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EQUIPMENT REVIEW

The Devialet D-Premier integrated amp/DAC

by Alan Sircom

The first person I met who had heard about the Devialet D-Premier was French. He spoke animatedly of the category-busting Class ADH integrated amplifier/DAC, his speech full of superlatives, his hands bursting with extravagant gestures and his eyes wild with passion and drama. I put it down to a Frenchman being French about something French.

Then I started seeing the same symptoms from others who had experienced the D-Premier. Not just French people; people of all nationalities and fans of all musical genre, died in the wool measurement-led types or fairy-foo folk who believe electricity is made in the caves of the Dwarf-Lords of Moria. They all started discussing the product with a high degree of animation. Even the normally down-to-earth Paul Miller, editor of rival UK audio magazine *Hi-Fi News & Record Review*, was seen to be shouting about just how important this product really is, and you should read his measurements to see why.

So, either the Devialet D-Premier is something really special, or it's the audio equivalent of those man-sized seed-pods in *The Invasion of the Body Snatchers*; people walk into a room with the D-Premier, and come out a few minutes later... changed. I decided to investigate.

A part of the reason why the measurement types are so excited about the Devialet D-Premier is it's something genuinely new and original. While each new product has legitimate reasons to highlight its novel aspects of design and implementation, deep down the changes are variations on one of several themes, no matter how good those themes, how innovative those variations or how remarkable the final result. A Class AB amplifier may differ in many ways from another Class AB amplifier, but the basic design of the amplifier circuit remains fundamentally the same.

The Devialet designers didn't approach the concept in the same way. They looked at what an amplifier has to do for a living in the first decade of the 21st Century and designed a product *tabula rasa* (blank slate) to accommodate those demands. People today, it seems, don't want a plethora of large, hot-running boxes that take a month before they sound good. They will increasingly rely on digital-only systems, despite recent improvements in the fortune of vinyl replay. They need enough power to drive today's more punishing loudspeaker loads, but enough finesse to make that process sound good regardless. Last, but not least, it needs to be easy to use and look very cool.

The designers – Pierre-Emanuel Calmel and Matthias Moronvalle, both from the R&D department of telecoms giant Nortel – set about designing an amplifier circuit that is both incredibly linear and highly efficient, utilising the advantages of both Class A and Class D amplifier designs. What they came up with was 'Class ADH' – a hybrid of analogue Class A amplifiers and a digital Class D design.

How this works is to have a small Class A amplifier directly coupled to the loudspeaker, to provide the voltage, while the Class D amplifier provides almost all the current needed to drive the loudspeaker. If you disabled the Class D circuit, you'd have something that would be capable of driving horn loudspeakers and headphones in its own right, but the hired muscle of the Class D amp bestows the same linearity to more demanding loudspeaker loads. Eagle-eyed readers with long memories might note that this concept is not far removed from the Quad 'current dumping' 405 amplifier of the 1970s. It's brought bang up to date, but the concept is similar.

It's important to stress that the 'D' in Class D does not stand for 'digital'. In fact, Class D is a highly efficient high-frequency switching amplifier. However, in the case of the Devialet, the Class D stage is fed by digital processors instead of an amp stage, so that it receives a digital 300kHz PWM (pulse width modulation) signal. So, it really is a Digital Class D design.

That in and of itself would be enough to impress people, but the rest of the story is just as impressive. The power output (nominally 165W per channel into eight ohms) can be remapped (akin to 'chipping' a sports car's engine management system) to deliver anything from 160-240W, special loads on the phono input and more will be addressable though downloading onto an SD card (supplied). The amplifier treats all ▶

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► sources identically, immediately digitising analogue sources through a high-quality 48kHz ADC, with the Class D amp remaining in PWM mode up to the output devices and the Class A stage only receiving the output of two Burr Brown chips at the last possible moment. Yet again, this isn't handled in the normal manner, Devialet using what is called a 'current reflector' layout.

Those who read digital circuits in the way most of us wish we could read cooking instructions seem to make this low 'wwwowwww' noise. Digital engineers patently behave in a very 19th Century manner – since I received the D-Premier, I have had email from engineers wishing me to pass on their respect and admiration.

Once the engineering was done, it was time for the product designers to take their turn. This is a design award-winning exercise, from the computer screen and pen of Emmanuel Nardin (as in Ulysse Nardin watches, although the family is no longer connected to the brand, but style is in the blood) and Quentin Sannié.

The product itself is an exercise in shiny minimalism. Aside from a power switch (shaped in the style of the Devialet logo... nice touch) and the elegant circular display (which orients itself if you hang the D-Premier from the wall), everything is controlled from a remote comprising one big dial and four small buttons. This is RF control – so no pointing at a remote eye – and handshakes to the amp. If it loses that handshake or you manage to lose the big remote thing, you're in trouble because there is no manual volume or source switching on the amp. There's also no balance control, input volume trimming (that needs a computer and a quick byte of the SD card)... nada. At the back are three pairs of phono terminals that share tasks; one set are either the phono stage or the second line input, the next set are either a stereo analogue line input or two of the coaxial S/PDIF inputs and the third pair are either subwoofer and digital output or two digital inputs. These are selected by small, high-quality silent relays just after the phono terminals. The single AES/EBU input, the two Toslinks, SD card slot and HDMI input and outputs remain constant. These last are at first glimpse an odd addition – but they take the high-res stereo output from a Blu-ray and there's lots of good Blu-ray music out there. Strangely, network and USB connectors are missing, because Devialet is not convinced either is a good pathway for music. There is future provision for a high quality WiFi option, though – the black strip on the top plate is the antenna.

All of the inputs are hidden behind a thick removable panel. There's not much room under there, and fancy Wattgate IEC power plugs will foul the panel and spoil the lines of the elegant top-plate. Which is a shame because the amplifier/DAC is keen on good power delivery. In fact, the one operational hiccup through the whole time spent with the D-Premier was when plugging and unplugging products on the same power block; just the one time, it tripped the amp's power cycle, putting it into standby. That's it. Everything else, all manner of torture treatments (including – quite by accident – dropping a 103 year old ceiling on the thing) it brushed off without a care.

All of this impressive technology is as nothing if the performance doesn't live up to the hype. And that argument lasts until about 15-20 seconds after you power up the D-Premier. At which point, the hype begins to sound like mute understatement. About a minute in, you start the wild gesticulating, the "why didn't I know about this sooner?" pleas, and – in most cases – after about 20 minutes comes the realisation that all those amplifier boxes you currently own are about to go on Audiogon or eBay soon.

I hate the 'inky black silences' cliché, but I can't help noticing the absence of background keep coming back on my listening notes here. It's not enough that the amplifier delivers the sort of neutrality that makes you cry when you listen to *Carmen*. It's not enough that it has the sort of dynamic range and headroom that you would normally expect from an amplifier five times the power ►



▶ output and ten times the physical size. It's not even enough that the D-Premier has an ability to grab your speakers by the terminals and shake them until they disappear in the room. No. it's the lack of background that's the thing. It's like staring into Nietzsche's Abyss, only without the tertiary syphilis.

I am not a big fan of high-res audio, because in most cases it's like watching high-definition TV on a small screen – the improvements are just about observable, but not large enough to warrant the extra trouble and expense. CD is good enough. Except it's not, when you hear hi-res files through the D-Premier. Those HRx Reference Recordings – like the Rachmaninov Symphonic Dances (HR96) – leave you hungry for more. If it's a choice of CD or nothing, the CD is fine, but this makes even high-res sceptics like me recognise its benefits.

I don't want this review to be bound up in discussions of high-res recordings, because there's a mistaken idea that it means the product is only good for high-res. So, it's only right and proper that instead I listened to music far removed from the high-res revolution; Gang of Four, Television, Ornette Coleman, Stravinsky... music that still has the power to shock. And it shocks here. It shocks because of its newness, like it's the first time you listen to those recordings.

One of the big criticisms of Class D amplifiers is their reluctance to drive every loudspeaker equally well. Get a good partnership – typically a speaker with low efficiency and high nominal impedance – and the magic happens. Break rank and you break the spell. Some fare better than others. And yet, strangely, the D-Premier doesn't just make Class D more loudspeaker tolerant, it inverts the issue. Suddenly, set against the D-Premier, many conventional power amps seem 'speaker fussy' by contrast. It can drive practically anything, and will generally sound good doing so. The one reservation here is some speakers don't react well to having the window thrown open in the Devialet style. Some seem designed with a specific amplifier 'envelope' in mind and the neutrality of the D-Premier only serves to highlight this – it's like the amp comes with a built-in 'honesty' filter. On the other hand, I've heard whispers of loudspeaker designers saying they didn't know how good their speaker was until they heard them through the D-Premier, and rumours that the French company's order books are filled with requests for products from loudspeaker brands across the planet.

Analogue sources fare tolerably well, but they should be considered 'legacy' on this amp. The turntable input is no match for a good separate phono stage, but it's quiet and dynamic. The line stage performs similarly well – you can do better using a dedicated analogue preamplifier, but if you are using a digital source, the digital input of the D-Premier is going to be way better than most analogue preamps.

This last is an indicator of how you will react to the D-Premier. It largely depends on your stance toward audio in general – are you looking forwards or back? This isn't a test and there are no right answers, it's just a bald statement of fact. If your tastes lie with turntables and tubes, the D-Premier is something that commands respect and admiration rather than passion and wild hand gestures. Also, if you buy audio by the square yard, equating 'big' with 'good', one big pizza box – no matter how shiny – is never going to convince you to part with half a room full of heatsinks.

Not everyone feels this way. There are many who have found their musical happy place within the digital domain and the better than domain sounds, the happier they get. The D-Premier will leave them ecstatic. In fact, for those people, the search is – for now – over. This is as good as it gets... it really is the real deal. +



TECHNICAL SPECIFICATIONS

Devialet D-Premier

Class ADH integrated amplifier and DAC

Inputs: 2x optical digital, HDMI, 4x coaxial digital, AES/EBU, two optional line, one optional phono, SD card, trigger mini-jack

Outputs: HDMI optional subwoofer, digital coaxial (shared with analogue inputs), trigger mini jack

Power output: 2x 240W

Efficiency: >85%

Loudspeaker load capacity: 2Ω-8Ω

Amplifier configuration: 1 Class A, 4

Class D per channel

Distortion (THD+N): 0.001%

Signal/Noise ratio: 130dB unweighted

Intermodulation (SMPTE): 0.001%

Output Impedance: <0.001Ω

Dimensions (WxDxH): 40x40x4.5cm

Dimensions (Remote, WxDxH):

11.7x11.7x4.5cm

Price: £10,000

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