

dCS Bartók DAC Review

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The dCS Bartók story starts back in 2008 – indirectly at least – with the launch of its predecessor. Costing £7,500 the (then) new Debussy bridged the gap between the company’s truly expensive products, and the world of mainstream hi-fi. ‘Affordable high end’, you might say. It had three things going for it. First, it used the same, bespoke-designed dCS Ring DAC digital audio processing core as its siblings. Second, like all other dCS products, it was firmware-upgradeable – a rare thing, back then. And third, it was the first standalone digital converter to sport an asynchronous USB input.

The last of these three might seem trivial now, but it really meant something twelve or so years ago. Computer audio was very much in the ascendant, with audiophiles breaking free from disc-based digital by playing downloaded hi-res files. Long before the days of streaming, asynchronous USB raised the game for file-based playback, and the whole industry followed. The technology delivered significant sonic improvements by using the DAC’s own clock rather than that of the host computer. “This was the only thing worth doing with USB”, dCS Technical Director Andy McHarg wryly told me at the time. It was one of many dCS firsts, the company having previously brought hi-res, upsampling and word clocks to consumer audio too.

Warp forward eleven or so years, and the Debussy was ripe for replacement. Rather than simply updating it, dCS took the decision to start from scratch – conceptually as well as electronically. It was able to draw heavily from the work it had done on its flagship Vivaldi, launched in 2012. Like all dCS DACs, the new Bartók got the latest and greatest version of the Ring DAC, as well as the benefits of the accumulated work the company had done on

the software that controls it. Major lessons had also been learned on the usability side, too. Bartók had Vivaldi's crisp display and menu set-up system, a rotary volume control knob (as opposed to the Debussy's tiny buttons) and also shared the new dCS Mosaic app, the company's second-generation controller for iOS or Android.



Far more advanced than the company's earlier apps, it made Bartók a lovely thing to use – not just as a DAC but as the centrepiece of a full digital audio system. Given that the unit includes an excellent streamer – very similar to the highly acclaimed dCS Network Bridge – it was able to unlock all major streaming services, and act as a Roon endpoint. Alongside this, for the first time ever in a dCS product, it offered the option of a headphone output, meaning that there are actually two variants on sale – £12,000 with headphone stage, and £10,000 without.

Like Debussy, there are three tales to tell about Bartók – its electronics, its headphone stage and its user experience. dCS is keen to underline the latter, its Managing Director David Steven saying that it's the company's most customer-focused product ever. "Vivaldi was conceptualised as a seminal, best-of-the-best digital front end. Rossini saw us shifting towards the idea of normal music lovers owning it, so more emphasis was put on the control interface and network streaming ability. Now we see Bartók as getting closer still to the customer", he told me.

If you're Bang & Olufsen, perhaps this wouldn't be such a big deal – but we need to remember that dCS has hardcore pro audio origins. Its first product was the dCS 900 analogue-to-digital converter of 1989, one of many studio products that were to come before it did its first consumer DAC – the Elgar of 1996. These were complex, fussy-to-use designs, and the diametric opposite of the new Bartók, which – as we'll see – successfully



integrates DAC functionality with a digital preamp and state-of-the-art streaming and network operation. That's quite a feat of packaging. David Steven continues: "The old way was basically a DAC playing CD better than the digital converter built into the CD player. That was how it used to be, but it's now an interface point between music and people. It doesn't care about the music source it's playing or the format – that just gets done. In the past decade we've gone from file-based playback on USB drives or hard drives and/or NAS, with everything being streamed over UPnP, to streaming services like Tidal, Spotify, Qobuz – so file-based playback is actually being left behind for many people..."



dCS Headquarters Listening Room, Cambridgeshire, United Kingdom

INSIDE OUT

“In designing Bartók, our first challenge was to work out how to get all the stuff inside it, and still make it perform to the level we expected sonically”, David Steven explains. “We used Rossini’s Ring DAC and processing board, although the new design has one less power supply. Then we needed to ensure it had capacity for software updates in the future, as we might want to add some headphone DSP, or tweak the inner workings of the Ring DAC. All the heavy lifting had been done with Rossini – in the sense that we’d developed this before – yet it had to be packaged together with the option of a headphone amplifier. Bartók is a gateway between the old and the new.”

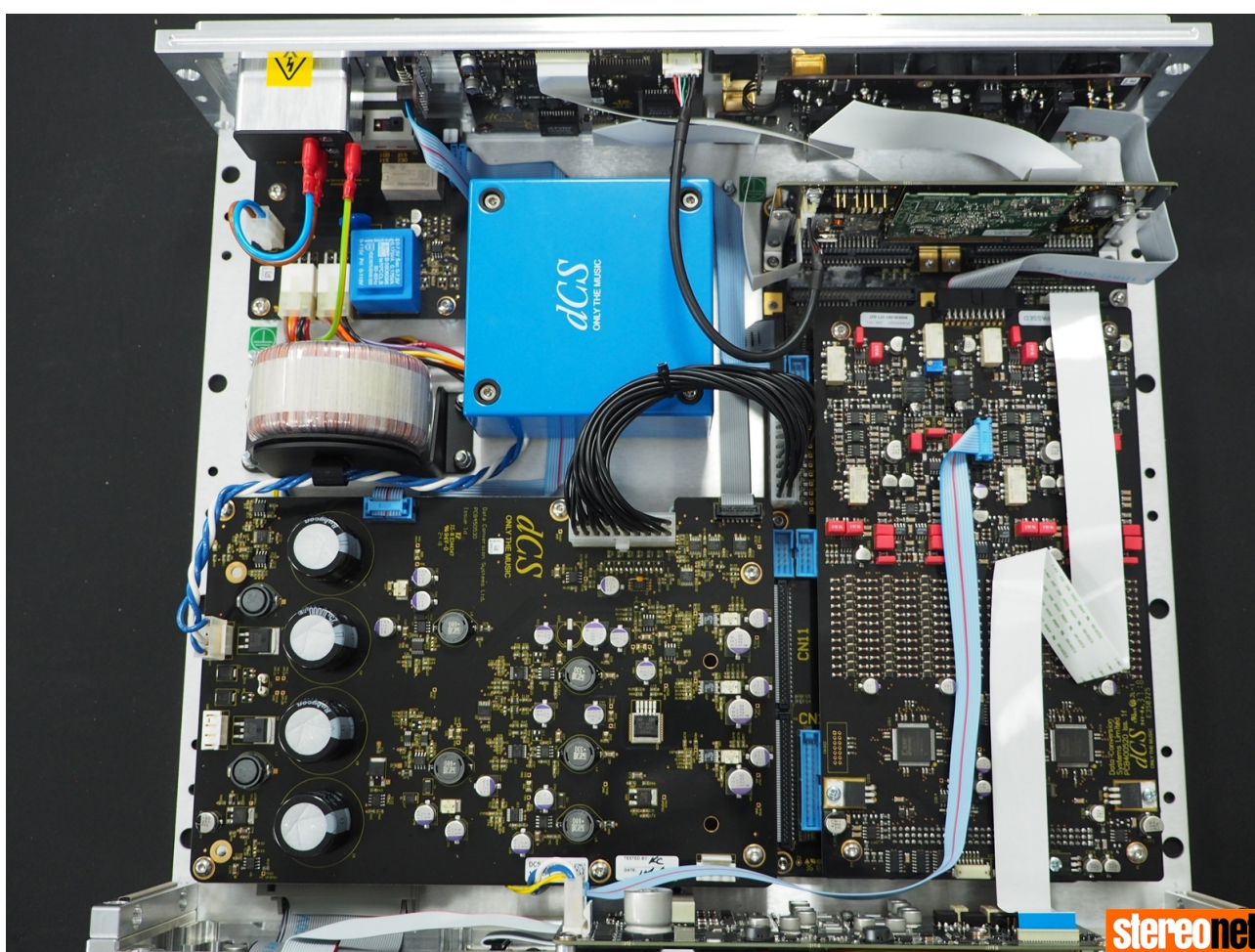
The project took around two years. dCS Director of Product Development Chris Hales says that, “since Debussy we have done all the work on the new analogue board that went into Vivaldi and subsequently Rossini, resulting in a marked improvement in audio performance. In parallel with that, my colleague Andy McHarg has been working hard on the software side, looking at the filtering and mappers, with all those extra years experience that we didn’t have ten years ago. We could have just taken a Debussy, put new boards in and immediately got a significant performance improvement, but we wanted a comprehensive, across-the-piece improvement.”



So Bartók benefits from all the latest performance improvements that came while dCS was working on its limited-edition Vivaldi ONE – produced to celebrate its thirtieth anniversary, a few years back. “One of the most significant changes we made was to the latches, at the very core of the RingDAC. We found they were causing crosstalk, manifesting in jitter, which in turn made small but measurable differences to the noise floor. We made major changes to the layout and number of latches, and this gave a profound improvement, particularly in noise performance. As we did that, we noticed other stuff and I made a lot of

changes. I optimised the component values to minimise noise at every stage, particularly the balanced output. By the time we'd finished, noise performance was something like 6 to 8dB better than the previous board. That's worth having!"

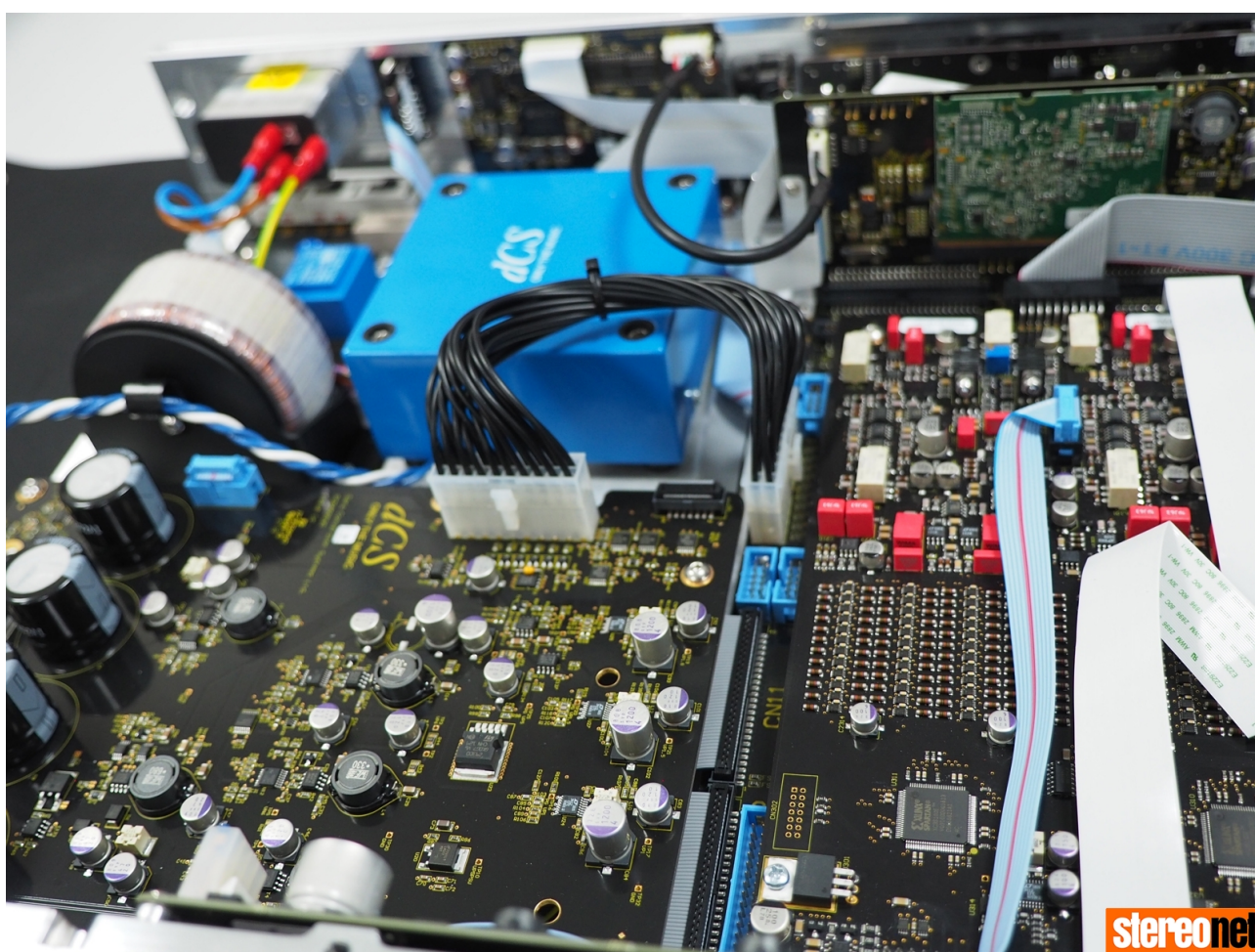
At the same time, dCS engineers spent time looking at earthing issues and power supplies. "The Debussy board was very good but at high frequencies you could measure a bit of noise. At 20kHz it was getting just a shade worse than 100dB, which is very respectable, but we moved things around, looking at the ground to know where the return currents were coming from, and so on. We got nearly 30dB of improvement in crosstalk at 20kHz. In the power supply too, we saw issues and fixed them. We replaced the mapping ROMs with FPGAs so they load at power-up under software control, giving the ability to change them for better sounding maps later. As performance improved, we saw other things which we thought could be done better, starting a chain of events. We never knowingly leave a performance degradation in if we think we can fix it there and then. We had the time to spend on Bartók, so we did."



The result is a streaming DAC/preamp/headphone amplifier that uses the latest dCS technology crammed – sardine-like – into a relatively compact chassis. "Because we didn't have a CD mechanism to accommodate," continues Chris Hales, "this gave us more flexibility. Of course, we've had to put value considerations higher than with, say, Vivaldi. That means we needed to be cleverer with the internal layout and so rather than having a number of parts, each of which have one function, you have fewer parts with more than one. For example, there are fewer individual pieces in the case, meaning the money saved can be ploughed into the electronics – where we have no compromise at all. The only real

issue has been the extra heat generated by the full Class A headphone amplifier inside the case of the headphone stage-equipped variant.”

The latter was a challenge. “You’re dealing with such a wide range of loads with headphones”, he says. “There’s also a huge range of impedances and an enormous difference as to how much current and voltage the headphone amp needs to deliver. If you buy a chip that does a headphone output, then it will usually be running at low voltage and will be optimised to run with low impedance headphones. It will work if you plug in higher impedance – a couple of hundred ohms – but more than that and you’re not swinging enough voltage to develop the power into them, so you can’t get it loud enough. So our headphone stage is built from the ground-up, an all discrete transistor design running in Class A – unless asked to deliver vast amounts of power. We’ve also got a completely independent power supply for the headphone amp that is floating; we can control where the ground currents are going very carefully and not have to worry that they are getting back into the main audio path at all.”



IN USE

The first thing that dCS fans will notice about the Bartók is its lack of a sculpted front panel, seen in the Debussy, Vivaldi and Rossini. Instead, it has a simple plain fascia with a pin-sharp high resolution screen to the left and rotary volume control knob to the right. The product measures 444x430x115mm and weighs 16.7kg, and is as beautifully built and finished as you would expect from dCS – or indeed any serious product of this price. There are six small control buttons and a dial which navigate through a set of menus, with the

headphone equipped variant having provision for both balanced and single ended headphones – which should not be used simultaneously.

Around the back, there are balanced and unbalanced analogue audio outputs, three S/PDIF inputs (one of which is TOSLINK), dual AES inputs, and twin USB inputs (one for a NAS drive and one for a computer). There is scope to connect an external clock if required, and of course Ethernet and IEC power sockets. The DAC can operate in USB Class 1 or 2 (up to 384kHz or DSD128). All in all then, there's a comprehensive set of inputs, which is what you'd expect from a top shelf DAC such as this.

The most important features from the unit's various sub-menus are reproduced in the Mosaic app, which works very well and covers the important features of the unit. It, however, doesn't include specialist features such as phase tests and white noise burn-in offered via the physical menu system. Still, in normal use you'll love its responsive feel and crisp presentation of your music library and/or streaming services with album cover art. Those who prefer old school button pressing won't be disappointed, as the fascia controls have a superb action and the volume knob is butter-smooth.



SOUND QUALITY

The first thing that strikes you about the sound of the Bartók is its uncanny sense of realism. Connected straight into my VAC Phi 200 valve power amps using XLR cables, driving my B&W 802D3 loudspeakers, I played a 24/96 PCM recording of my own classical quartet, the Allegri String Quartet – lovingly recorded by Tony Faulkner using a dCS analogue-to-digital converter, by the way. It was like being taken back to the day of the recording, with a vast soundstage that was truly holographic. The music sounded as large as life, and no less profound.

The piece, which in this case was the 3rd movement of Roth's 3rd Quartet, starts with a set of pizzicatos, and col legno, where the strings are beaten by the wood of the bow. Getting the precise sound of the complex aftershock simply eludes almost all other DACs – indeed this was the first time I've heard this as accurately presented as it was when I recorded the session. There was a visceral snap and physical grunt as the cello registered its presence with authority and accuracy.

Bartók also shows excellent timing. This hi-res track is bursting with the dynamic energy of a live concert, giving a sense of an actual musical event, and it let me know in no uncertain terms. Such propulsive force is further bolstered by the superb tonal accuracy of this DAC; the colours of the different instruments were instantly recognisable, with the first violin's Amati sounding bright and sweet, while my ancient Maggini made in 1590 was darker and richer. There's a stark absence of the usual digital audio mush and fuzz, especially when I chose the DSD playback option rather than the DXD one.



As with other dCS DACs, Bartók sports a range of user-selectable digital filters which to my fifty-three-year-old ears had only subtle effects – whereas my eighteen-year-old musician son reacted swiftly and accurately to them. What a shame considering I doubt many of his age will be in a position to afford such a thing as this, despite being the greatest sonic beneficiaries! Still, the unit's fundamental sound isn't affected by these filters, and its obvious abilities shine through regardless of which settings are used. They're nice to have, but not a reason to have this.

Listening to the celebrated Carlos Kleiber recording of the Fledermaus Overture, now using the Townshend Allegri Reference passive preamp, yielded an interesting result. In my system, I found the dCS sounded best at maximum output with no digital attenuation, with volume controlling duties instead being performed by the Townshend preamp. I heard

the colours of the orchestra more vividly, with the musicians snapping into focus and the soundstaging at its expansive, panoramic best. There's a slight sense of this diminishing as the dCS's volume control is used, however, and the sound greys slightly and subtly reduces in scale. So to get the magnificent best out of this unit, I'd suggest using a top-flight preamp. Heard this way, the sheer dynamic force of the Bartók grabs you by the scruff of the neck – it is absolutely arresting to listen to, as well as being ultra revealing and truly musical. I can honestly say that after a decade and a half spent reviewing high-end digital, I've never heard anything as captivating as this.



By way of comparison, I hooked up my reference Chord DAVE digital-to-analogue converter, fed by my dCS Network Bridge (which is effectively the Bartók's streaming module in a separate box), and noticed some interesting differences. Playing Kraftwerk's stunning Techno Pop, the Bartók had the ability to produce a more lifelike three-dimensional image than the DAVE, and there's a rhythmic snap which sounds even more decisive than the excellent Chord. I also heard a wider palette of tonal colours to the sound. While it's true that the DAVE is said to improve with upsampling, the dCS is the only DAC I've had in my system that has been able to show the Chord a clean pair of heels. The DAVE comes in at £8,500 compared to £10,000 for the basic non-headphone Bartók – although as the former already has a headphone stage, a fairer comparison is with the £12,000 headphone stage-equipped Bartók. The dCS costs more then, but to my ears, sounds significantly superior. What of this headphone amplifier, then? Using some Meze Audio Empyrean headphones generously supplied by Absolute Sounds, it was clear that it has the same characteristics that the DAC supplies to the power amp. A combination of forensic detail, punchy and rhythmic dynamics, and its standout sonic signature – many cubic metres of space in my head. Listening to the ever wacky Messiaen Turangalîla Symphony, 5th movement – Jean-Yves Thibaudet on Decca – this musical moment is bombastically brought to life with instruments firing from all sides of the stage. Textures are

beautifully presented with fast percussion, racy brass and the Ondes Martenot blasting from all corners of my head! Swapping to some Focal Utopia headphones and moving to Haydn's eccentric but rather brilliant Sinfonia Concertante – Simon Rattle with the Berlin Philharmonic – gives a lighter style of presentation which is equally good but very different. The qualities are there as before, fast and punchy, very well timed but with a different angle on the timbres of the respective instruments. This is one of the hallmarks of an excellent headphone amplifier since it doesn't stamp its character on a pair of headphones – instead, it lets them get on with the job without getting in the way. It's an excellent option then if you're a head-fi enthusiast, with the care that's gone into the design perfectly clear to hear.



THE VERDICT

The new dCS Bartók sets a whole new bar of performance for this price and beyond. It has a level of transparency and energy which is revelatory, and its imagery is holographic. Add oodles of dynamic clout combined with the most delicate finesse, and you have its mark. The only downside – if you can call it this – is that it's a little too close for comfort in sonic terms to its £17,000 Rossini big brother. At the time of the Debussy's launch just over a decade ago, there was talk of it sounding slightly 'technical' – although an ultra revealing forensic device, some thought it wasn't quite as musical as it could be. This is categorically no longer the case – the latest dCS DACs are sublime performers that are as emotionally engaging and lifelike as it's currently possible to get from digital. This is just as true of the entry-level Bartók as it is of the flagship Vivaldi. An epoch-making 'affordable high end' source, it moves digital audio another step closer to musical reality.

