Computer Audio Design CAT

by Jason Kennedy

Two years ago, Scott Berry unleashed his 1543 USB DAC on this unsuspecting music nut. It made quite an impression. Rarely has such a hairshirt product come my way; a converter with one input, a fixed mains lead, and a non-oversampling chipset. It makes absolutely no concession to commercial potential, and no-one else makes a USB-only DAC at anywhere near this price. No-one else went to the lengths that Scott did to eradicate compromise in its design and execution. I'm amazed he's hasn't totally burned out, but the CAD 1543 sounds pretty remarkable. It's among the very best, especially if you value a natural, effortless sound that is devoid of digital audio characteristics.

The issue from day one was that few enthusiasts have the source components, the computers, to do it justice. Scott put tons of information on his site about how to get the best results out of Windows and Mac platforms but many hardcore hi-fi enthusiasts are not all that keen on computers, so his market was distinctly limited. Anyone that visited the CAD room at the Bristol Sound & Vision show in 2013, where it won best two-channel sound of the show, would have realised the potential of both computer audio and his DAC, but not many could have emulated his laptop 'transport' at home. The CAT (CAD Audio Transport), was launched at Bristol Sound & Vision this year to provide the solution. This, as I have come to expect from Scott, is a no-holds barred piece of kit. In essence, it's a Windows computer that runs JRiver and outputs PCM via a dedicated USB board, but in practice it's a digital transport like few others.

For a start it, has an outboard power supply made by Teddy Pardo, the company that makes alternative supplies for Naim products among others. This contains two 12V DC linear power supplies that have low output impedance and high slew rate: one feeds the CPU and the other supplies four regulators. These are low noise/ripple devices of Scott's design that power the SSDs (solid state drives), the USB board (that needs both 5V and 3.3V), and the CD-ROM drive. The choice of hard drive is up to the buyer; Scott recommends SSD because it sounds better, but in practice you can use any commercial SATA drive because at heart this is a regular computer – a massively over engineered PC, but one that has standard connections inside.

While this is a Windows 8.1 machine, it's a heavily tweaked and very stripped back one. The customer's choice of internet browser is installed (for finding internet radio stations and browsing streamed music services), but there is only a wired network connection via Ethernet, because Scott believes there is no hi-fi with WiFi! It has standard USB ports for memory sticks or drives and HDMI, DVI and VGA connections for TVs or monitors. It also uses dBpoweramp for ripping purposes, Scott considers the CAT to be a very superior disc ripper, but says it shouldn't be playing music at the same time for best results. All the software is licensed to the purchaser and it uses the 5.2 alt version of JPlay on top of JRiver. JRiver is a full media manager and playback program in its own right, but many PC users consider the JPlay plugin to be beneficial in terms of sound quality, and Scott is certainly among them.

You could control the CAT with a monitor and keyboard but a more elegant and ergonomic solution is to use the JRemote app on a tablet, this inexpensive piece of software makes it very easy to choose from your collection, build playlists and enjoy your music. You can also access the desktop using a Remote Desktop application such as the free Windows Remote Desktop Protocol ('RDP') or Mocha RDP, which is also free in its 'lite' version. The unit supplied for review came with a 256GB SSD onboard and I was able to fill that over the network from my Mac. The Ethernet connection is necessary for this and tablet control, but it also means that the CAT can be used as a NAS drive, and rather a good one at that.

Build quality is higher than with most audio PCs. The front panel is acrylic and the chassis has aluminium heat sinks on either side; one for the linear regulators and the other for the CPU. It runs warm, but not very warm. The Teddy Pardo power supply, on the other hand, is scorching and should, perhaps, have a bit more heat sinking. As is CAD's style, the CAT sits on large silicone pucks that provide a degree of damping and isolation.

The CAD 1543 is an immensely quiet, revealing, and uncannily natural sounding DAC, and the CAT reinforces that with knobs on. Going from my Macbook Air (also with SSD) running Audirvana Plus (which sounds exceptional in its latest guise) to the CAT is a pretty dramatic affair. Suddenly the laptop sounds like a basic, rounded off, and small scale source, whereas the CAT has a degree of poise that is very rare in any form of audio source. It combines precision with naturalness of timbre and tone that makes acoustic sounds so real it's uncanny. The noise floor is so low that everything you play reveals fine details that were previously masked or unclear. Laura Marling's 'Take the Night Off' (*Once I Was an Eagle*, Virgin), for example, has a low drone on it that usually sounds like noise, deliberate but not defined; now it's an acoustic organ. It's the quietness that makes the difference. Noise is the nemesis of resolution, and never more so than in digital systems. By only using linear power supplies in the CAT, Scott has managed to make a source that is quieter than most everything that comes after it, except for the CAD DAC itself, which is built along the same lines. This means that you don't get any glare, any subtle reinforcement of leading edges, and some will feel that timing suffers as a result. But, the coherence presented by this pairing sounds so right, so on the ball that it makes other digital sources sound like they are emphasising the attack of each note. Put on something with teeth and the CAD combo will show you those teeth. It doesn't soften edges; it lets what's in the recording do the talking.

To evaluate the CAT as a ripper, I compared its results with those achieved with Naim's UnitiServe, first playing the files through the CAT (in NAS guise) and then through the Naim NDS via an Antelope Platinum DSD DAC. The difference was so slight that it's fair to say that the CAT and Naim are on a par; both are very revealing, far more so than most CD players. Both help reveal the extent to which Keith Jarrett bangs and shuffles his feet on the stage alongside an immensely solid and vibrant solo piano on *Paris/London: Testament* [ECM], with the occasional 'vocal' for good measure. More interesting is what the CAT can do when used as a NAS drive: that is, blow everything else out of the water. It is so much better than the UnitiServe that on the one hand you want to use it all the time because it's so quiet and revealing, but on the other you daren't get used to it, because it will mean recalibrating expectations in the wrong direction when it goes. I got carried away with this front end, using Chord Company Sarum TA coax and network cable, and getting the most engaging, to-die-for sound I've had the pleasure of for some time. This period coincided with the arrival of the Vivid Giya G3s reviewed last issue, so for a while there it was hard to get anything done at all.

Scott Berry only planned to sell the CAT to existing CAD 1543 owners, or those willing to buy a DAC. However, the response it has been getting so far suggests that the streaming market represents considerably more demand. As a result, the CAT is available alone at a slightly higher price than if bought with the DAC, a price that puts it on a par with Naim's HDX with SSD, especially as both need additional storage. The CAT is obviously a superb a superb digital source and one of the finest I've yet encountered. It is a natural partner for the 1543, but those with high resolution streaming systems are likely to be the biggest winners in this particular digital race. ✛

TECHNICAL SPECIFICATIONS

Digital outputs: USB 3.0 A x 2
File compatibility: AIFF, FLAC, WAV, DSD over PCM DoP, MP3 etc
Software included: Optimizing Windows 8.1 OS; JRiver Media Center – configured by CAD; dBpoweramp – modified by CAD and configured for automatic ripping; JPLAY Proprietary BIOS developed motherboard
Dimensions: 440 mm (W) x 85mm (H) x 330mm (D)
Weight: 4.9Kg

External Power Supply
Dimensions: 169mm (W) x 57 mm (H) x 243mm (D)
Supplied with 2 DC interconnects and 1 ground interconnect
Weight: 2.0KG

Price: £5,300 or £4,800 when purchased with 1543 DAC (£6,900). Includes two hours of system set-up support

Manufacturer: Computer Audio Design
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