

# Bel Canto Design DAC 2.7 DAC/Ref600M mono power amps

by Eric Neff

**T**he Bel Canto Design that is celebrating its twenty-fifth anniversary this year is a long way from the original firm founded in 1991. Debuting as a tube amp manufacturer noted for their SET designs Bel Canto today is at the forefront of digital technology. The Bel Canto Black digital system (£50,000) is a cutting edge example of 21st century high end audio. Bel Canto was founded by engineer John Stronczer in Minneapolis, Minnesota and is located there today in the heart of the city. All product design and manufacturing are done locally by company engineers.

The focus of this article will be a system review featuring the much more affordable £2,500 each Bel Canto Ref 600M Class D monoblock amplifiers and the £2,500 DAC 2.7. The DAC 2.7 is both a very fine DAC as well as a digital control pre-amp. All three handsome brushed aluminium faced units are housed in identical cases each measuring 216mm × 318mm × 88mm making them both visually attractive as well as easy to place in your listening room.

The Ref600 Mono's offer 300 watts into 8 Ohms and 600 watts into 4 Ohms of Class D power via their Hypex NC500 modules. Power is supplied from the Hypex SMP1200 power supply. Bel Canto's own Impedance Optimized Input Stage is a "balanced high Common Mode Rejection, low output impedance driver that is critical to the amplifier's performance, ensuring that the refined dynamic qualities of the recording are preserved." ([www.belcanto.com](http://www.belcanto.com)). What all that means to the listener is power and finesse are both present in spades. Setup could not be simpler. Connect your speakers to the five way WBT output terminals, plug in your source via the Single ended or Balanced inputs, position the input switch accordingly and then plug in the IEC power cable. Turn on the rocker switch and you are ready to go. These highly efficient amplifiers are designed to be left on all the time while drawing a small 22 watts in standby.

I spent some time with the Mono's independent of the DAC 2.7. Connected to the Vandersteen Treo CT's they ▶





▶ provided a terrific low end grip during Pink Floyd's *Dark Side of the Moon* [SACD 2003 EMI Records], with Roger Waters' bass notes setting a subterranean foundation at the start of 'Time'. Queueing up 'The Vengeful One' from Disturbed *Immortalized* [iTunes download 16/44.1 256 Bit Rate], power was in full command as the wall of guitar, bass, and drums came through in clean aggressive waves. Finally, a quick spin of Jack Johnson's *On and On* [2003 Universal CD Rip AIFF 16/44.1 1411 Bit Rate] revealed the finesse of these compact powerhouses. 'Traffic in the Sky's gentle acoustic guitar work was natural and crisp with the intimate group's work properly presented with appropriate spatial cues.

Moving on to the DAC 2.7 I placed it into a simple but high-end system (what is the entry point for high-end anyway? This system would be slightly north of £25,000) featuring the Treo CT's and the Boulder 865 Integrated amplifier being sourced from a Mac Book Pro (Windows users will need to download the free USB driver from the company website) with Audirvana+ and an Oppo 105D. The DAC 2.7 offers five digital inputs including USB, Toslink, two S/PDIF's and an AES/EBU. The DAC 2.7 also offers one single-ended analogue input for an external disc player or turntable. The DAC 2.7 utilizes the classic Burr Brown 17XX series chips. These venerable devices are a long time favourite of mine. The "Newer is always better" nature of the audio world made me question John about this venerable choice. He commented that he has measured the other chips and at certain frequencies they almost seem flawed for pristine playback. Thus his desire was to stay with a chip that has what he needed to produce the most musical and clean D to A conversions Bel Canto could produce.

Another interesting design choice is the lack of DSD support for the DAC 2.7. While Bel Canto is not alone in this

decision it is a minority view. With over 99% of available digital music being in the PCM universe this is not a deal breaker, but aficionados of the DSD format should take heed. Conversion via JRiver, Pure Music or some other software would be necessary for playback.

The front panel of the DAC 2.7 has a display and a selection wheel which can be pushed and spun to work through the menu options. A rear switch allows for fixed or variable gain. Generally fixed would be for the DAC only and variable for the DAC/preamp functionality. You can also set the gain maximums to better coordinate the DAC with an external preamp to provide the best gain matching. You can relabel the inputs to your preference such as TT for Turntable using the analogue input. The unit supports Home Theatre Bypass allowing it to send a fixed output signal to an external home theatre processor. The included remote control will allow for full menu access from the comfort of the sofa. Convenience is important!

Two words that came to mind with the DAC 2.7 are 'clean' and 'smooth'. Digital edginess was blissfully non-existent. *The Essential Jefferson Airplane* [RCA 2005 iTunes Download 16/44.1 256 Bit Rate], 'Miracles' features the soaring tenor of Marty Balin. Versions of this classic hit can present significant edge to the higher ranges. This presentation was clean and edge free as the DAC 2.7 handled the conversion with analogue aplomb. The DAC 2.7 also offers a single ended headphone jack that provides a very high quality output for a wide variety of headphones.

Given that individually the Ref600 Mono's and the DAC 2.7 each performed admirably it was no surprise that the combination made for a sonically fantastic and operationally simple setup. Additionally, for anyone space constrained or managing the spousal acceptance factor these aesthetically ▶

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► pleasing and space saving units create a wonderful opportunity for very high end sound without many of the gear related compromises we have all made from time to time. Listening to the combined system feeding the Vandersteen Treo CT's was a complete delight. Taking advantage of the DAC 2.7 as preamp I fired up an old favourite with Al Stewart's *The Year of the Cat* [1976 Warner Music Group CD]. After enjoying this album for forty years I know it intimately. The Bel Canto system's presentation was exceptional. Yes, I listened to the entire CD. The time went fast as the memories of good times gone by flew through my head. There was no aspect of the sonic presentation where I became focused on some flawed nuance. Instead it was simply the joy of a classic musical masterpiece. Immersive and musical, it was an experience we all seek as music lovers.

Moving on to hi res files it was time for Anita Baker's *Rapture* [1986 Elektra HDTracks 24/192] 'Sweet Love' was the top single on this Grammy winning R&B album. Ms. Baker's sweet and powerful vocals came through in an almost three-dimensional presence. Once again smooth and clean were the watch words for the system's sonic signature. The quality of the bass line was superb. The piano tone was lifelike and full. You could almost see the chorus of background singers as the soundstage was laid out in detail. Another beautiful presentation of a classic award-winning song.

Bel Canto is not always a first thought for many audiophiles. However, after twenty-five years of audio excellence it needs to be on the list of “must audition” companies. Hand made in the USA and in the heartland of Minnesota no less they produce gear that brings the music without breaking the bank. That is always a welcome find. No you don't get back breaking (and bank breaking) casework, you get 21st Century Class D amplification and smooth analogue sounding digital conversion with preamp capabilities thrown in for good measure. Class D, by the way, is no longer a poor sister to Class A or Class AB. It is right there in sonic quality and power. If you don't believe me, give it a listen yourself. Plus, you won't have to buy beer for your friends to help you haul the amps into the listening room. The Bel Canto system is also affordable, though if you want to you can always tell your mates you spent more than you did. Save some cash and go buy more music! Highly recommended! +

## TECHNICAL SPECIFICATIONS

### DAC 2.7

Type: Digital to analogue converter

Digital Inputs: AES 110 Ohm XLR, SPDIF x2 75 Ohm, USB, Toslink

Analogue Outputs: RCA Max 2 VRMS, XLR Max 4 VRMS

Digital formats supported: PCM 24/192 AIFF, WAV, FLAC, MP3

Master clock noise: 0.07 picoseconds RMS

Dynamic Range: 124dB, A-Weighted 20Hz-20kHz

Attenuation: Not listed

Frequency Response: 20Hz-20kHz, +/- .5dB

THD+N: <0.001%, 1kHz

Signal to Noise ratio: Not listed

Headphone Amplifier:

Max Output: 4.5RMS, 300mA

THD+N: 0.0015% 1kHz

Output Noise: 3.3uVrms, A weighted 20Hz-20kHz

Dimensions: 216mm x 318mm x 88mm

Weight: 6.5 kg

Price: £2,500

### Ref600M

Type: Solid State Class D Mono Amplifier

Inputs: RCA and XLR 1 ea.

Outputs: 1 pr. 5 way WBT binding posts

Power Output: 300 Watts 8 Ohms, 600 Watts 4 Ohms

Frequency Response: +/-3 dB 0Hz-50kHz, all loads

Damping Factor: >1000

THD+N: 0.003% 1W, 1kHz, 4 Ohms

Dimensions (WxHxD): 216mm x 88mm x 305mm

Weight: 7 kg

Price: £2,500 per channel

Manufacturer: Bel Canto Designs

URL: [www.belcantodesigns.com](http://www.belcantodesigns.com)

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