The CAD USB Control…

Are your service ports doing you a disservice?

by Roy Gregory

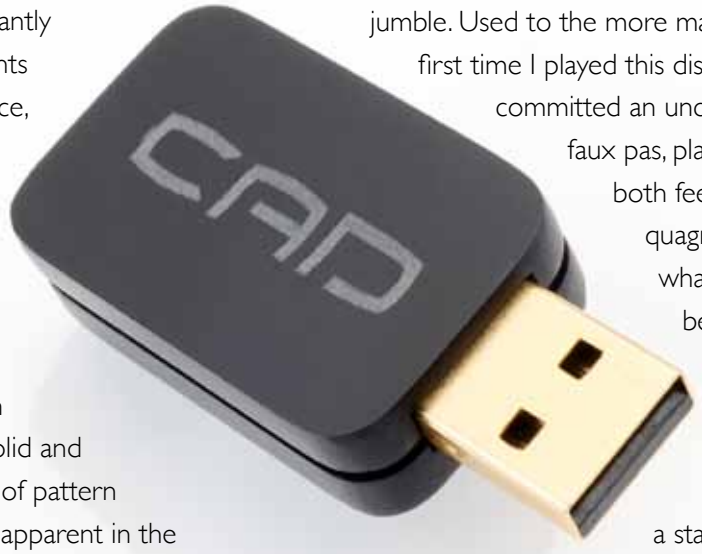
While parallel grounding of both chassis and signal have been rapidly gaining currency, there's one noise-source that is regularly overlooked. Those in the know when it comes to CH Precision components have long recognised that, as well as optimising the separate signal and chassis grounds, there's additional performance to be gained by connecting the USB firmware upgrade port (a fixture on every CH product) to some form of ground shunt. It started out using a CAD Ground Control GC1 or one of the Entreq pieces. It continued with the arrival of the Nordost Qkore grounding devices. But all of these approaches can count cost and complexity against them, involving not just an expensive grounding box, but yet another cable (aerial) to route from the system's components back to some central point.

Thankfully, those clever people at CAD have come up with a solution, a small device that works on both redundant USB inputs and service ports. The somewhat confusingly named USB Control – at least it's confusing unless you are familiar with CAD's range of Ground Control products – is about the size of (and could easily be mistaken for) a USB dongle. Encased in matt black acrylic, it's got a USB A nose on it but otherwise it's about as discrete as an audio tweak can get. But don't let its diminutive dimensions or understated appearance fool you. This thing is kryptonite for the spurious noise generated by USB circuitry.

Digital devices…

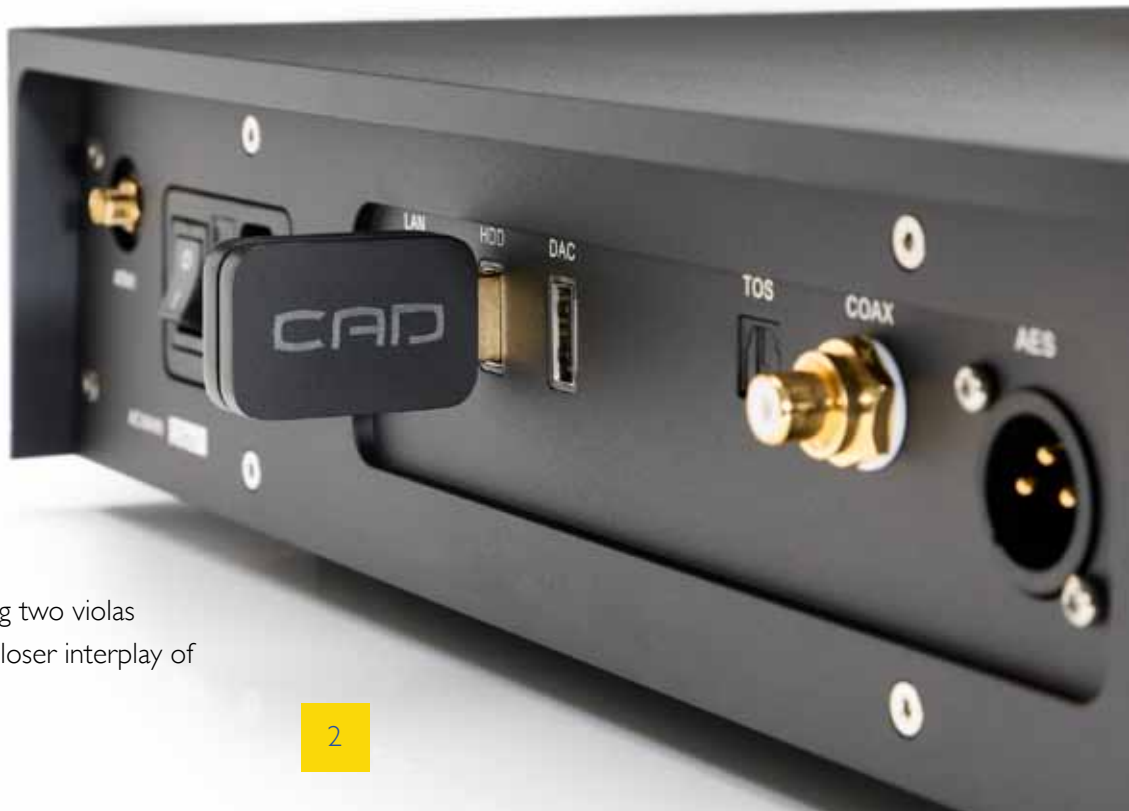
My initial interest fastened on applying the USB Control to the firmware ports on my CH components, starting with the C1.2 DAC. The results were both immediate and musically significant. Running the C1.2 with either the Wadia S7i or D1.5 transport (I prefer to use optical disc for such comparisons, simply because of its stability and it's consistent superiority to all but the best streamed sources) I started by playing the Jordi Savall/Le Concert des Nations *Brandenburg Concertos* (AliaVox AVSA 9871 A+B), particularly the opening movements of *Concerto Nos. V* and *VI*. Inserting the USB Control into the firmware port (note – NOT the USB Audio input: the modular nature of the C1.2 means that

normally there will only be a USB Audio input if/when the owner needs one, which means it won't be spare) brought an obvious change to the musical presentation, both in terms of tempo/intelligibility and tonality. Notes and phrases were more explicitly placed and shaped, the counterpoint more apparent, Bach's graceful structuring more elegantly revealed and played. Instruments took on a warmer tonal balance, with richer colours, better harmonic development and a greater sense of presence. It's not just the notes that were more clearly placed. The instrumental spread was more clearly defined, with each instrument both more solid and more stable. The added sense of pattern and precision was particularly apparent in the solo harpsichord passage that follows the opening bars of *Concerto No. V*. So often, the instrument can sound like a jumbled cascade of notes (hence Sir Adrian's infamous comments) but the USB Control brought a sense of, order and purpose to the playing, body and a richer harmonic complexity to the instrument, the very sense of organisation necessary to allow the musical continuity to flow from strings to keyboard in a natural progression. Musicologists often cite this as the first – or at least a nascent – keyboard concerto. With the USB Control in place, the body, structure and presence of the harpsichord part underpin its importance and make you understand why that is.



But what really brought home the value and impact of the USB Control was the opening to Concerto No. VI. Often presented with an almost simplistic arrangement for two violins and a pair of celli, Savall adopts a typically iconoclastic approach that transforms the piece. Using two violas and two violas *da gamba*, the closer interplay of the instruments and the cleaner tone of the violas *da gamba* (compared to the woody body of a cello) brings an interwoven, almost flirtatious quality to the piece. Without the USB Control in place, the carefully balanced contrasts between the instruments collapse, the music as a whole quickly descending into a confused and confusing jumble. Used to the more mainstream presentation, the first time I played this disc, I thought that Savall had committed an uncharacteristically a-musical faux pas, placing not just one but both feet in an original instrument quagmire. I eventually unravelled what he was about, but had I been using the USB Control, the subtle brilliance of his approach would have been immediately apparent.

Switching to the D1.5 as a standalone player, the USB Control once again worked its magic. Playing the Schumann *Study…* (from Víkingur Ólafsson From Afar – DGG UCCG 45060/1) it brought a warmer, sweeter balance and removed a hint of glare from the top end, but most importantly of all, it brought a new sense of grace and fluidity to the all-important phrasing of the piece, its classical canonic structure – previously submerged beneath the welter of notes – now clearly apparent. Moving on to the Shostakovich *1st Symphony* (from the excellent Sony/RCA box-set, *Yuri*



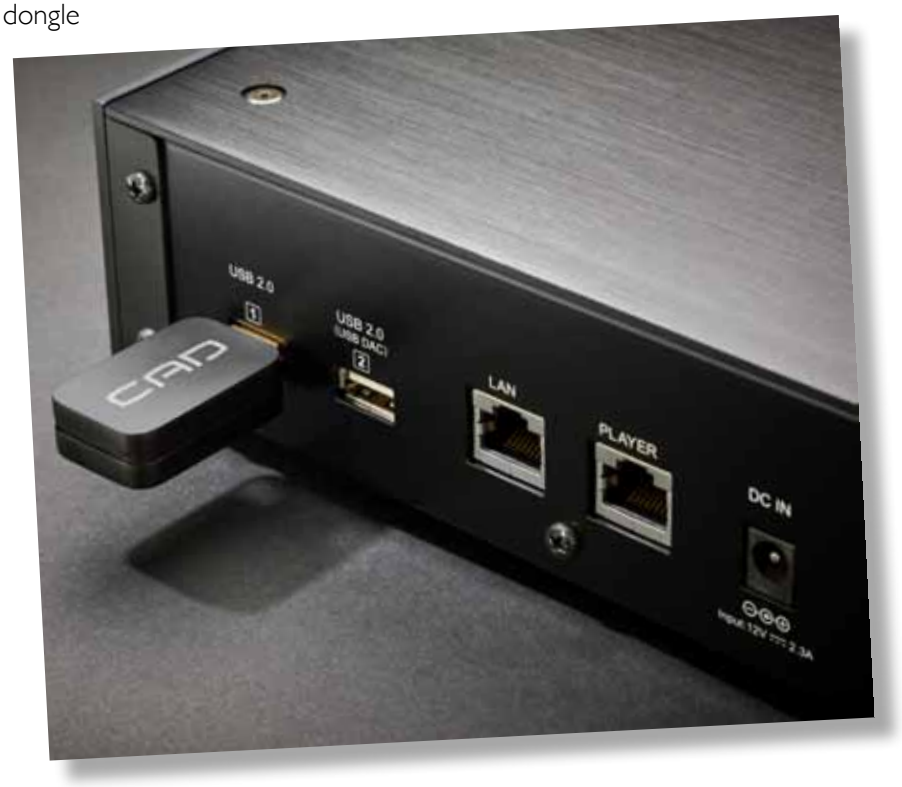
Temirkanov conducts Shostakovich – 888430636026) the USB control brought a greater sense of spatial coherence, instrumental focus and location to the jaunty, sporadic opening passages, making greater sense of the orchestration and instilling the performance with Termirkanov's characteristic creative tension and drama. What might have sounded somewhat ordinary before was now captivating: and the one word you'd never use to describe Temirkanov is 'ordinary'!

That's what the USB Control does in the context of the CH Precision digital components. Lord knows, they aren't short of musical clarity and purpose, but that doesn't stop this innocuous looking little dongle elevating their performance by a significant, musically worthwhile and monetarily justifiable margin.

Analogue devices…

Of course, it's not only the CH digital devices that are software controlled and have firmware update ports. It's also their analogue devices, like the P1 phono-stage, L1 line-stage and the various amplifiers. I used the USB Control in all of the above units, although the L1 line-stage and P1 phono-stage proved to be by far the most effective applications: more effective than the X1 power supplies feeding them, although that was effective too, suggesting that, given your druthers, you should probably do both. Here, the recording that really told the story was John Wilson and the Sinfonia of London's recent Chandos release of English string music (Vaughan Wiliams, Howells, Delius and Elgar – Chandos CHSA 5291). Following firmly in the steps of Barbirolli's seminal recording for EMI, the Wilson programme also starts with the *Fantasia On A Theme By Thomas Tallis*. There's nothing quite like aiming high! Except that on first listen, the new disc falls someway short of Sir John's best efforts, lacking the air and tension he brings to the piece. Instead, the performance comes across as slightly muted and distant, stately and polite rather than brooding, dark and intense. But inserting the USB Control into the L1's firmware port wrought what can only be described as a transformation in terms of immediacy, presence, the palpable sense of an all-embracing acoustic and most importantly of all, the shimmering harmonics and texture that add that vital tension and bite to the music. The result was a performance that captured and held the attention, an acoustic that reached out to envelop the listener, a disc that was now very much in the running. The newfound musical poise and sense of overall shape elevated the performance close to the same level, if not quite on a par with Barbirolli's – and that's no mean feat.

Playing with the amplifiers, the impact was similar if not to the same degree as with the L1 and P1, more akin to the results on the X1s. Stability, bass clarity and dynamic impact were all lifted. The *pizzicato* bass notes on the *Tallis* were more planted, with a greater sense of pluck and release and more air and space around them – all of which led to a greater sense of musical integration, an increased presence to their part in the musical conversation.



Of course, the real significance here isn't the sonic refinement(s) that the USB Control delivered, but the musical insight that it brought to the listening experience, making a disc that might easily have been shuffled to the bottom of the pile one that's been worth repeated re-listening. The Howells Concerto is a beautiful piece as is the Delius *Late Swallows*. If your goal is musical access, the USB Control is a shoo-in, simply by making the music you play more intelligible and communicative. You'll be able to play more material to better effect - which is pretty

much what a hi-fi system is all about. Those wed to the PRAT school of 'drive on and don't spare the horses' music making might well cavil at a perceived slowing of tempo. But more space around notes, more definition of the space between notes is actually the opposite, nailing down the tempo rather than pushing it along with leading edge emphasis and chopped tails. This is music breathing rather than panting. In some ways it reminds me of the old retail trick of running a favoured record player very slightly fast. It sounds impressive – to start with: but listen longer and fatigue sets in. What the USB Control does is allow the amplifiers to relax and express, especially when it comes to the interplay between instruments and voices.

Interestingly, while its impact on the analogue components was in the realms of dimensionality, presence, immediacy and timing, in the case of the digital pieces, it was more about layers of information and overall organisation. The two are clearly related, but they're also quite distinct. On top of which the benefits easily outweigh/justify the price being asked. The USB Control might not look like much, but this is one audio book that shouldn't be judged by its cover.

Moving outside the CH family…

CH Precision are far from the only people whose products employ software and use firmware ports to keep it up to date. If the USB Control could do this to the CH Precision components, what might it do elsewhere? The Wadax Reference pieces are a case in point. I tried the USB Control in both the Wadax Atlantis Reference Transport and also the Reference DAC's two different USB update ports. The problem was, using the USB Control in the Wadax meant removing it from the L1, so there was a swings and roundabouts element to this exercise. Even so, the benefits were still readily apparent. The most effective usage was either in the Transport or Service Port 2 on the DAC. Service Port 3 was brilliant in terms of focus, texture and transparency, but robbed the sound of bass weight and depth. In contrast, Service Port 2 offered a similar tonal, textural and organisational improvement to the firmware update port on the C1.2, albeit to not quite the same degree – although arguably the Wadax has less headroom for improvement in these areas. What did make a seriously big difference was using the USB Control in its intended role, in the unused USB input of the ref DAC. There the results were spectacular, bringing the same sense of presence and immediacy that I'd got with the firmware update port on the L1 – which kind of suggests that the USB Control works in its primary role just as well as it does in the redundant firmware port that litter so many modern products.

Just for fun I tried it in the USB input of the Wadia S7i, in which position it also made a worthwhile difference, arguably the extra tonal and textural detail, the added sense of organisation and musical purpose giving what is now a solid yet venerable performer a whole new lease of life.

This is another of those plug-n-play devices: you stick it in, you listen and if you like the results you leave it in place. Like the Chord GroundARAYs it's strength and its weakness lies in the multiple options it presents you with. In my system, if I was limited to a single USB control, it would be used on the L1. A second would find its way onto the X1 or the Ref DAC's USB input – I'd need to listen and decide. Which sums up the challenge neatly: to really get the best out of the USB Control in your system, you are going to need to figure out how many you might use and what your order of priority is going to be? In the context of an all CH system, I can see you wanting one for each and every box. But wanting and having are two different things. Hey – look on the bright side: 10 Series owners will only need one for each pair of boxes. Is that the audio equivalent of every financial cloud having a silver lining? If I can lay my hands on any extra USB Controls I'll report on multiple application. But in the meantime, for us lesser mortals, I suspect it's a case of getting hold of as many USB Controls as your system/wallet can take and then ringing the changes… I suspect you are in for a pleasant surprise AND some serious fun!

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