

Metrum Acoustics Pavane DAC

by Jason Kennedy



Metrum has always done things a bit differently. For a start, all its products are NOS (non oversampling) types, which removes a stage of filtering, and they all have ladder DACs built with discrete components designed rather than an off-the-shelf chip. From these facts alone, you know that Metrum's founder and designer Cees Ruijtenberg is not the type to follow the crowd: his is a path rather less well trodden, and with the Pavane he has gone further.

The Pavane uses an FPGA-based forward-correction module to overcome the switching noise that undermines the linearity of ladder DACs at low levels. Essentially, it processes both MSB (Most Significant Bits) and the LSB (Least Significant Bits) in the same top half of the converter. This means the Pavane increases the level of the LSBs prior to conversion and sends 12-bits to each DAC module, which means that the lower level or Least Significant Bits have the same signal-to-noise profile as the MSBs. Levels are then corrected in the analogue stage so that you get the full 24-bit

depth with maximum linearity. It's not simple, but it seems to work – and rather well at that.

The Pavane, which incidentally is Metrum's top model, is a very nicely built piece of audio engineering, and has a machined aluminium front and sides, topped by black glass. I don't recommend using it to keep your coffee warm, but it has a distinct coffee-table look. Input buttons are arrayed on the front next to an orange light that comes on if no signal is present on a given input. The sockets on the back consist of AES/EBU, USB, optical Toslink, and coaxial on both RCA and BNC connections. I was surprised to find a rather nice but small remote control featuring just the one button in the box that changes the input. The DAC's analogue outputs are on RCA phono and balanced XLR, the Pavane being a true balanced converter.

Inside the box there are a lot more parts than usually encountered in a DAC, most obviously you have two ladder DAC boards each supplied by its own dedicated mains transformer and power supply. Elsewhere there is a USB receiver, the FPGA chip where the mathematical magic goes ▶

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► on, and a Lundahl transformer for summing the differential output of the DACs prior to the single ended output stage. There is also a third transformer for these elements. All in all it's a comprehensively engineered piece of kit that eschews the bells and whistles of Bluetooth, network streaming, and volume controls in an attempt to be the best digital to analogue converter that Cees could produce. And given that his more affordable DACs such as the Octave and Hex are pretty stunning, this is a promising start.

The only missing bell/whistle that some might begrudge is the ability to convert DSD. How much of an issue this is will depend on your enthusiasm for that format. The Pavane is a fully PCM 24/384 compatible device, and it doesn't need fashionable formats or upsampling to deliver the goods; it probably achieves its goals by avoiding them.

The Pavane like other Metrum DACs is incredibly revealing of the elements in the music that convince you that there was a living, breathing, and exceptionally talented musician(s) in a studio or on a stage at some point in the past. What makes a product good in this respect is dynamic and temporal linearity; a bit of low level resolution doesn't hurt either, but this isn't as important as those linearities in creating the illusion of musical vitality.

The majority of my listening was done via the USB input, which I connected to a Melco N1A digital transport with a short run of Vertere D-Fi USB cable. Previous experience with the Melco has suggested it sounded more real and dynamic via its Ethernet output, but the Pavane proved that the USB output is pretty damn entertaining too. And usefully, the Melco worked happily with it from the off as there's no need for special drivers as can be the case with some USB DACs. Spinning the very entertaining version of 'Billie Jean' by the Civil Wars [*Unplugged on VH1*, Sensibility Music] I was struck by the atmosphere from the crowd and the easy yet precise



timing of the playing. There's very little in the way of hash or grain to the presentation and a lot in the way of immediacy. I also played Patricia Barber's 'Company' [*Modern Cool, Premonition*] shortly after spinning the vinyl which is a tough act for any digital product to follow, and while it wasn't quite as relaxed or architectural in imaging terms it was fast, taut, and the dynamics were probably better. The drumming on 'Mourning Grace' from the same album was nothing short of phenomenal.

Playing a variety of pieces I was struck by the variation between them, as the Pavane picked out the nuances as well as the big changes that happened in recording techniques over the years. Arvo Pärt's *Fratres* [Naxos] has a huge acoustic and encourages serious replay levels, such is the power and beauty of the piece. Another large-scale piece, 'Hot Lips' by the Hot Club of San Francisco [*Yerba Buena Bounce*, Reference Recordings 24/176.4], can often beguile with its presentation but fail to make a musical connection. The Pavane gives you the scale, but focuses on the playing, and makes it clear that the rhythms are what the original Hot Club were about. The captivation factor of this and other pieces is exponentially higher than usual – with the Pavane, it's quite a distraction. ►



▶ I had an Ayre QB-9DSD DAC at the same time and it too was very impressive, but not in the same way. The Ayre sounded incredibly natural, and made instruments and voices seem really real. But the Pavane made you want to play more music largely thanks to a stronger sense of pace. I also tried it with a coaxial source. The Naim UnitiServe has just such an output, which I harnessed to the Metrum with a length of Chord Co Sarum Super ARAY (which helped matters quite significantly). This combo had a more powerful and similarly timely sound that was slightly stronger in the bass, equally enjoyable, and I could have carried on with it had I not wanted to hear a piece that was on the Melco. This proved that the USB connection and/or source was the more engaging of the options available. The UnitiServe, it has to be said, is not really designed to be used this way, and best results will be had via its network output – but it's certainly no slouch.

Hopefully I have given some idea of the Metrum's abilities to beguile the listener. But it's worth mentioning that this DAC is also extremely resolute. Few converters can deliver fine detail better at the price; reverb, therefore, is very well served, and this DAC provides excellent depth and scale of image. This is something that became obvious with James Blake's 'The Wilhelm Scream' [*James Blake*, R&S], which really came into its own with the Pavane. It normally sounds good, room filling, and impressive, but it often doesn't reach out and grab you so effectively.

There I am being distracted by emotional communication again! But ultimately that's what music is, a way of saying things that words cannot hope to convey, and that's what the goal of all audio equipment should be: to make that message as clear and intelligible as possible. The Metrum Pavane does this significantly better than anything at the price and quite a lot of rather pricier alternatives to boot. +

TECHNICAL SPECIFICATIONS

Type: Non oversampling DAC. Forward (FPGA) corrected, four DACs per channel in differential mode

Digital Inputs: One AES/EBU, two Coaxial (BNC, RCA), one Toslink, and one USB.

Analogue Outputs: One stereo single-ended (via RCA jacks), one balanced (via XLR connectors)

DAC Resolution/Supported Digital Formats: All PCM from 44.1KS/s to 384KS/s with word lengths up to 24-bit

Frequency Response: 1Hz - 20 kHz -2.5 dB. 44.1 kHz sampling
1Hz - 65 kHz - 3dB .192 and 384kHz (USB)

Distortion (THD): 0.01%

Output Voltage: RCA : 2 Volts RMS, XLR: 4 Volts RMS

User Interface: Metrum remote control for input selection

Dimensions (HxWxD): 85 × 440 × 320mm

Weight: 10kg

Price: £3,849

Manufactured by: All Engineering

URL: www.metrum-acoustics.nl