

# Metrum Pavane

METRUM IS BECOMING MORE COMPLEX AND MOVING MORE UPMARKET. CHRIS BRYANT IS CHECKING OUT ITS PAVANE DAC

Metrum is a young Dutch company that introduced its first product in 2010. It specialises in high performance non-oversampled DACs that use specially selected chips. Avoiding ‘designed for audio’ chips with built-in high oversampling rate digital filters prevalent in most audio electronics these days, Metrum prefers simpler high speed industrial devices. Both the *Octave* and *Hex* models found favour with *HIFICRITIC* as fine value for money, while they did not measure as perfectly as recent audio devices, and suffered some low level linearity errors. Modern techniques provide commercial DACs with exceptional linearity right into a very low noise floor, but it has always been difficult to achieve similar results from the classic multi-bit R2R ladder DACs favoured by Metrum and some audiophiles. The latter DACs sound more dynamic, and often feel closer to live music than most modern solutions.

Metrum’s designer Cees Ruijtenberg wanted even better performance than that available from the devices he was using and this has led to a very interesting new multi-bit R2R ladder digital-to-analogue network that has 24-bit resolution with excellent linearity.

It’s quite easy to create a DAC with excellent linearity over a more limited range of bits, and many R2R DACs produce fine linearity over 14-bits or more. The technique used by Ruijtenberg is to split the 24-bit

word into 2 shorter words and use two DACs, each working on their most linear range to create the best result. The output from the two DACs can then be adjusted for level and summed to produce an output with excellent 24-bit linearity and great dynamic range.

The first thing I did on receiving the *Pavane* was to check its linearity, and found the most accurate R2R multi-bit converter that I’ve ever measured. The error barely moves off the reference line even at -120dB (a full 24-bits). The *Pavane* uses four Metrum-designed chips for each channel to construct a differential 24-bit output, a technique that provides very low distortion to very low levels and a dynamic range of around 140dB. Using non-oversampling technology creates a frequency response that’s about -2.5dB at 20kHz due to natural windowing (44.1kHz sampling rate).

The case is black or silver, building anodised aluminium front, side, and back panels onto a damped steel frame. The top panel is a sandwich of steel and black-coated glass while the base is steel. The feet have hard rubber inserts, and the fit and finish is first class. Analogue outputs are either single-ended phono sockets or balanced XLRs. Digital inputs include AES/EBU (XLR), S/PDIF *via* phono and BNC (44.1 - 192kHz sampling rate), Toslink optical (44.1-96kHz), and USB (44.1-384kHz). The IEC mains input socket includes a mains RF filter. There’s a separate digital-to-analogue converter/



CHRIS BRYANT

analogue board for each channel, complete with its own power supply and 15VA toroidal mains transformer. The important current-to-voltage function is performed by a high quality Lundahl audio transformer, and there's also an FET output buffer. The digital section has a completely separate supply, (including transformer) for all digital data acquisition and management circuitry.

The front panel's curved sections reduce in thickness at the sides and have a broad recess across the centre, populated by row of round LED-indicated buttons. Alongside the infra-red receiver is an orange error light that illuminates if no digital input signal is received. A small remote control enables input selection, and the whole thing feels very solid, weighing in at a not insubstantial 10kg.

### Sound Quality

First impressions are that Metrum has created a far more consistent and balanced performance compared with its earlier offerings. (The latter would invariably show areas of brilliance, but sometimes sounded as if they needed some extra development to compete with the best around.)

However, the *Pavane* provides a remarkably solid presentation with a quite astonishing level of detail and very low distortion. It's not just the high level of detail, but also the remarkable way it presents such a stable picture of sound imagery.

Many years ago when I first reviewed an MSB DAC, I discovered that such precision was possible, and noted an ability to create very stable pictures from sound constructs that I hadn't heard before. The *Pavane* takes this a step further. Complex special effects from both old and new recordings are presented with a level of precision, focus and detail that surprises and impresses.

Any impression that the sound emanates from a pair of loudspeakers is completely abandoned, as the soundstage is so complete, coherent and stable, with remarkable width and depth perspectives. In my usual system setup, my only caveat is that the images of various items of music had greater height than is natural, but always remained exceptionally entertaining. After much system tuning this effect could be minimised, and even greater depth perspectives created.

The better the digital source, the better the sound, and the Metrum always managed to make the most of what was fed to it. With various disc transports and streaming devices providing S/PDIF, AES/EBU, and even USB storage wired data, worked seamlessly. As usual high resolution material brought an increase in sound quality, but even CD material proved remarkably entertaining, with far higher fidelity than many give it credit.

It also sounds remarkably sweet, and instruments provide the sort of natural textures which are normally unavailable at anything near this price level: the tonality is very close to a live experience in a good venue. Other listeners also commented that it was really lush and remarkably real. It manages to provide a signal that flatters good systems, painting pictures with fine brush strokes and ultra-precise treble images. The *Pavane* was always entertaining and provided new insights into many performances and productions, irrespective of musical genre. Some old recordings I used to think scrappy were presented with a shiny new precision that was often entrancing. Indeed, I'm amazed that so much detail was captured with the recording equipment that was used 50 or more years ago, and also survived subsequent transfer into digital.

The well-balanced presentation was underpinned by a very solid bass line. This provided a level of power that surprised and a degree of resolution which made it equally at home reproducing everything from Bach organ recordings to recent dance music. The vital midrange frequencies were handled beautifully, and both male and female voices often entranced with their range and tonal fluidity. The leading edges of plucked strings also sounded wonderfully real, although some listeners felt that their decay was a little less convincing. While poor recordings could also be laid bare by this DACs relentless accuracy, it also managed to extract remarkable levels of detail that made such material entertaining despite its flaws.

However, those with systems that reveal precise timing, and handle the complex rhythmic interplay of instruments covering various frequency bands may find that the *Pavane* does struggle a little. It is here that it can't quite keep up with the demands of those who insist that recreating music properly demands finely nuanced timing.

### Conclusions

The Metrum *Pavane* nevertheless shines as an exceptional piece of design, and certain aspects of performance achieve new levels of enlightenment. I love its lush textures, amazing imaging, great staging and natural balance. I believe the slightly subdued timbre it lends to upbeat music, and its reluctance to move the music along with the panache required to make it sound truly lifelike is only demanded by a few who have systems tuned specifically for that idiom. Indeed, many will never be aware of any such compromise. The *Pavane* is a bargain, as it does so many things so well, and demands to be heard, but take care and listen first to make sure it meets all your music needs. That said, at roughly €5000 (around £3500), it demands Recommendation.



### Manufacturer's Specification

|                     |  |
|---------------------|--|
| Input sockets       | RCA, BNC, Toslink, USB, AES/EBU  |
| Output sockets      | 2x RCA; 2xXLR  |
| Output voltages     | RCA: 2V RMS; XLR: 4V RMS   |
| Frequency responses | 1Hz – 20kHz -2.5dB<br>(44.1kHz sampling)<br>1Hz – 65kHz -3dB<br>(USB 192, 384kHz sampling) |
| Distortion          | 0.1% THD   |
| Noise               | -145dB ref 2V RMS  |
| Output impedance    | RCA 100ohms; XLR 200ohms   |
| Sample rates        | Optical: 44.1 – 96kHz;<br>Co-ax & AES/EBU – 192kHz;<br>USB – 384kHz                        |
| Size (WxHxD)        | 440x85x320mm   |
| Weight              | 10kg   |
| Price               | €4,950 (c£3,500)   |

Contact:  
Tel: 0031(0)343 437 331  
[www.metrum-acoustics.com](http://www.metrum-acoustics.com)