Aavik D-580 digital converter

by Jason Kennedy

The people at Aavik in Denmark must have had a busy lockdown. Last time I looked their electronics were housed in aluminium casework; radical styling and large central control knobs were a speciality and the range was limited to amplifiers, albeit often with onboard phono stages and DACs. The new Aavik range is much larger and distinctly uniform with the same casework being used for all the different components, from phono stages and amplifiers to DACs and streamers. This is a good idea for a number of reasons; it lowers cost, and by making them all the same you get a homogeneity that makes systems look a lot neater. In this case it also allows for easy component stacking.

This is not a new approach; Naim has been doing it for decades, but they have stuck with metal. Aavik has eliminated aluminium and reduced metalwork to almost a minimum, replacing it with a composite material that looks a bit like well-finished MDF but doesn't feels like it. For a start, it's very hard and is immaculately machined, and the way that it integrates with the metal cross on top is like marquetry. It turns out that the metalwork is titanium, which goes someway to explaining the price. The shape is also significant, Frits Dalmose from Aavik explains, "you will notice that they are shaped almost like an instrument. All dimensions are matched to the golden ratio and there are no sharp corners."

I asked Frits about the use of titanium as well, it must increase the cost considerably after all. He said that "We have no doubt that the materials used can be heard and that all materials have a acoustic signature. If you get glass to vibrate by hitting it with an object, you have no doubt that you are hearing the sound of glass." He went on to explain "When Lars [Kristensen] and I were designing racks – actually the first products to be named Aavik – we tried replacing the aluminium uprights with titanium and the result was extremely positive."

The D-580 is the top model in a range of three Aavik digital to analogue converters. A bit like the Ansuz Power X network switch reviewed in Issue 192, the different levels of Aavik DAC are based around the same architecture and features but with more goodies included in the most expensive models. So the entry level D-180 has five dither circuits while the D-580 has 11. Aavik and Ansuz are made by the same company and both incorporate what they call Tesla Coils into ►

"All the Aavik DACs share the same unspecified conversion chips in circuit boards that have ultra short four-layer traces."

their products; these are designed to combat electrical noise (which is the enemy of good digital sound) and come in two varieties. The D-580 has 108 active Tesla coils and 248 active square Tesla coils. You can see these on an internal shot of this DAC, they are effectively a type of filter that has been constructed to eliminate the sort of electromagnetic noise likely to be present with incoming digital signals.

You'll notice that there are no mains transformers inside this DAC and this is because it like all the new Aavik electronics has a switched mode power supply. However, it's one which is described as being a resonant mode design that's principally driven by sine waves rather than the square waves of conventional SMPs. The claimed advantage is that the noise floor is extremely low and further reduced by multiple regulators throughout the circuit. Further, the DAC circuit has 13 low noise voltage regulators feeding separate stages of the circuit. There are five digital inputs with BNC connectors on the two electrical S/PDIF inputs beside two Toslinks and galvanically isolated USB, perhaps surprisingly there is no AES/EBU available. Aavik send all incoming signals via an asynchronous sample rate converter to be re-clocked to 200kHz/24-bit, all signals except DSD, which bypasses this stage and goes straight to the D/A process.

One final differentiation between the D-580 and its counterparts in the Aavik range is that it's the only one to have an internal copper chassis enclosing the electronics. Long considered to be the best material for shielding, copper is a popular material among Japanese brands in particular and is increasingly seen inside high end digital components.

The D-580 was initially used with the USB output of a Melco N10 server/streamer and its analogue signal sent via single ended cables through a Townshend Allegri Reference preamp into Bryston 7B3 power amps and thence to PMC Fact Fenestria loudspeakers that happened to be in the system (it's a hard life etc). Fortunately they are extremely revealing and the combination proved unputdownable, but first I had a listen to the various filter options available via the front panel display and Apple remote. Aavik has realised that the Apple IR handset can be programmed and is a relatively inexpensive way to offer a rather nice aluminium remote. You can pick from four filter settings, upsampled fast or slow and non upsampled fast or slow. Neither of the two upsampled options grabbed me, fast has strong bass, sharp leading edges and good scale but is a little edge of the seat, slow was more appealing but not as engaging as the two non upsampled options. Of these I had expected to prefer the slow (roll-off) option but that sounded more forward and brash than the fast setting which had the best timing and thus the greatest ability to engage. Equally important is that it seemed more relaxed, not a lot though, all of the settings are very clean

"This transparency does nothing to undermine the music, it just emphasises the way in which it was captured and processed."

and effortless, but enough to set it apart with the jazz rock of Joni Mitchell's 'Drycleaner from Des Moines' [*Mingus*, Asylum].

The Aavik D-580 is a supremely open, vital and revealing converter, it delivers immense depth of image and presents music with all its charms in full effect. I love the way it shows the reverb around acoustic instruments, Alfred Brendel's piano on Beethoven's Sonata number 1 in F minor [*The Complete Beethoven Sonatas*, Philips] for instance has superb attack and decay with fully rounded and tonally resonant notes emanating into the room. The recording isn't quite good enough to project the event even via a stonking system but it's more than good enough to give a strong sense of the occasion and draw you into the performance.

I was particularly impressed by the breadth of character that this DAC found in the music played; compression for instance is hugely different with some tracks sounding small and pinched yet still managing to project the key qualities that make it appealing. While others expand outwards in all directions to fill the room. This should be the case given the differences in production and mastering techniques over the years, and the way that different eras favoured different styles, but here the variety was wider than usual. Importantly this transparency does nothing to undermine the music, it just emphasises the way in which it was captured and processed.

I haven't played 'Rolling in the Deep' [Adele, *21*, XL] for quite some time, the chorus usually gets hideously raucous, yet here while it is clearly compressed to the max it doesn't get in the way of a phenomenally powerful song. Rarely has emotional trauma been so effectively communicated in purely musical terms, I have to admit it brought a lump to the throat. On Macy Grey's 'Annabelle' [*Stripped*, Chesky], an uncommon example of a major artist working with an audiophile label, the sound of the small band literally fills the room, the guitar and voice image like they are there in front of you, it's a living, breathing live experience. On Patricia Barber's 'Company' [*Modern Cool*, Premonition], a track I overuse perhaps, the clarity of voice makes the poignance of the lines "I go to the club, talk through the show, there's nothing about jazz I don't know" particularly cutting. This DAC brings out the character of the vocal recording and the effects applied to it remarkably well.

I also tried the D-580 with an APL DNP-SR streamer between it and the Melco. This produced a big increase in energy and power with the bass gaining in stature and the sense of propulsion increasing markedly. It made for one of those 'which is correct?' scenarios; the relatively laid back Melco alone or this more powerful version of events. In truth, the better the recording the more the APL presentation seemed to appeal.

Aavik's top DAC is an impressive piece of kit; build quality is first class and the attention to vibration control has paid of with extreme resolution that sounds far more musical than the oft over-polished results found in other high-end converters. I couldn't pin down any particular characteristics to the D-580, it was much easier to just enjoy the music. +

TECHNICAL SPECIFICATIONS

Type: Solid-state high-resolution PCM and DSD-capable digital-to-analogue converter
Digital Inputs: Two Coaxial (via BNC), one Toslink, and one USB fully isolated, UAC 2, asynchronous
Analogue Outputs: One stereo single-ended (via RCA jacks)
DAC Resolution/Supported Digital Formats: All PCM from 32KS/s to 192KS/s with word lengths up to 24-bit, DSD64 (2.8224MHz) and DSD128 (5.6448MHz). The following format restrictions apply:
Frequency Response: Not specified
Distortion (THD + Noise): Not specified
Output Voltage: 4.5Vrms at 0dB
User Interface: Apple IR handset
Dimensions (H×W×D): 102 × 384 × 400mm
Weight: 7.3kg
Price: £20,000

Manufacturer: Aavik Acoustics
Tel: +45 40 51 14 31
URL: aavik-acoustics.com

UK Distributor: Auditorium
Tel.: +44(0)753 9499449
URL: auditoriumhifi.co.uk