

INSIDE:

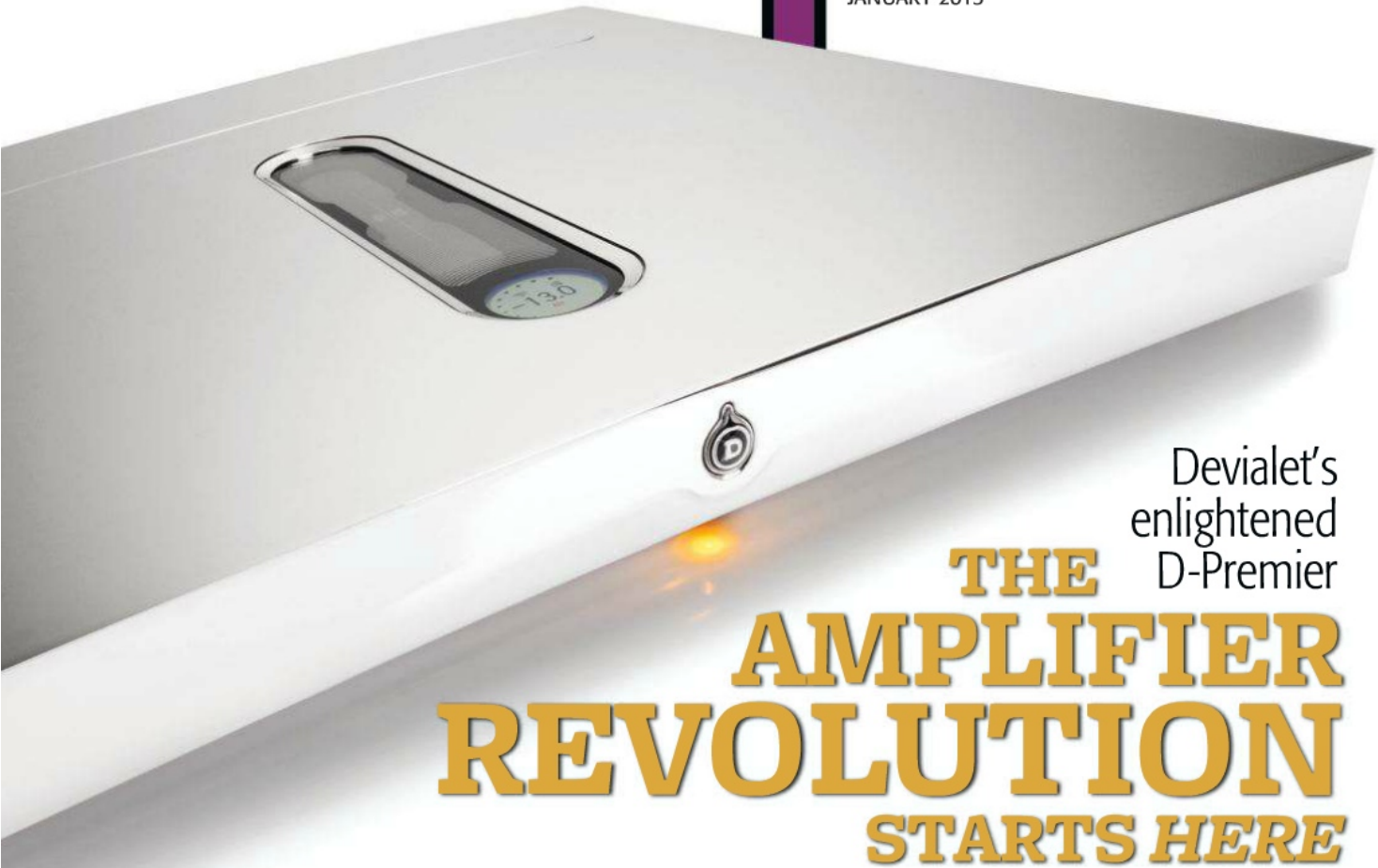
EXTREME

LOUDSPEAKERS

THE **LEAST EXPENSIVE** AND **MOST EXPENSIVE** SPEAKERS EVER REVIEWED

stereophile

JANUARY 2013



Devialet's enlightened D-Premier

THE AMPLIFIER REVOLUTION STARTS HERE

LOUDSPEAKERS AT ALL PRICES

from Wilson, Surreal Sound, Spendor, Aperion, Dayton

HIGH-PERFORMANCE TUBES FROM GERMANY

Octave's stunning RE 290 amplifier

AFFORDABLE AMPLIFIER EXCELLENCE

Peachtree's integrated nova125

INTERVIEW:

SUPERBAD

The Bad Plus unleash a bold new release

REPORTS:

SHOWDOWN AT THE ROCKY MOUNTAIN AUDIO FEST

The greatest Hi-Fi show on earth

Complete online authority:
www.stereophile.com

JOHN ATKINSON

Devialet D-Premier

D/A INTEGRATED AMPLIFIER

Most reviews are straightforward. One preamplifier or power amplifier replaces another. DACs are swapped out. A new pair of speakers takes up residence in the listening room.

But some products demand a complete revision of a system's architecture. Such was the case with Devialet's D-Premier (\$15,995). Not only is this French product an integrated amplifier, with phono and line analog inputs; it has digital inputs and an internal D/A section. And since v.5.5 of its operating system, the D-Premier can also act as a high-resolution WiFi audio streamer, working with Devialet's Asynchronous Intelligent Route (AIR) client for Macs and PCs. At a stroke, the D-Premier replaces streaming program, USB or other computer audio interface, D/A processor, preamplifier, power amplifier, and many cables. And all is contained in a beautifully finished aluminum case about the size of a small pizza box and just over an inch thick.

I first saw and heard the Devialet D-Premier at the 2010 Consumer Electronics Show (www.stereophile.com/ces2010/the_hot_french_amplifier/index.html), but it was not until a year later that Audio Plus Services announced that it would distribute the D-Premier in North America. I received a first review sample in 2011, then a second, to use with the first as a pair of monoblocks, in early summer 2012—but first I needed to clear my decks of more conventional products

that I was reviewing. I am now kicking myself for having waited so long.

Technology

Devialet SAS is a French company, founded in 2007 by Pierre-Emmanuel Calmel and Mathias Moronville, colleagues at Nortel France's R&D Lab, to develop a new type of amplifier developed by Calmel. Called ADH[®], for Analog Digital Hybrid, this patented topology connects a small, high-voltage, but low-power class-A amplifier directly to the speaker, with then a parallel class-D stage providing the necessary current. This is reminiscent of the innovative "current-dumping" circuit developed by Quad in the mid-1970s, though the Quad circuit used a class-AB current amplifier. However, the ADH circuit differs significantly in detail from Quad's, and is considerably more complex. Extraordinarily, there are only two resistors and two capacitors in the analog signal path!

I discussed the D-Premier's topology with M. Calmel at the 2011 CES. The analog input signals are converted to digital with an A/D converter, a Texas Instruments PCM4220, running at 96 or 192kHz—the former is the default—before being applied to the volume control, which operates in the digital domain and is implemented in a 32-bit floating-point DSP chip, along with a soft-clipping function and crossover filters when required. All signals are then converted back to

SPECIFICATIONS

Description Remote-controlled, solid-state integrated amplifier with software-assignable inputs, LCD screen, switch-mode power supply, and high-efficiency (85%) output stage. Inputs: 2 S/PDIF on TosLink; 1 pair RCA jacks assignable to phono or line; 1 pair RCA jacks assignable to phono, line, or two S/PDIF digital inputs; 1 AES/EBU digital input on XLR; 1 pair RCA jacks assignable to 2 S/PDIF digital inputs, analog preamplifier output,

or subwoofer output and S/PDIF digital output. Main outputs: 2 pairs of binding posts. Other inputs/outputs: HDMI (not yet implemented), WiFi, trigger, RS-232, SD card (for firmware). Maximum output power: 240Wpc into 6 ohms (22dBW). Recommended speaker impedance range: 2–8 ohms. Frequency response: not specified, depends on selected A/D-converter sample rate (96 or 192kHz). THD+noise at full power: 0.001%. IMD

(SMPTE): 0.001%. Thermal distortion: unmeasurable. Input impedance: not specified. Output impedance: <0.001 ohm. Signal/noise (unweighted, no reference level specified): 130dB. Standby power consumption: <5W. Maximum power consumption: 600W. **Dimensions** 15.75" (400mm) W by 1.75" (44.5mm) H by 15.75" (400mm) D. Weight: 15.2 lbs (6.9kg) net. **Finishes** Black, white, or mirror chrome.

Serial number of units reviewed 00061 (listening), 00965 (listening, measuring); firmware version 5.6.0, Devialet AIR version 1.4.0. **Price** \$15,995. Approximate number of dealers: 12. **Manufacturer** Devialet SAS, Paris, France. Web: www.devialet.com. US distributor: Audio Plus Services, 156 Lawrence Paquette Industrial Drive, Champlain, NY 12919. Tel: (800) 663-9352. www.audioplusservices.com.

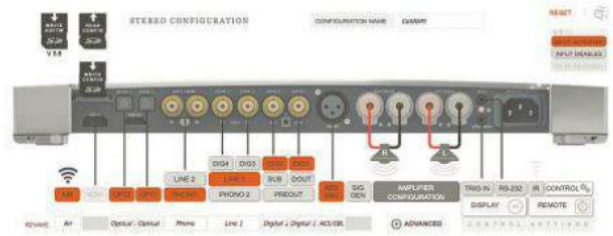


analog by two Burr-Brown PCM1792 chips—a high-quality, 24-bit, two-channel, current-output device operating at up to 192kHz. Just half of the DAC is used for each channel, and the current output of the DAC is converted to voltage with a resistor and fed directly to the class-A amplifier—the analog signal path from the DAC output to the loudspeaker terminals is only 2" long. In effect, the DAC swings the high voltage required to drive the speaker output, and the class-A amplifier therefore works at unity gain, as a voltage follower, so that its performance can be maximally linear at high frequencies.

To provide the current to drive the loudspeaker, a four-phase, multilevel digital amplifier—four switching stages, staggered in time—is added in parallel to the class-A amplifier. It is slaved to the class-A amp much as in a car's power steering, where the driver turns the steering wheel to indicate how much he wants the wheels to turn, and a servo-controlled hydraulic system actually turns the wheel.

Conventional class-D amplifiers suffer from high levels of ultrasonic switching noise riding on their outputs, which mandate use of a hefty low-pass filter between the output stage and the speaker terminals. In the D-Premier, there is no LC filter on the class-D amplifier's output; instead, the analog amplifier provides a very wide-bandwidth correction signal that cancels the ultrasonic switching noise that would otherwise be present.

The power supply is a 600W switch-mode type offering 2100W peak and incorporating full power-factor correction. Because of the high switching frequency, the planar transformer



The array of outputs and inputs on the D-Premier's rear panel can be configured to best fit the user's needs.

can be tiny (see my photo at www.stereophile.com/content/devialets-power-transformer). There is much more to the D-Premier's innovative and elegant circuit that I don't have room to discuss here; I refer you to a white paper that can be downloaded from www.devialet.com/technology.php. But the entire package offered by the D-Premier appealed to my sense of purity—it is no bigger than it need be to do what is intended.

Setup

I had to slide off the section of the D-Premier's top plate that covers the rear panel in order to be able to use my preferred XLO Reference 3 AC cable, the plug of which would have been too big to reach the recessed IEC mains jack. The D-Premier offers extraordinary flexibility in how its inputs can be arranged—see the diagram of its rear panel. Using the Configurator app, downloadable from the Devialet website,

MEASUREMENTS

I measured the Devialet D-Premier with *Stereophile's* loan sample of the top-of-the-line Audio Precision SYS2722 system (see www.ap.com and the January 2008 "As We See It," <http://tinyurl.com/4ffpve4>); for some tests, I also used my vintage Audio Precision System One Dual Domain. I measured the later, black-finish sample, serial no.00965, the mirror-finish no.00061 having been sent off for photography. Before testing an amplifier with a conventional class-B or -AB output stage, I precondition it by running it at one-third power for an hour, which thermally stresses the amplifier

to the maximum extent. In theory, this test is irrelevant with the Devialet, but I did so anyway. At the end of the hour, the left side of the top panel was hot to the touch, at 131.4°F (55.3°C), the right side a little cooler, at 114.3°F (45.8°C). It might be efficient at converting wall current into speaker-driving power, but the D-Premier still runs hot. As Devialet warns in the D-Premier's manual, the amplifier needs to be well ventilated.

I didn't test the phono input's performance, as I didn't use it during my auditioning for this review. The phono stage's sound and measured performance will be covered in a Follow-Up.

The rotary volume control on the Devialet's remote control covers a range of "-97.5dB" to "+30.0dB" in accurate 0.5dB steps. With the control set to "+30.0," the voltage gain into 8 ohms for an analog source and a line input was a high 52.3dB. At "0.0dB," the gain, of course, was 22.3dB. The analog inputs preserved absolute polarity (*ie*, were non-inverting), and the analog input impedance was moderately low, at 14k ohms at low and middle frequencies, dropping slightly at 20kHz to 12.5k ohms.

Devialet specifies the D-Premier's output impedance as <0.001 ohm. I measured 0.04 ohm at all audio frequen-

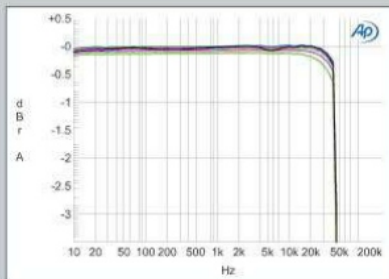


Fig.1 Devialet D-Premier, analog frequency response with volume control at "0.0" at 2.83V into: 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), 2 ohms (green), simulated loudspeaker (0.25dB/vertical div.).

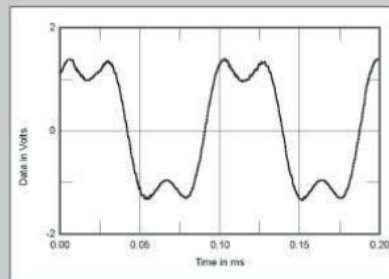


Fig.2 Devialet D-Premier, small-signal 10kHz squarewave into 8 ohms with A/D converter on analog inputs set to 96kHz sampling.

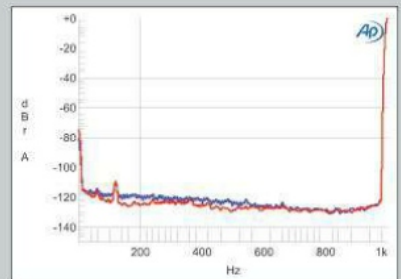


Fig.3 Devialet D-Premier, spectrum of 1kHz sinewave, DC-1kHz, at 100W into 8 ohms (linear frequency scale).

the user sets up the amplifier as he needs and burns the configuration as a text file to an SD card. Inserting this card in the rear-panel slot and turning on the amplifier updates its internal state. I used the factory default configuration, which offers two pairs of analog inputs (one of them phono, to be tested in a Follow-Up review) and five digital inputs: two TosLink, two S/PDIF on RCAs, and one AES/EBU on an XLR jack. There is an HDMI port, currently unused, and the D-Premier is WiFi capable.

The only control on the amplifier itself is a discreet On/Off/Sleep button at the center of the front panel. When the amplifier is on, a gentle amber circle is projected onto the surface beneath the front of D-Premier. All other controls are carried on the remote control. A large rotary knob adjusts the volume. A single button above the volume control duplicates the On/Off/Sleep button; three other buttons control Input Select (consecutive pushes cycle through the inputs, each starting with the volume control set to “-40.0dB”), Bass high-pass filter On/Off (when configured for use with a subwoofer), and Polarity Inversion. These buttons can also be used to control channel balance and tone-control selection, when the amplifier is appropriately configured. The small, circular,



The Devialet AIR streamer app includes information about both the file being played and the network status.

color display on the amplifier's top panel indicates the input in use, the volume level in dB, and the sample rate for digital inputs. If no datastream is present, the digital input's name illuminates in red; it turns black if valid digital data are detected. The D-Premier goes to sleep if no music has been played for 20 minutes or so.

To use the D-Premier's WiFi connectivity, Audio Plus had supplied me with an Apple Airport Express programmed to set up a network called “DevialetAudio.” When turned on, the D-Premier looks for a network with this name and logs on. To play music over this network, you install the Devialet AIR app on your PC or Mac. This then handles the output of music files selected in iTunes, selecting the correct sample rate and transmitting the data over the network to the D-Premier. This runs automatically, and while it doesn't have to be open during use, as the screenshot shows, when open it displays the name of the file playing, its format, sample rate, and bit depth, and the playback time, as well as cover art and various network di-

agnostics. AIR is currently limited to 24-bit/96kHz, but a free upgrade to handle 24/192 files is promised.

When the D-Premier is connected to the DevialetAudio WiFi network, an iPhone/iPad app duplicates the remote

measurements, continued

cies, but this includes the impedance of the 6' of speaker cable I used for the test. But the fact that the D-Premier has an extraordinarily low output impedance can be seen in fig.1, where the voltage drop as the load changes from 8 to 4 ohms, and the variation in response with our standard simulated loudspeaker (see www.stereophile.com/content/real-life-measurements-page-2), are each less than 0.1dB. Even with a 2 ohm load (green trace), the level drops by less than 0.2dB in the audioband. With the D-Premier in its standard configuration, pressing the middle bottom button on the remote rolls off the low frequencies by 3dB at 20Hz (not shown).

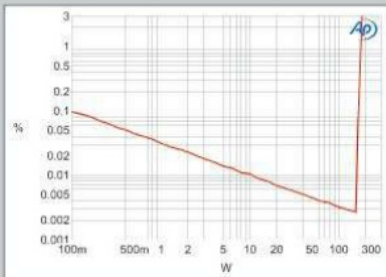


Fig.4 Devialet D-Premier, distortion (%) vs 1kHz continuous output power into 8 ohms.

Fig.1 was taken with the A/D converter that digitizes the analog inputs set to the default of 96kHz sampling. As a result, the response can be seen to drop like a stone above 40kHz, and a 10kHz squarewave has the distinctively rounded shape that is due to the absence of all harmonics above the third (fig.2). The 1kHz squarewave (not shown) has the usual time-symmetrical ringing visible preceding the start of each change in level (not shown).

Channel separation via the analog inputs was excellent, at >100dB in both directions below 2.5kHz (not shown). The D-Premier is specified as having a superb signal/noise ratio of 130dB, but without conditions or reference level given. My

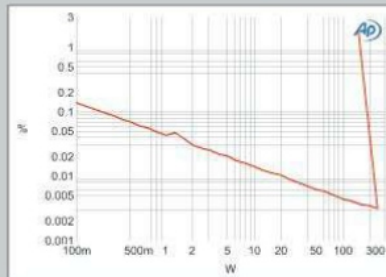


Fig.5 Devialet D-Premier, distortion (%) vs 1kHz continuous output power into 4 ohms.

standard test with an integrated amplifier is to short-circuit the input but set the volume control to its maximum, which is very much the worst-case condition (some have called it unrealistic). With its very high gain, the D-Premier is put at a disadvantage under these conditions. I measured the wideband, unweighted S/N, ref. 1W into 8 ohms, to be a fairly low 47.1dB in the left channel and 48.5dB in the right. Restricting the measurement bandwidth to the audioband improved these figures to 51.6 and 52.3dB, respectively, while switching in an A-weighting filter gave further improvement, to 54.9 and 55.2dB. Reducing the level of the volume control will improve these ratios, of

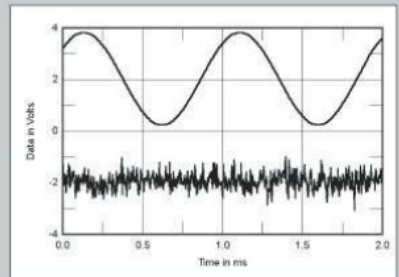


Fig.6 Devialet D-Premier, 1kHz waveform at 150W into 8 ohms (top), 0.0022% THD+N; distortion and noise waveform with fundamental notched out (bottom, not to scale).

control's functionality and the amplifier display, adding the words "My D-Premier" above the volume setting. Touching the input name brings up an Input Select menu, and again, selecting a different input reduces the volume to "-40.0dB." Touching the volume setting mutes the D-Premier; touching the Mute symbol unmutes the amplifier.

As much as I loved using the remote's volume control—the only other remote with a "real" volume control was the one Hafler provided for the Iris preamplifier from the late 1980s—I used the iPhone app most of the time, as I appreciated being able to see the volume setting, the amplifier's display not being visible from my listening chair.



The Devialet iPhone app's display includes the volume setting.

Sound quality

For the first couple of weeks of my auditioning, I used the AIR app running on my Mac mini to send WiFi data to the D-Premier. The sound was never less than excellent. But over time I felt that the upper mid-range was a little glassy and the soundstage depth a little restricted compared with my references. A/B comparisons of the same data via the AIR streamer and WiFi and played from my Ayre C-5xe^{MP} player via AES/EBU revealed

auditioning of the D-Premier with all these speakers were *clean* and *clear*. Not *clean* in the sense of *sterile* or *clear* in the sense of *cold*, but "clean and clear" in that a wealth of recorded detail was apparent without in any way being spotlighted or flung forward at the listener. For example, I have been a fan of blues singer Howlin' Wolf since I was exposed to his music by British blues bands a half century ago. But in all those

the hardwired connection to sound more spacious, and in no way glassy or bright. This was with both a high-energy track like "Fit Song," from DJ Cornelius's *Sensuous: la musique de 21^e siècle* (CD, Warner Japan EVE016), or an audiophile classic like the title track of Shelby Lynne's *Just a Little Lovin'* (CD, Lost Highway B0009789-2), both of which had more of a sense of ease to the sound.

So as convenient as using AIR had been, I reverted to Pure Music, upsampling CDs to 88.2kHz and sending them to the Devialet via Halide or Empirical Audio USB-S/PDIF converters.

I used the Devialet with the speakers I reviewed this past summer—Sony SS-AR2, DeVore Fidelity Orangentan O/96, KEF LS50—as well as with one still to be reviewed, Vandersteen's Treo.

The words I kept jotting down in my

measurements, continued

course, and fig.3 shows the low-frequency spectrum of the D-Premier's output while it reproduced a 1kHz tone at 100W into 8 ohms with the volume control set to "0.0dB." The noise floor is a little higher in the left channel than in the right, and rises by 10dB as the frequency decreases. The only other thing to note in this graph is the presence of a power-supply-related tone at 120Hz, but at -110dB ref. the level of the 1kHz tone, this is inconsequential.

The Devialet is specified as having a maximum output power of 240Wpc into, I understand, 6 ohms (22dBW). Fig.4 shows how the THD+noise percentage changes with output power into 8 ohms.

The downward slope of the trace below the "knee" indicates that what distortion is present is actually buried in the noise floor. We define clipping as the power when the THD reaches 1%; fig.4 shows that the D-Premier was putting out 180Wpc into 8 ohms (22.55dBW) at 1% THD. Fig.5 shows the behavior into 4 ohms. The trace is similar in shape to that into 8 ohms, except that, very unusually, it slopes backward above the "knee," which occurs at 245.8Wpc into 4 ohms (20.9dBW). What is happening is that, with sustained drive at very high power, either the power supply starts to collapse or the DSP protection starts to

operate, both reducing the power delivery. Because of this behavior, I didn't test the maximum power into 2 ohms.

I plotted how the output power changes with frequency at a level, 20V, equivalent to 50W into 8 ohms and 100W into 4 ohms, where the power supply would remain stiff (not shown). Below 10kHz, the measurement is dominated by noise; above that frequency, and unlike a conventional class-D amplifier, there is almost no rise in THD. However, I didn't plot the behavior into 2 ohms as, again, the power-supply voltage would start to decrease after a few seconds' operation at 20V.

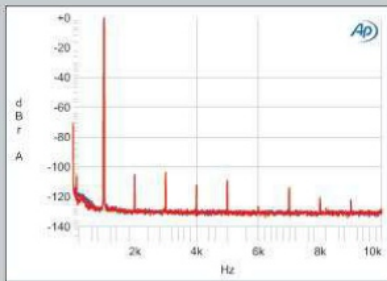


Fig.7 Devialet D-Premier, spectrum of 1kHz sinewave, DC-10kHz, at 100W into 4 ohms (left channel blue, right red; linear frequency scale).

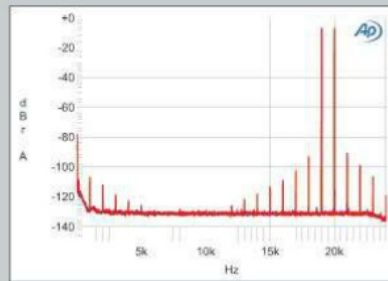


Fig.8 Devialet D-Premier, HF intermodulation spectrum, DC-24kHz, 19+20kHz at 20W peak into 4 ohms (left channel blue, right red; linear frequency scale).

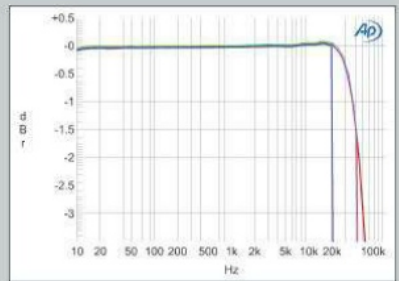


Fig.9 Devialet D-Premier, digital frequency response at -12dBFS into 8 ohms with volume control set to "0.0" and data sampled at: 44.1kHz (left channel blue, right gray), 96kHz (left cyan, right magenta), 192kHz (left green, right red) (0.25dB/vertical div.).

years, only the Devialet driving the Sonys has made me aware of the slight increase in the reverb around the Wolf's voice in the "woo-hoo" chorus of "Smokestack Lightning." And with the KEF LS50s, the music stand being knocked over that brackets Lowell George's "20 Million Things to Do," from Little Feat's *Hotcakes & Outtakes: 30 Years of Little Feat* (CD, Warner Archives/Rhino R2 79912), was there in my listening room, virtual reality courtesy the D-Premier.

The D-Premier may be small in size, but its sound quality is large.

This combination of clarity and authority was evident with well-recorded classical music—tenor Wilfred Brown's definitive 1964 performance of Gerald Finzi's *Dies Natalis*, with the ECO conducted by the composer's son, Christopher Finzi (CD, EMI Studio 63372) spent a lot of time being played through the Devialet. And a chance visit to a *Live at Daryl's House* episode, recorded at Todd Rundgren's studio in Hawaii (www.livefromdarylshouse.com/currentep.html?ep_id=55), featuring a superb performance of Daryl Hall's "Every Time You Go Away," reminded me that I hadn't played Paul Young's hit version from his *The Secret of Association* (CD, Columbia CK 39957), with Pino Palladino's authoritative fretless bass playing, for many a year. It sounded magnificent, whether through the little KEFs or the big Sonys.

One recording leading to another was an enduring aspect of my time with the Devialet D-Premier. One evening, with

the amplifier driving the Sony SS-AR2s and the data fed to the Devialet via the Empirical Audio Off-Ramp 4 USB converter, I followed the hi-rez recording of Rachmaninoff's *Symphonic Dances*, with Eiji Oue conducting the Minnesota Orchestra (24/176.4 WAV file, Reference HRx HR-96), with Graham Nash's "I Used to Be a King," from his 1970 album *Songs for Beginners* (24/48 ALAC file ripped from DVD-A, Atlantic/Rhino R2 35257-2). Both recordings were reproduced without coloration, without grain or strain, and with apparently unlimited dynamics across the audioband. The D-Premier may be small in size, but its sound quality is large. It's a magnificent amplifier!

Times two

With music having a very wide dynamic range, such as my 1984 recording of Elgar's *The Dream of Gerontius*, performed in England's Ely Cathedral and excerpted on Stereophile's *Test CD 2* (Stereophile STPH004-2), the D-Premier didn't go quite as loud as I wished with the low-sensitivity Vandersteen speakers. However, when Audio Plus shipped me a second sample, I could try the two D-Premiers as bridged monoblocks. I burned the appropriate configuration files on SD cards, designating one amplifier as the Master and the other as the Slave, and swapped these cards with the standard ones. Digital input 1 on the Master now became an S/PDIF digital output and sent the other channel's data to the Slave amplifier. Each amplifier's output was now taken from the two hot speaker terminals, to give a maximum power rating of 400W.

measurements, continued

The lower trace in fig.6, taken at a level just below the discontinuity in fig.4, confirms that actual distortion in the D-Premier's output is buried beneath the noise. However, FFT analysis reveals there to be harmonics present at high powers, albeit at a very low level (fig.7). The two highest in level, the second and third harmonics, lie at -106dB (0.0005%) and -104dB (0.0006%), respectively, with all other harmonics lying at or below -110dB (0.0003%). Conventional class-D amplifiers tend to perform poorly when fed high-frequency intermodulation. By contrast, the D-Premier, given a mix of 19 and 20kHz tones at a peak level of 20W into 4 ohms (the highest level the amplifier would deliver with this signal without the power supply collapsing), performed well on this test (fig.8). The 1kHz difference tone lay at almost -110dB, and the higher-order intermodulation products were all below -90dB (0.003%).

Turning to the D-Premier's digital inputs, I measured its performance at the speaker outputs, as that is how I used the amplifier. With the volume control set to "0.0dB," a full-scale 1kHz tone resulted in a level of 30.79V into 8 ohms, equivalent to a power of 118.5Wpc, just under 2dB

below clipping into this load. This suggests that, with digital inputs, the volume control should be kept below "+1.5dB." The digital inputs were again non-inverting. Although the S/PDIF and AES/EBU inputs locked on to datastreams with sample rates from 32 to 192kHz, including 88.2 and 176.4kHz, the AIR WiFi input was restricted to 96kHz and below.

Fig.9 shows the D-Premier's frequency response for its digital inputs with data sampled at 44.1, 96, and 192kHz. Unusually, the 192kHz rate gives only a slight increase in bandwidth compared with 96kHz. Digital channel separation (not shown) was similar to that for

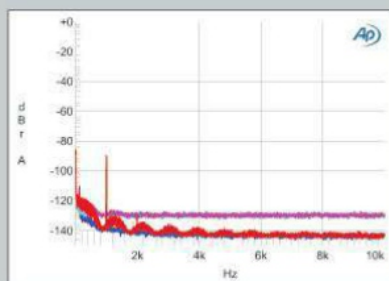


Fig.10 Devialet D-Premier, FFT-derived spectrum with noise and spurious of dithered 1kHz tone at -90dBFS, with: 16-bit S/PDIF data (left channel cyan, right magenta), 24-bit data (left blue, right red).

analog inputs. To remain consistent with the measurements of DAC resolution I have performed since 1989, I used a swept-bandpass technique to generate a spectrum representing a dithered tone at -90dBFS with 16- and 24-bit data (not shown). Repeating the analysis with a modern FFT technique gave a similar picture (fig.10), confirming that the only power-supply-related spurious present was a small amount of 120Hz, at -110dB. The increase in bit depth from 16 to 24 with both these graphs dropped the noise floor by around 12dB, implying a resolution of 18 bits or so, which is good, if not quite up to the standard set by the best-measuring standalone processors, such as the Bricasti M1, MSB Diamond DAC IV, NAD M51, or Weiss DAC202.

There is some peculiar scalloping of the noise floor visible with 24-bit data in the right channel in fig.10 (red trace). I am not sure what this means. Repeating the analysis with 16- and 24-bit data over WiFi using the D-Premier's AIR input and the Devialet iTunes streamer gave an anomalous result (fig.11). With 16-bit data, the 1kHz tone lay at the correct -90dBFS in the left channel (cyan trace), the noise floor lay at the correct

I had one glitch with this setup, which did seem sensitive to the quality of the S/PDIF cable used to join the amplifiers. After playing some 48kHz files, I switched to a 96kHz file. Pure Music correctly adjusted the sample rate of the data sent to the Master amp via the Empirical Off-Ramp 4, but the Slave amp remained set at 48kHz. (You can check the sample rate being handled by the D-Premier by holding down the remote's Input Select button; a single remote now controls both amplifiers.) I rebooted both amplifiers and tried again.

Devialet's D-Premier amplifier is the most extraordinary product I have reviewed for *Stereophile*.

This time, both Master and Slave correctly followed the sample rate of the data fed to the Master, and the glitch hasn't happened again. But if you have dual-mono D-Premiers and often play files with many different sample rates, a routine sample-rate check would be a good idea.

That aside, I had no feelings of restricted loudness using a pair of D-Premiers as monoblocks.

The climaxes in *Gerontius* soared appropriately, and the organ-pedal notes emerging from the unassuming-looking Vandersteen Treos shook my room. And with Queen's *Live at Wembley Stadium* (DVD, Hollywood 2061-62400-9), the mono D-Premiers turned the laid-back Sony SS-AR2 speakers into ultimate rock'n'roll speakers.

To describe my auditioning of a single D-Premier, I used the word *magnificent*—twice. Ending my formal auditioning of the Devialet with the heavily compressed "Bullet with Butterfly Wings," from *Rotten Apples: The Smashing Pumpkins Greatest Hits* (256kbps MP3 download), which I played at my AES presentation on "The Loudness Wars" last October, *magnificent* was again the most appropriate word to describe what I was hearing from the Vandersteens: clarity, power, and punch, coupled with sweet-sounding highs. Really. With the Smashing Pumpkins! Who knew?

Summing up

Yes, at \$15,995, the Devialet D-Premier seems expensive. But when you consider that in my system it replaced a combination of a D/A preamp and similarly rated power amplifier costing a smidgen short of \$29,000 without cables, and in some ways sounded better, that price starts to look more competitive. And that's without considering the additional cost of a high-quality D/A converter for those with a conventional preamplifier. Then there's the fact that the D-Premier's hardware platform has been designed for easy improvements via firmware upgrades. The D-Premier you'll be using next year will be able to do more than the D-Premier you bought this year, without you having to spend a single dollar more.

Devialet's D-Premier amplifier is the most extraordinary product I have reviewed for *Stereophile*. Superb sound quality, future-proof design, everything you need in one box—it is the epitome of what a high-end audio product should be. **Wow!** ■

measurements, continued

level, and no harmonics were visible. However, the right channel's noise floor (magenta trace) lay about 5dB higher in level. Even more peculiarly, sending 24-bit data gave only a slight lowering of the noise floor in the left channel (blue trace), but a raising of the floor in the right channel (red). I tried rebooting the D-Premier by unplugging it from the wall and then powering it back up, but this did not restore proper operation with 24-bit data. This was with v.1.4.0 of Devialet's AIR client; I imagine it is something that can be fixed in a future software or firmware release.

Feeding the D-Premier a 24-bit

version of the 44.1kHz Miller-Dunn J-Test via one of the TosLink inputs gave the spectrum shown in fig.12. No data-related jitter components are visible. However, a pair of sidebands around the 11.025kHz tone at 4120Hz can be seen. Although these lie below -120dBFS (0.001%) and are presumably irrelevant to sound quality, they perhaps result from some power-supply interference at the DAC's voltage-reference pin. Repeating the test with Devialet AIR WiFi data gave rise to the same 120Hz sidebands (fig.13), but now some broadening of the central peak can be seen. And as with fig.11, the left

channel's noise floor (blue trace) is not much lower than the 16-bit floor, while the right channel's floor is significantly higher in level (red). I suspect that this loss of resolution via WiFi is the reason I ended up preferring using a standalone USB-S/PDIF converter for the bulk of my auditioning of the D-Premier.

Other than its slightly anomalous behavior via WiFi, the Devialet D-Premier's measured performance is a testament to what can be obtained with switching-amplifier technology. However, sustained high-power operation into speakers with an impedance of 4 ohms or below is best avoided. —John Atkinson

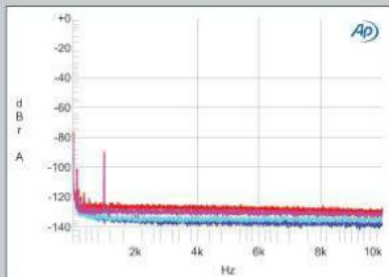


Fig.11 Devialet D-Premier, FFT-derived spectrum with noise and spurs of dithered 1kHz tone at -90dBFS , with 16-bit AIR data (left channel cyan, right magenta), 24-bit data (left blue, right red).

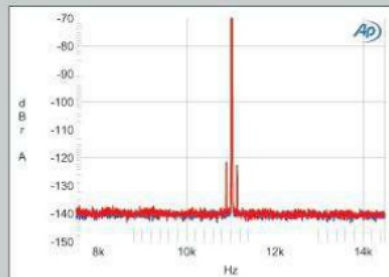


Fig.12 Devialet D-Premier, high-resolution jitter spectrum of analog output signal, 11.025kHz at -6dBFS , sampled at 44.1kHz with LSB toggled at 229Hz: 24-bit data via TosLink from AP SYS2722 (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, $\pm 3.5\text{kHz}$.

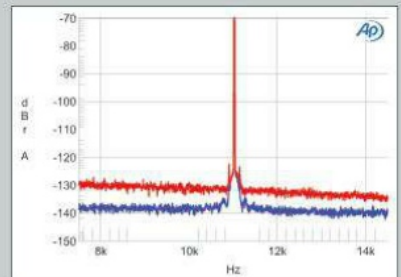


Fig.13 Devialet D-Premier, high-resolution jitter spectrum of analog output signal, 11.025kHz at -6dBFS , sampled at 44.1kHz with LSB toggled at 229Hz: 24-bit data via AIR from Mac mini (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, $\pm 3.5\text{kHz}$.