### Conclusion

During my considerable time with Bryston's BDA-1 I put it through a myriad of music challenges and it impressed on every one. Externally, it's a simple design that nevertheless provides comprehensive connecting options. Internally, it showcases Bryston's engineering and superb technical ability. Musically, the BDA-1 resolves dense mixes in a way that maintains the integrity of the music. Its smooth midrange and treble performance allow long non-fatiguing listening sessions, but the BDA-1 does not compromise detail, dynamics and immediacy in doing so. In fact, be prepared to also be startled by its dynamic prowess and bass power. If you're in the market for a DAC, it's time to open your wallet! - *Edgar Kramer* 

#### **Bryston BDA-1 DAC**

Brand: Bryston Model: BDA-1 Category: DAC RRP: \$3,299 Warranty: 20 Years Distributor: Syntec International Pty Ltd Address: 60 Gibbes Street Chatswood, NSW 2067 T: 1800 648 628 T: (02) 9910 6700 F: (02) 9910 6710 E: sales@syntec.com.au W: www.syntec.com.au

