



's been nearly ten years since I first reviewed, then bought, Bel Canto's PRe6, which was then a high-quality multichannel analog preamplifier. At the time, the only way to extract the high-resolution multichannel tracks from SACDs and DVD-Audio discs was through a disc player's analog outputs.

A decade later, SACDs and DVD-As are practically nonexistent, and two-channel DACs, especially those with USB inputs, are experiencing a resurgence. Streaming music from a home computer or a computer network is gaining in popularity even within high-end-audio circles.

Bel Canto Design are embracing the concept. Not only do all of BC's current DACs feature built-in preamplification, but two of them also have 24-bit/96kHz-capable USB inputs (as does their integrated amp). This greatly simplifies and lowers the cost of assembling a high-quality, two-channel digital audio system. I was provided for review their e.One DAC2.5 (\$1995 USD), which sits between their entry-level DAC1.5 (\$1395) and the top of their line, the DAC3.5VB (\$3495).



More than your average DAC

The e.One DAC2.5 is housed in the same distinctive, compact case as the rest of Bel Canto's current product line. Though it measures only 8.5"W x 3.5"H x 12.5"D, the DAC2.5 is a fully featured D/A converter and digital preamplifier with a single analog stereo input. Digital inputs consist of an XLR, TosLink, and two RCA coaxial connectors, each capable of receiving 24-bit/192kHz datastreams, and a single USB input that can accept 24/96 data. The single stereo analog input has RCA jacks; all incoming analog signals are converted to 24/192 digital data.

The heart of the DAC2.5 is a PCM1796 dual-differential, multi-bit, delta-sigma DAC with a Master Reference Ultra-Clock circuit and a 2Hz digital Phase Locked Loop (PLL), which are claimed to dramatically reduce jitter. The internal Low Noise Supply (LNS), based on technology developed for Bel Canto's VBS1 external power supply, reduces power-line noise. The USB input is isolated, as is the headphone section, which has a dedicated DAC/amplifier to further improve performance. The digital volume control, which has 24-bit precision, is claimed to be transparent and accurate throughout its range.

In addition to the digital inputs, the rear panel sports balanced XLR outputs that are said to provide 122dB of dynamic range, as well as RCA analog outputs. There is a switch for toggling between the variable and fixed output modes -- the preamplifier section can be engaged, or bypassed so that the DAC2.5 can be used as a conventional standalone DAC. There are also an RS-232 jack, a power switch, and an IEC power inlet for the supplied power cord.

An eight-digit LED display takes up most of the front panel, along with a 1/4" headphone jack, and a single rotary knob that can be depressed to switch among the various functions, then rotated to adjust the setting. The display can be set to show the selected input on the left and the volume level on the right, or to show the incoming sample rate rather than the input -- useful if you want to confirm the incoming sample rate of a



high-resolution file. The limited number of digits on the display and the single control knob weren't immediately intuitive in operation, but I quickly got used to them. The supplied remote control makes operation easier, with its separate buttons for input selection, display mode, volume adjustment, etc.

e.One integration

My favorite feature of the e.One DAC2.5 was having the option of using its analog stereo inputs in Home Theater Bypass mode. This lets the user easily integrate the DAC2.5 into a multichannel home-theater system by placing it between the surround processor and the left and right amplification channels. The DAC2.5 can then perform the duties of stereo D/A conversion and preamplification or, in Home Theater Bypass mode, simply pass along the left- and right-channel signals to the power amplifiers. Although high-end surround processors like my reference, an Anthem Statement D2, can sound excellent with both stereo and multichannel sources, there's something to be said for having high-quality stereo preamplification and D/A conversion.

And that's what I did: I inserted the DAC2.5 between the Anthem Statement D2 and the left and right main channels, which fed Bel Canto's own e.One REF1000 monoblocks. Source components consisted of an Oppo BDP-83 universal Blu-ray player connected to the DAC2.5 via coax, the Anthem D2 via HDMI, and an Asus Aspire 5920 laptop running foobar2000 and connected to the DAC2.5 via USB. Speakers were MartinLogan Spires or Paradigm Reference Signature S6 v.3s. When I first booted up my laptop after connecting it to the DAC2.5, the computer immediately recognized the DAC2.5 as a USB audio device. I set the output of foobar2000 to 24-bit resolution and was able to enjoy hi-rez sound with sampling frequencies of up to 96kHz.

Ever since the release of their original DAC1, which sold for a little over \$1000, Bel Canto has been known for their high-quality DACs. Their current DACs are far more advanced designs that also include digital volume control. When you consider that, ten years after the launch of the DAC1, the e.One DAC2.5 can be used as the centerpiece of a high-quality digital audio system and costs only \$1995, it seems a relative bargain.

Performance

The e.One DAC2.5 worked wonderfully in my system. I primarily played audio files from my laptop, as well as the occasional CD or SACD or DVD-A, and the Bel Canto transparently passed along analog audio signals when used as part of my multichannel home-theater system. I love the sound of the Anthem Statement D2 when used as a DAC and preamp with two-channel sources, but it was difficult to go back after listening to the DAC2.5.

The DAC2.5 might have seemed a little out of its league playing with a \$3990 pair of monoblocks (Bel Canto REF1000) and speakers costing \$8495/pair (MartinLogan Spire) or \$5798/pair (Paradigm Signature S6 v.3), but even in such pricey company its performance was impressive. With standard-resolution (16/44.1) recordings the sound was smooth and solid, with none of the harshness or glare associated with inexpensive digital gear. In fact, the sound was so good that I had difficulty believing that what I was hearing was coming from a \$1995 component performing the functions of a DAC and a preamp.

"Keith Don't Go," from Nils Lofgren's Acoustic Live (CD, Vision 820761101422), sounded brilliantly explosive. Although this is an acoustic recording, the guitar growled with a deep, powerful presence. The thwack of the strings and the faint resonance of the guitar as Lofgren slaps it were reproduced with authority, and a richness that

never sacrificed detail. Not only were minute imaging cues superbly reproduced, but the soundstage was wide and deep. With the DAC2.5, the sound was so detailed, yet so smooth and relaxed, that if I hadn't known better, I might have thought I was listening to a hi-rez recording.

Recordings that are not quite as polished, such as Bruce Springsteen's *The Promise: The Darkness on the Edge of Town Story* (CD+DVD, Columbia/Legacy 886977652523), nonetheless sounded excellent through the DAC2.5. *Darkness on the Edge of Town* has been augmented with two additional CDs containing 21 tracks taken from the original recording sessions for that classic album, which itself has been remastered. From the opening drumbeats of "Badlands" to the closing, title track, the sound was clean and well defined. Springsteen's voice in the soulful "Racing in the Street" is especially stirring, and the DAC2.5 rendered the extended bridge -- just his voice, piano, and an ethereal backing chorus -- with spine-tingling delicacy.

The tracks on the supplementary CDs, *The Promise: The Lost Sessions* from *Darkness on the Edge of Town*, don't sound as clean, and the e.One DAC2.5 effectively conveyed their softer, moodier sound. The alternate version of "Racing in the Street" highlighted these differences with its somber tone and Springsteen's languid delivery of the words, and the lingering harmonica and echoing piano were nicely reproduced. Other tracks, such as "Breakaway" and "The Promise," also sounded a bit softer than on *Darkness* itself, but through the DAC2.5 they still sounded wonderfully pure and organic, and always engaging.

However, I did almost all of my listening through the DAC2.5's USB input -- it was simply more convenient for me to access my collection of ripped CDs and hi-rez audio files from my laptop computer. I did do some listening to physical media using my Oppo BDP-83 feeding the DAC2.5 through its coaxial digital input. Although the differences were subtle, I thought the system sounded a tad better via USB, which exhibited slightly more control over the bass, a lower noise floor, and a touch more detail. However, the differences in sound were minor; the DAC2.5 sounded fantastic through its USB and S/PDIF inputs.

While the e.One DAC2.5 sounded exceptional with 16/44.1 recordings, it was no surprise that it sounded even better playing hi-rez files. It recognized 24-bit data at both the 88.2 and 96kHz sampling frequencies. (It can accept sampling frequencies up to 192kHz through its S/PDIF inputs, but I had no such files on hand.) With hi-rez recordings there was better control over the bass and more precise imaging. More subtle qualities, such as a sense of air and a sweetness in the treble, were also enhanced, making the sound less analytical and allowing the music to flow more naturally.

Livingston Taylor's voice in "Isn't She Lovely," from *Ink* (24/96 FLAC, Chesky/HDtracks), was reproduced with vibrant realism, minus the harshness that plagues less capable digital components when playing extremely dynamic tracks. The DAC2.5 sounded clean and transparent, but also exhibited just the right amount of warmth in "Get Here," also from *Ink*. Peter Gabriel's download of *Scratch My Back* (24/48 FLAC, Society of Sound) may have a resolution of only 24-bit/48kHz, but his voice in "Boy in the Bubble" was faithfully raspy, in stunning contrast to the lush orchestral arrangement.

Not only did the DAC2.5 sound fantastic with both standard and hi-rez digital recordings, it seamlessly blended into my multichannel home-theater system. Inserted between my Anthem Statement D2 AVR and my Bel Canto REF1000 monoblocks, in Home Theater Bypass mode the DAC2.5 flawlessly passed along the left and right main channels of multichannel soundtracks. When I simply changed the input, it reverted to its role of a high-end, two-channel DAC-preamp.

Comparison

Although the Anthem Statement D2 (\$7499, discontinued) was designed primarily for use in multichannel home-theater systems, it provided a meaningful contrast with the Bel Canto e.One DAC2.5, as the D2, too, can be used as a high-quality DAC-preamp. The only difference was that I was able to send the USB output of my laptop directly to the DAC2.5 -- the D2 requires that I use my Trends Audio UD-10.1 USB to convert the USB signal to S/PDIF. Considering that the D2 is a full-featured AVR with room correction and high-quality video processing, its performance as a two-channel DAC was commendable. However, the DAC2.5 was simply more detailed, with a more refined sound that appealed to the audiophile in me.

Both high- and standard-resolution recordings benefited from the DAC2.5 being in my system. DSD signals from SACDs, converted to 24/88.2 PCM by the Oppo BDP-83, had more low-level detail, wider, deeper soundstages, and improved dynamics. The bass guitar and kick drum in "So Far Away," from Dire Straits' *Brothers in Arms: 20th Anniversary Edition* (SACD, Universal 602498714980), had plenty of punch, and the snare was crisp and detailed.

The eerily deep, holographic soundstage of "Ride Across the River" was captivating. With the Anthem, the soundstage shrank slightly, and there was a little less of that silky smoothness in the mids and highs that I associate with the very best digital components.

Not only did the DAC2.5 noticeably improve the performance of my system with digital stereo recordings, its Home Theater Bypass mode did nothing to degrade the sound of multichannel recordings. Even though it digitized the incoming analog signal, then performed a D/A conversion prior to passing the signal on to the power amplifiers, I could hear no degradation of the sound with either film soundtracks or hi-rez multichannel recordings.

Conclusions

I can think of several very good DACs for about \$1000 that have recently been recommended by SoundStage! Network reviewers. At twice that price, the Bel Canto e.One DAC2.5 might seem expensive in comparison. But when you consider that it includes a high-resolution digital volume control, analog input, and a Home Theater Bypass mode, its value becomes apparent. It can be used as the control center of a high-performance two-channel rig and still be easily integrated into a multichannel system. The e.One DAC2.5 offers a lot of performance and flexibility for \$1995.

... Roger Kanno

rogerk@soundstagenetwork.com
Associated Equipment

Speakers -- MartinLogan Spire, Paradigm Reference Signature S6 v.3

Preamplifier-DAC -- Anthem Statement D2

Amplifiers -- Bel Canto e.One REF1000 monoblocks

Sources -- Oppo BDP-83 universal Blu-ray player, Asus Aspire 5920 laptop computer running foobar2000

Cables -- Analysis Plus Solo Crystal Oval interconnects, Black Oval 9 speaker cables, DH Labs Silver Sonic DV-75 digital cables

Power cords -- Essential Sound Products AVP-16

Power conditioning -- Blue Circle Audio Peed Al Sea Thingee, Zero Surge 1MOD15WI

Bel Canto Design e.One DAC2.5 Digital-to-Analog Converter

Price: \$1995 USD.

Warranty: Two years parts and labor.

Bel Canto Design
212 Third Avenue N., Suite 274
Minneapolis, MN 55401
Phone: (612) 317-4550
Fax: (612) 359-9358

E-mail: info@belcantodesign.com
Website: www.belcantodesign.com