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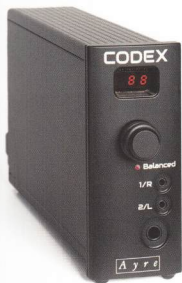


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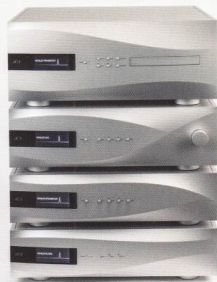
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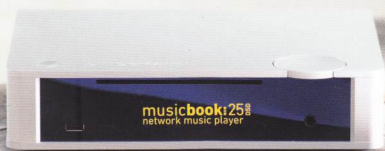


DCS VIVALDI 2.0



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dCS Vivaldi 2.0 digital replay system

by Chris Thomas

The full four-box dCS Vivaldi system embodies what high-end digital audio should be all about. It is complex, beautifully made, endlessly functional through its myriad of connection options and of course, very expensive. Unlike so many high-end products though it is refreshingly free of bling, preferring to reflect what modern day dCS are all about through its different sculptured front panels, super in-house design, build quality, and of course its remarkable musical abilities.

It's been with us a few years now and I first reviewed it, over a couple of issues, just after its release. Those twin articles were really about its capabilities as a CD player and a digital hub. I moved up from a straight transport and DAC, before adding the clock and finally the Upsampler. This enabled me to stream files from external drives. Each additional box brought extreme improvements, though not necessarily of the kind I was expecting. Both the clock and the Upsampler built on the solid foundation of the DAC and transport, and what followed was a glorious and memorable period of musical involvement that had interesting repercussions for me as I learned that so many of those CDs I had thought of as being poor in sound quality, either recording, mastering, or transfer-wise, suddenly became musical revelations with a new life and relevance that took me completely by surprise.

Earlier this year Vivaldi was improved through a series of software updates and a hardware change to the Upsampler. I had never heard of any Vivaldi owners complaining about the existing performance, but when I got to hear what dCS had come up with I understood that, as far as CD replay was concerned at least, the company had moved the Vivaldi system onto an entirely new performance level. In fact, I soon realised that what they've actually done is launched the whole system into the stratosphere of digital playback. This is no minor update but rather, a new performance level entirely.

The hardware upgrades are within the upsampler and consist of completely new network and carrier boards. Sounds pretty straightforward doesn't it? Actually it is far more significant as these changes have really focussed the whole prospect of the Vivaldi 2.0 as a musically convincing digital hub. From a personal point of view, I have had doubts about what I had been hearing streamed from external drives for quite a while. Yes, I had heard some decent stuff but, if I had

a stored file and the CD I would shrug my shoulders and reach for the latter. Even with discs I had ripped myself, there was a downbeat edge to music, accompanied by a softening of dynamics and a real fall-off in colour and textures. The music was there but the magic had gone. I know that many people have been pretty satisfied with the state of play but all I can say was that these sources, with a few notable exceptions, always seemed second-rate to me. After getting that original Vivaldi at home and understanding the way it dealt with real musical issues, I was more convinced than ever that my listening future was going to be CD-based for the foreseeable future.

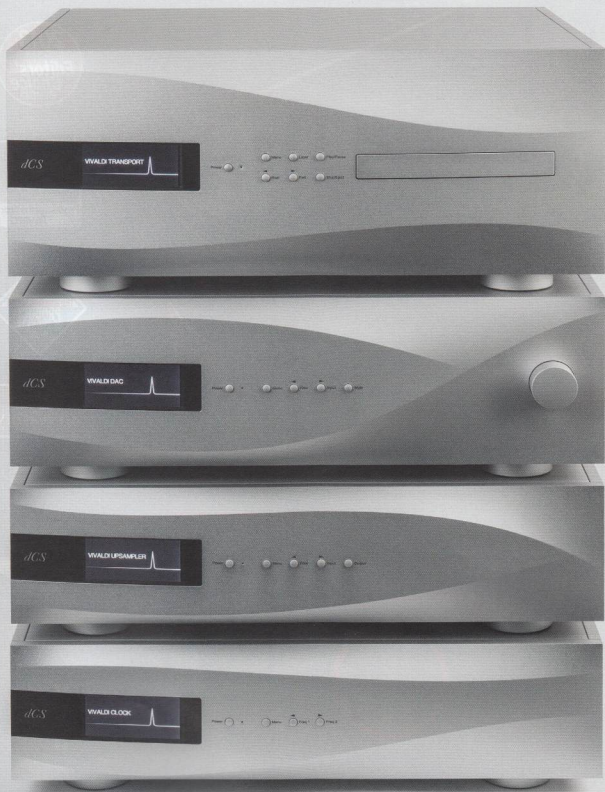
But, at a stroke dCS and the Vivaldi 2.0 system have completely changed my mind and my listening habits and that, to me, is no small thing.

Let's start with the software changes. The engineers at dCS have looked deep into their own RingDAC and come up with two new 6MHz Mappers, a new DSD filter (filter 5) and implemented DSD128 on both USB and the Dual AES. They have also added a further pair of low level outputs of 0.2V and 0.6V though these are essentially for safety when using something like Spotify or Apple Airplay to avoid sudden volume occurrences. There is also improved RS232 integration and now, when utilising the variable volume output, the display is full screen for a few seconds.

The Upsampler has seen the aforementioned hardware upgrades that also add Tidal, Spotify, and the superb Roon software, plus the dual AES output options now support DSD/128 (DSDx2). The iPod input is no more but has been replaced by the ability to use Airplay instead. Again, the RS232 integration has been updated too and this has also been incorporated into the separate clock.

The Vivaldi always had four DSD filters but the new Filter 5 is much better with regards to out of band noise making it a lot more amplifier friendly particularly for those that choose to drive their power amplifier straight from the Vivaldi's analogue outputs. The transport now includes a third upsampling mode for CD playback in the shape of DSDx2 (1 bit / 5.644MHz) plus there are a couple of changes to the way the display operates.

One of the major changes has been to the algorithm mapping of the Ring DAC itself. The Ring DAC has been improved over the years but, until now, the mapping algorithm has remained constant. In the original Vivaldi there was only ▶





▶ a single setting, but Vivaldi 2.0 offers Maps 1 through 3, selectable through the menu system. Map 1 is the new default setting, Map 2 is the same as the original Vivaldi (3MHz) but it has undergone what dCS describe as some 'housekeeping' so I hear it as being both quieter and cleaner, while Map 3 is an 'experimental' version, included as the boys at dCS liked it so much. Users will need to scroll through and decide their default setting. It is easy to hear the subtle changes in musical 'shape', perspectives, and emphases when listening to each and which you choose will likely depend on your system and taste. There's no right or wrong here. Choose the one you like the most is my advice and for the record, I am a Map 3 man myself, though I could, in certain circumstances, opt for Map 1.

All high-end equipment should be so musically engaging that it draws you in. Surely it must speak the language of music so eloquently that it encourages you to invest something of yourself in the performances and once you do that, how can you fail to become emotionally connected? Without this a system is really just a collection of very expensive boxes. This is what makes the Vivaldi 2.0 so special, because when number-crunching mathematics and music collide so spectacularly as this, then special things happen.

The Vivaldi 2.0 adds even more resolution. I think of the term as encapsulating everything about the music and the recording, from the rhythmic flow and movement, right through to the instrumental detail itself. This includes the playing techniques, phrasing, and of course the way this has been incorporated into the production. The Vivaldi 2.0 is so vibrant and dynamic that even the rather muted and

small-sounding discs from the early days of CD are revealed as being far better than I had originally thought. The original Vivaldi excelled at this, but the new updates have taken things much further. Yes, even those old splashy and rather thin, bleached sounding Steely Dan discs can sound quite remarkable. I never thought I would write those words but it's an indication of what dCS have achieved musically here and the way that their undoubted prowess when it comes to evolving the Ring DAC has paved the way for the music lover.

Listening to the Little Tomato (Tomatito) and his wonderful orchestral *Sonata Suite (with Josep Pons)* [DG], I am completely struck by the nuance of his style. Whereas most CD players make a bit of a hash of such dramatic and self-contained dynamics, the Vivaldi reveals the nature of the man and his expression within the beautiful physical relationship to his instrument. Against an orchestral and vocal backdrop, it is a fine balancing act but it never becomes swamped with the transients as his nails energise the strings or as the string itself smacks against the fret board. The Vivaldi's version of events is in many ways quieter and more considered but bristling with life and energy and the sense of focus is tremendous. There's colourful tone in his playing style. Warmth too and the Vivaldi's control over the guitar's undoubted percussive abilities leaves the recording open to more considered contemplation. There is no feeling of the system as moving out of its depth or struggling to cope and yet the speed and wonderful musical articulation gives the music new potential and flavour with simply tremendous bandwidth. For me, this is exactly what high-end equipment ▶

▶ should do. It really must take you to the heart of the music; otherwise, what good is it?

Billy Cobham's interesting *Drum 'n Voice Expedition* [Sony] isn't the greatest recording but what the Vivaldi 2.0 draws off the disc is a feeling of musical mastery and rhythmic power that is quite brilliant. Cobham is the beat. He sits squarely on top of every song like the great player he is. He is the backbone that won't break and he lays down persuasive patterns that are never flash or over the top. He is always there, like a rock, and the flavour of the whole series of discs is dominated by not only his metronomic understanding of time and space itself, but through his feel for each piece and his understanding that less is more. It's a marvellous experience to just let him carry you through the albums and to hear the way that the accompanying musicians involve themselves within his rhythmic framework and constructions. I first discovered this album when I was using the original Vivaldi but I could scarcely believe how much more 'real' and expressive the Vivaldi 2.0 showed it to be. It offers greater instrumental separation, more dynamic independence, and a much more attractive picture of the music in the sense that the soundstage itself seems to have grown both in scale and three dimensional space plus tauter bass and a more extended and comfortable high frequency performance. The list goes on.

Of course, the fact that the transport can deal so well with SACD is a big plus too. I am late to the SACD party but those still invested in spinning discs are in for a real treat. The eastern markets, where dCS is so dominant are still very much interested in these discs, and comparing some of the classical SACD titles I have from the Esoteric label (sadly now out of production) have really shocked me. Take the Brahms violin concerto with the late and very great David Oistrakh and listen to the adagio. Forget the technical improvements and just listen to the way that Oistrakh plays the piece. His complete mastery of his violin in both space and tone through just about the most exquisite phrasing I have heard from a musician reach into you. They talk to you of yearning and beauty. I say talk because that's what I hear from his violin. His sense of phrasing is, to me, almost vocal. There is no need for excessive, quivering vibrato or over embellishment. The Vivaldi 2.0 takes you to the heart of what he is saying and his gift for 'shaping' a note is something I hear so rarely from violin players. There is a certain emotional nakedness about Oistrakh here, almost as if he is letting you into secrets he has discovered within the piece. It is as moving as it is memorable and is the finest I have ever heard this incredible piece of music played. I thought it sounded great through the original Vivaldi but it has been lifted to another level completely now.

But CD replay is only the beginning of the V2.0's talents as the new network card in the upsampler, combined with the other software upgrades, have made an enormous difference to the way the Vivaldi can be implemented. I can imagine a 3-box set-up, minus transport, for those who prefer their music streamed or those who like to listen through Tidal, Spotify, or similar software. I employed a Synology SS drive, ripped CDs through dB Poweramp onto a MacBook Pro and sent the files over the network to the drive. Playback is easily controlled through the latest version of the Vivaldi app and the results are quite simply the best I have heard from file storage. At a stroke I can now see this as an entirely viable way of increasing a musical library without thinking that the quality is a step-down from CD replay itself. This to me is enormously significant. Employing Tidal, the SS drive, and another small Toshiba drive pre-loaded with high-definition material bought me to Roon. This is surely the best way to access multi-sourced digital files with all the associated metadata, and AS and I will be taking a look at the whole Roon software and the way you can employ it in the near future.

The software updates are free to existing Vivaldi owners, while the Network board upgrades will require a factory or dealer return. So, more versatile, easier to operate, and now better able to function as a true digital hub, the Vivaldi has moved to a completely new level with the 2.0 updates. But, for me, the beauty of what dCS have achieved comes when you spend time listening to it because it is both addictive and musically immersive. Yes, it's expensive and supporting and cabling it at a high level means that it's a lucky person who can afford to go all the way. The pay-off though is in my experience without musical equal. Aural art at its finest. +

PRICE INFORMATION:

dCS Vivaldi CD/SACD Transport: £27,250

dCS Vivaldi DAC: £21,750

dCS Vivaldi Master Clock: £10,700

dCS Vivaldi Upsampler Plus UPnP Renderer: £15,299

Manufactured by: Data Conversion Systems Ltd

URL: www.dcs1td.co.uk

Distributed by: Absolute Sounds

URL: www.absolutesounds.com

Tel: +44(0)208 971 3909

What is Vivaldi 2.0?

David Steven, Managing Director of dCS



How Does It Work?

After oversampling and digital filtering, the audio is re-encoded as five bits of noise-shaped data and passed to the Ring DAC™ Board. Here the five-bit binary data is mapped onto the array of 48 latches and precision resistors which are at the heart of the Ring DAC™ topology. The mapping algorithm is carefully designed to avoid any mismatches between the latches or resistors appearing as errors correlated with the signal, ensuring excellent linearity, even at low signal level. The latch outputs drive balanced currents through their associated precision resistors which are combined by a balanced mix amplifier / filter stage. The filter removes any unwanted images and switching artefacts, leaving balanced, high-quality analogue signals.

What's New?

The original dCS mapper has been improved so that it can now run at two different speeds; 3MHz and 6MHz.

As the name suggests, the mapper is the thing that 'maps' five-bit codes onto physical latches, which is absolutely crucial to DAC performance. For dCS, this is revolutionary as although the Ring DAC design has been improved in various ways over the years the mapping algorithm has remained constant. This project to improve the mapper began with the launch of Vivaldi and the addition of FPGAs on the Ring DAC board itself. This allowed our engineers to work on the mathematics behind the mapping process and then enable changes to the mapper algorithm with a simple software update.

The new mappers distribute the latches differently – one of the things that is different between the new mappers and the old one is that we have changed the distortion harmonics distribution between them. So, for example, one of the new mappers has reduced thirds and slightly increased seconds. The act of changing the speed at which the DAC runs introduces a slightly different set of compromises, mostly to do with noise distribution. +