

CAD 1543 MKII Digital converter

by Jason Kennedy

When Scott Berry brought me the first incarnation of his CAD DAC, I chided him for only including a USB input and not having a removable mains cable: it seemed like single-minded madness.

But the 1543, so called because that is the number of the multibit DAC chip it's based on, proved to be one of the very best converters I had heard, because it had been conceived in such a single-minded fashion. It clearly wasn't designed for commercial reasons; it's far too purist for that. Instead, it was made to deliver the best possible sound from a computer source. Since then Scott has added the CAD CAT (computer audio transport) to his small roster, which proved necessary because a DAC of the 1543's quality is extremely revealing of the source and, while a laptop can get you so far, it is a long way from a high-end source. The last product prior to the Mk II version of the converter was a USB cable, which features a patented filter to keep noise out of the DAC.

Scott has essentially been building the best possible elements for a digital audio source and refining them; his no compromise approach has been winning him fans across the board, despite the fact that the DAC is not 100 per cent compatible with sample rates above 176.4kHz and the format

of the season, DSD, is unsupported. With the introduction of a MKII model you would expect any manufacturer to address such an issue with the latest chipset that could cope with massive sample rates and multiplications of the DSD rate. But that would mean abandoning the 1543 multibit, non oversampling DAC chip; a Philips design from the 1990s that Scott and a few other connoisseurs revere above all others. The continued presence of this number in the name indicates that this has not changed. Instead, Scott has concentrated on reducing high frequency noise within the DAC, thus making it a higher resolution (or, more accurately, less distorted) converter than it was in the first place.

In the time since the original 1543 DAC, Scott has discovered new ways of reducing what he terms, "high frequency energy", and these techniques have been incorporated into the new converter. Central to this is a material that is designed to absorb RFI and EMI noise and convert it into heat. Scott feels this high frequency energy is the bane of digital audio, so anything that can be done to reduce its presence is beneficial to the end result. The main change to the electronics is in the PCB that supports the DAC chips; in the new PCB, the I²S and USB receivers are positioned alongside the analogue output. This has been ▶



“The more music I played, the more apparent it became that the changes have made a significant and positive effect.”



- ▶ redesigned and has four rather than the original's three layers. It is surrounded by three other boards: the analogue power supply, digital power supply, and mains conditioner. The latter has been modified with new components and serves to filter out the frequencies that Scott considers most damaging.

Another significant change is to the wiring. This is now made with OCC (Ohno Continuous Cast) copper in a custom configuration. The casework remains acrylic as per the original 1543 and continues to have a captive mains cable, now terminated in an Atlas branded 13A plug. The connections are as minimalist as ever – a USB input and a pair of high quality RCA phono output sockets. There is, however, one extra socket on the MKII. This is for the CAD Ground Control, Scott's latest creation: it's a passive device housed in more matte black acrylic that is designed to reduce ground noise on any component. In other words, it's not specific to the 1543 MKII, but can be connected to any audio component and reduce noise on its ground plane.

There is one more change to the appearance of this DAC, and that's the feet. In the past, the 1543 was supplied with four 'free range' feet; they weren't attached to the chassis and could be placed wherever you like. The 1543 MKII has four feet firmly attached, and these are supplied by Black Ravioli.

I had hoped to review this DAC with the Melco N1-A that I use as a USB and network server, but the 1543 requires a dedicated driver and does not conform to Class 2 USB spec so the two could not be paired. This left me with my Macbook

Air, and good as it is when only Audirvana Plus is running it's not a patch on the Melco, so Scott lent me a CAD CAT. This is a dedicated audio PC that runs JRiver with JPlay Streamer on a Windows platform. Scott builds the CAT specifically for audio purposes and, as with his other products, it's a no compromise, no expense spared digital transport that has no peer in my experience. It's worth bearing this in mind when reading the following review because a DAC is only as good as its source.

It's been over 18 months since I last heard the CAT/1543 combination and my system has changed in that time so I didn't think that I would hear a difference. But, the more music I played, the more apparent it became that the changes made have had a significant and positive effect on what was already a remarkable DAC. Essentially you can now hear more, in fact a lot more of what is in the mix. The converter has got quieter and the distortion has gone down; you can tell as much by the sheer amount of detail that appears on familiar pieces. The better you know the music, the more you can hear; I was frankly astonished at the sonic riches that appeared on 'Wardrobe Master Of Paradise,' from Conjure's *Music For The Texts Of Ishmael Reed* [American Clavé]. It really is quite uncanny when you discover what seems like a doubling of detail on something that's been played on some very impressive systems indeed. Yet there it was, every note seemed to be better fleshed out, more solidly presented and more coherently in synch with the rest. This is not a ▶

▶ particularly great recording in the scheme of things, yet it contains so much more than is usually audible that you have to start wondering what's going on. A snare drum appeared on the track, 'Oakland Blues': it was quiet I'll grant you, but it was there in the studio and it's there in the digits, yet it has not been apparent before.

This naturally turned out to be an experience that was to repeat itself with every familiar piece I played. Most of the time there is more space in the recording than is usually apparent; the acoustic characteristics that expose depth seem most readily exposed by this converter. It must be something to do with the reduction in high frequency noise because even older, more commercial releases have more of it than expected. ZZ Top's 'Jesus Just Left Chicago' [*Tres Hombres*, Warner Bros] is a case in point. This is classic blues rock; it's not for audiophiles, but rather for rednecks (and wannabee rednecks like me), yet the acoustic of the drum booth is all there waiting to be unveiled.

All too often with highly detailed audio components, the obsession with resolution can blind (deafen?) designers to the fact that the timing is awry and musical coherence has been thrown out with the bathwater. The CAD 1543 MKII skilfully avoids that pitfall and delivers timing that you wouldn't believe digital audio to be capable of. And it does so in such a transparent fashion that the only way you can tell it is digital is that it doesn't have the colorations associated with analogue sources. In other words, it has a flat response and it's quiet.

So not only can you hear the booth that Frank Beard played in but you can revel in the way that Billy Gibbons' guitar synchs so perfectly with Dusty Hill's bass, and when the former gets down and dirty you have no choice but to go with him. It wasn't all rock and roll though; the CAT had plenty of more sophisticated material onboard. I was transported to tears by Cecilia Bartoli's 'Il trionfo del Tempo e del Disinganno...' [*Sospiri*, Decca], which placed the singer precisely in the original acoustic yet equally in my room. Virtual reality is unlikely to get any more 'real' than this.

The CAD 1543MKII makes the vast majority of digital audio products sound crude, even those at higher prices with their fancy metalwork, and myriad input options. By focussing on one job, this DAC is the most transparent, natural, and well timed I have heard. This makes it capable of reproducing whatever is thrown its way with tremendous clarity and none of the characteristics usually associated with digital audio. All of which suggests that Scott has succeeded in his attempts to make the 1543 a better DAC, and then some. +

"Virtual reality is unlikely to get any more 'real' than this."



TECHNICAL SPECIFICATIONS

Type: Solid-state high-resolution USB digital-to-analogue converter

Digital Inputs: One Asynchronous USB.

Analogue Outputs: One stereo single-ended (via RCA jacks)

DAC Resolution/Supported Digital Formats: All PCM from 44.1KS/s to 176.4KS/s with word lengths up to 24-bit

Frequency Response: Not specified

Distortion: Not specified

Output Voltage: 1.65Vrms

User Interface: N/A

Dimensions (HxWxD): 85 × 430 × 280mm

Weight: Not specified

Price: £7,200

Manufacturer: Computer Audio Design

Tel: +44 (0) 203 397 0334

URL: www.computeraudiodesign.com