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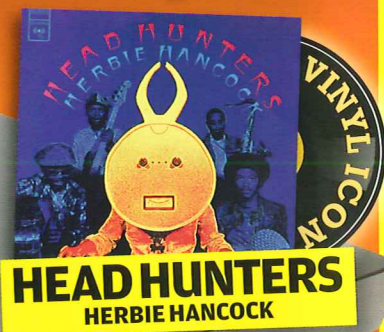
& Record Review

LEAN MACHINE

World Exclusive **Devialet's stunning 170 amplifier**

'Hooray for Hollywood'
Film and the birth of hi-fi sound, p16

HEAD HUNTERS
HERBIE HANCOCK

VINYL ICON

'The world's oldest rock 'n' roll shrine'
Classic Venues, Red Rocks, p78

McIntosh D100
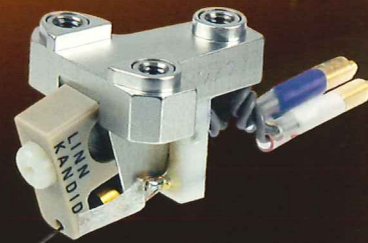**Mac's new DAC/preamp**

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INTEGRATED AMPLIFIER

Devialet 170

Three years on from *HFN*'s inaugural review of the Devialet D-Premier amplifier, the technology has evolved into three new models with network and USB functionality
Review & Lab: **Paul Miller**

S ome day, all amplifiers will look like the Devialet. They won't, of course, because our passion for music and hi-fi feeds on diversity, keeping vinyl thriving in an era of high-res downloads and tube amps glowing regardless of the advent of the transistor. We all have our preferences, but the stir created by Devialet's 170 at the recent Munich High End show affected enthusiasts of every hue.

When the D-Premier, Devialet's first amplifier, was launched several years ago [*HFN* Apr '10] it appeared to offer everything – tremendous power, direct digital inputs and a uniquely slim form factor. Its beautiful industrial design was matched by the elegance of its technology, a hybrid of Class A voltage amplification with precision *digital* Class D current dumpers. Its sound quality is now the stuff of audiophile legend.

THE PREMIER STANDARD

The D-Premier offered S/PDIF and AES/EBU digital inputs, analogue inputs that could be programmed for both line and phono sources (right down to custom loading options). It even had a proprietary Wi-Fi service built-in, capable of accepting 24-bit/48kHz audio streams. And pairs could be configured for intelligent, dual-mono operation. But still the D-Premier amplifier was incomplete.

As the platform took shape in the mid-2000s, Devialet chose to implement HDMI as the digital interface of the future. Hindsight is a wonderful thing, but now we all know that *USB* is digital audio's all-conquering interface. A change to the D-Premier's real estate was inevitable, its inputs reshaped along with refinements to every facet of the amplifier's layout, from switchmode power supply to its DSP core. The result is three new amplifiers, the £4490 Devialet 110, the £6390 170 and £11,800 240.

The models are distinguished by power and by their feature set although all are equipped with those vital, future-proof USB and RJ45 ethernet connections. The 110 is rated at 110W/6ohm, the 170 at 170W/6ohm and so on, with the 240 adaptable into a mono 500 variant at £20,900 per pair. The 110 and 170 both have Devialet's AIR (Asynchronous Intelligent Route) Wi-Fi module as a £1000 option while the 110 has a simpler MM-only phono option and lacks the bigger amp's digital and sub out features.

All versions are intimately configurable with recourse to Devialet's on-line 'Configurator' [see *http://en.devialet. com/la-maison-online-en-us/configurateur-en-us/*]. This is no simple input naming regime but a web script that allows you to define the nature of the three pairs of RCAs (analogue, digital input or output), the maximum power of the amplifier, your

Wi-Fi network settings for the AIR module, the behaviour of the circular display and even the function of the remote buttons. You don't need a 170 to visit the site yourself and explore the Configurator, but owners are able to save their personal settings onto an SD card. The card is loaded into a reader on the rear of the amp which recognises and adopts the settings the moment it's powered-up. You can even create your own welcome message...

DARK CHROME

While the bigger Devialet 240/500 models share the original chassis, albeit in the new dark chrome finish, to maintain the extra heat dissipation, the 110 and 170 are built into new alloy casings that look slimmer still. In part this is a clever illusion, the Wi-Fi antenna now moved from the top surface into two bays within a deeper, black-coated alloy baseplate [see picture

RIGHT: Devialet's Analogue/Digital Hybrid output sits at the heart of the 170, surrounded by an equally innovative switchmode PSU (top left), network and USB inputs (bottom right)
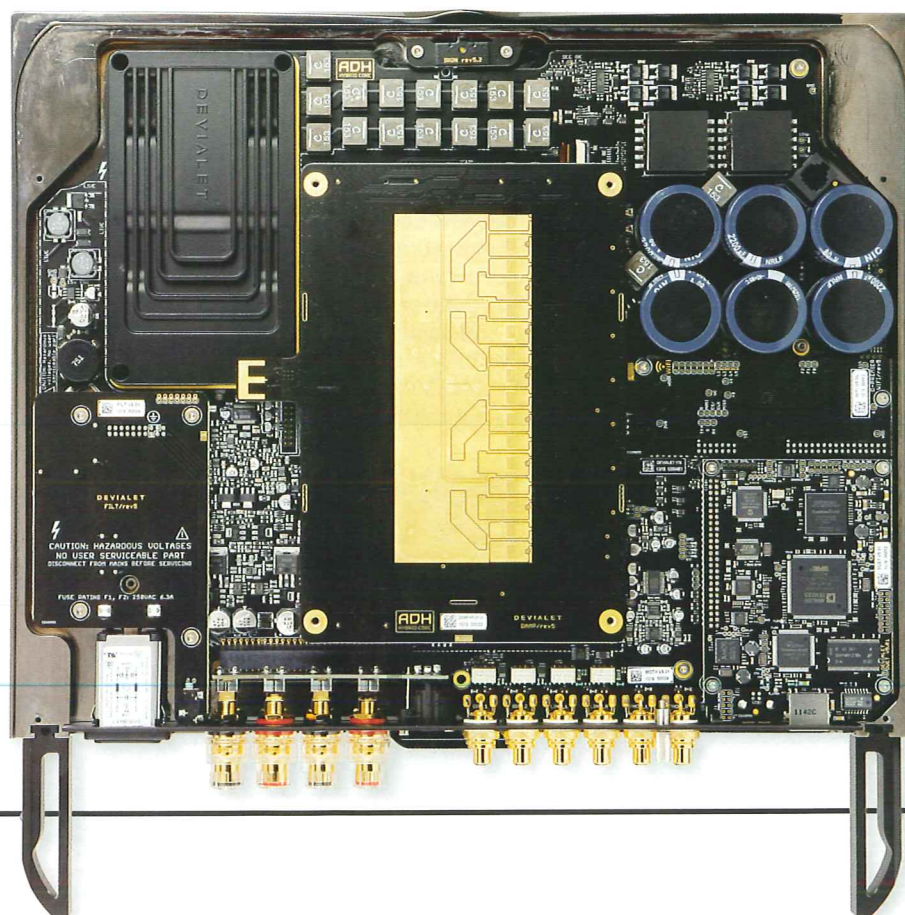
The body of the 110/170 is certainly less imposing and that stunning dark chrome is more durable than the old finish. Fingerprints, however, are still its enemy! Once again, the rear of the case breaks away to reveal a compact collection of inputs and outputs while the hallmark circular display is retained as your window on to the 170's world.

The new variation on Devialet's RF remote control [see picture, below] is also both lighter and slimmer but features the same three function buttons (it's also a lot easier to replace the battery). The central dial governs volume, although there's currently no visual feedback on the remote itself, while the buttons add source selection, mute, bass/treble and balance control. These are also used to navigate through the 170's multiple status displays which include thermal monitoring, network IP address and other details.

In practice and assuming you're using one of the digital inputs – USB, S/PDIF or network connections – then '0.0dB' volume on the 170's display realises exactly 100W/8ohm with a peak level (0dBFs) digital signal. The volume scale is precise, so '–10dB' delivers exactly 10W/8ohm and '–20dB' exactly 1W/8ohm. I'd not recommend you move into the red zone (0dB to +30dB on Devialet's scale) with digital inputs but you can, with care, if you are pressing either the analogue line or phono inputs into service. Ironically, because of the way the Class D current dumpers are mapped with direct digital inputs, you might actually squeeze slightly more power from the 170 from an analogue input [see Lab Report, p27].

HI-RES STREAMING

The new USB port is a Type B socket, so there's no facility to host USB sticks or drives. However, there's talk of the amplifier's SD card reader also being enabled to carry high-res music files, much like the Resonessence Labs DAC [see *HFN* Dec '12]. Nevertheless it's important to reiterate that, alongside the 'legacy' optical and coaxial S/PDIF and AES/EBU inputs, all new Devialet amplifiers will now connect directly to your computer or home network, including wireless access where the AIR module is fitted.

The partnering AIR Wi-Fi streaming software, now in v2.0 guise, is available from Devialet's website alongside its iOS and Android apps which facilitate full remote control of the new amplifiers. The AIR software lets you wirelessly play music content stored on your Mac (from OSX 10.6) or Windows (Vista) computer in 'bit-perfect'

ABOVE: Sleek industrial design belies the 170's sophistication and versatility. Input, volume and comprehensive status information is revealed on its distinctive 'porthole' display

mode up to a claimed 192kHz/24-bit resolution (this will be heavily network-dependent). The streamer is also compatible with media players including iTunes, VLC, WMP *etc*, plus Internet radio and online services such as Pandora, Spotify, Deezer, Qobuz, Wolgang's Vault, Tunein, Opeo and others.

A CHIP OFF THE BLOCK?

So is the 170 'better' than the D-Premier's I've been using these past three years? I suppose the glib answer might be to suggest the 170 is simply a chip off the ADH block, with better bass control, more insight and transparency, simply a D-Premier plus. But it's not. It's more, so much more.

I'll dial back at this point to describe the system I've been using, actually the same set-up we used for our recent USB cable group test [*HFN* July '13] except that I could now directly pipe high-res audio from PC to amplifier to B&W 802 loudspeakers.

With the signal retained in digital domain, this was as 'straight a binary wire with gain' that I might have wished for.

That the 170 also has a Wi-Fi AIR option will be of vital importance to many of Devialet's clientele. Indeed, it's just about the slickest and cleanest-sounding solution I've used, but that's with a dedicated Wi-Fi network unencumbered by interference. The sheer convenience of parking the 170 up close and personal to the loudspeakers, using short cables and beaming music directly was very tempting indeed. But when push came to shove, ⇨

> 'The 170 is no mere chip off the block. It's more, so much more'

THE ROAD TO PARIS

When *Hi-Fi News* first met Devialet to explore the ADH amplifier concept [*HFN* Apr '10], its four creatives (marketing and engineering) were scattered across France. Just organising a meeting between themselves was a logistical exercise so they determined to find a headquarters in Paris. 'Anything would suffice,' said Manuel De La Fuente 'even if it was a rooftop garden. We found a sympathetic real estate agent who was prepared to take on the challenge, despite the fact we had no money!' In a remarkable tale of happenstance, Devialet's agent not only uncovered a substantial, vacant six-floor property a stone's throw from the Louvre but also discovered that the owner was a passionate audiophile. That property magnet not only bought a D-Premier but invested in the company and opened the doors to what is now *La Maison*, Paris, home to 40+ employees and Devialet's plush showroom/demo facility.

ABOVE: The underside of the 170 is an alloy injection-moulding with apertures for the (ZigBee) Wi-Fi antenna. Though still 'square' the case is about ½in smaller than the original D-Premier

and despite needing a PC in the room with short USB cables or Ethernet cable out to a NAS drive, the hard-wired options had Wi-Fi beat every time. And this magazine is always about the *best* that can be achieved, convenience be damned!

HARD-WIRED

With USB my preferred choice, and beta PC drivers working flawlessly, the 170 wove its addictive spell. Whether I was enjoying 'Hotel California' from The Eagles' 1994 live set *Hell Freezes Over* [Geffen UICY-1059], the 24-bit render of The Beatles' *Abbey Road* album or the new Linn label release, Emily Barker & The Red Clay Halo's *Dear River* [AKD405 96kHz/24-bit 'Studio Master'], the 170 'connected' those files to the speakers with complete mastery over their content.

Like the D-Premier, the 170 grips the loudspeaker with such unerring confidence that any colour, any spurious movement associated with driver or cabinet, is seemingly suppressed to a degree that I've not experienced with any other amplifier. The boxes fade from view and the music lives and breathes in front of you. Cymbal strikes are free of splashy overhang, powerful bass rhythms are delivered with a palpable thunder and massed strings stride into the room with vivid presence.

> 'A luxuriant smoothness extends from deepest bass to brightest treble'

All this is essentially true of the D-Premier, but the 170 has something else, a luxuriant smoothness that extends from the deepest bass to the brightest treble, to voices and brass, to solo guitar and orchestral swells, to live or studio recordings. There's a quality to this smoothness that I recognise. It's exactly the same reduction in grain and instrument modulation and improvement in the blackness, the 'velvet' quality of silences, that I heard from amplifiers in the 1980s when various enlightened manufacturers were experimenting with localised RF filtering.

Sadly, this research was largely clobbered by subsequent EMC regulations, but in a design with the *potential* for generating its own internal atmosphere of interference, Devialet's extensive board revisions have evidently reaped rewards. In similar vein, the D-Premier always benefited from a pure mains supply and was never employed in my room without a PS Audio regenerator. The 170 also gives off its very best when powered thus, but the difference is now not so marked. Frankly, it still sounds glorious fed 'raw' mains.

Listening to the very high-resolution Charlie Haden & John Taylor's *Nightfall* [192kHz/24-bit, Naim CD077], I was struck by the sheer silence of the background, ⏎

ABOVE: Three sets of RCA sockets are configurable as digital ins or line/phono analogue ins. Other digital ins include USB, ethernet (RJ45), AES/EBU (XLR), optical (Toslink and 3.5mm jack). Single sets of 4mm speaker cable binding posts are included alongside SD card (setup) and triggers (3.5mm jacks)

despite it being a render of an analogue tape, each key tailing off into a soft and gentle silence, coaxed by a lilting double bass. Then there was the 24-bit *Abbey Road* remaster, 'Come Together' which not only sounded 'all of a piece' but could hardly be described as a 'period piece' since the resonant grunge of Harrison's guitar and Starr's drums was laid bare with a sense of spaciousness and atmosphere that was barely creditable. Here was this liquid smoothness in action – the precision of the ADH technology delivered with a delicacy, a *sensitivity* and musical poise that is not only rare but arguably unique to the brand.

TEMPTING FATE
I thought I'd tempt fate with the new 24-bit/96kHz release of *Rush's 2112 – Deluxe Edition* [Universal UNI101]. I needn't have worried that this particular monument to anthemic rock would betray its age, for the opening synth announced a very familiar 20-minute journey that, while not the last word in dynamic expression or transparency, sounded wonderfully self-contained. Geddy Lee's distinctive voice was free of piercing hardness, Lifeson's accomplished fretwork and Peart's unmistakable drums and percussion all preserved within a surprisingly generous acoustic. Frankly, if the 170 can resolve this prog rock standard into its distinctive threads without dropping a stitch then I cannot imagine many other pieces of music likely to give it pause.

The 170 has another trick up its sleeve. Think you've heard how low your floorstanders can go or how rich that drum-roll might sound? So did I, and cued-up the movie soundtrack from 'The Day After Tomorrow' [Varèse Sarabande 066572] by way of confirmation. This orchestral score, by Harald Kloser, has a tympanic foundation

that rises from behind a wall of luscious strings and woodwind but that's so low, so deep, it typically escapes the attention of most amplifier/loudspeaker combinations.

The Devialet 170 squeezed what appeared to be near-subsonic bass from the 802s, as low as I'd heard from my B&W ASW850 sub with its 1000W amp and 15in woofer, but with a definition so robust you could saw it into 10ft lengths and use it for scaffolding. The scale, the depth and *reach* of this performance was truly awesome, a listening experience that was in every important respect – technical and emotional – convincingly visceral.

A NEW STANDARD
I hope I've given you a flavour of the 170's special qualities, because it's rare to encounter a new audiophile technology that not only evolves but that also becomes more affordable. So *is* the 170 better than the D-Premier? With USB and wired network connections it's substantially more flexible if not quite as powerful. That's where the forthcoming 240 and mono 500s come into the picture but, for now, would I trade one for the other? Yes. Unequivocally so. ⏻

HI-FI NEWS VERDICT
With a growing corporate resource, Devialet has taken its revolutionary D-Premier amplifier, added all-important USB and network connections while refining just about every facet of the internal engineering solution. The result is a spectacular success and proof that breakthrough technologies can still make their mark in an audiophile world often reluctant to embrace change. The best just became more affordable.

Sound Quality: 91%
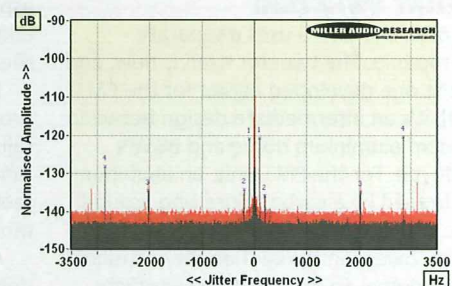
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DEVIALET 170

As Devialet has re-mapped its ADH amplifier there is a slight difference in the power output and lowest distortion achievable between the 170's analogue and digital inputs. The vast majority of users will, I presume, engage with the amp digitally either via USB or wired/Wi-Fi network, in which case a 0dBFs input realises exactly 100W/8ohm and 200W/4ohm at the '0.0dB' position (both at 0.0007% THD). Via the analogue input this increases to 120W/8ohm and 240W/4ohm, the near-perfect 'stiffness' of the power supply reflected in the 115W, 230W and 450W delivered under dynamic conditions into 8, 4 and 2ohm loads. Note also how distortion barely increases with reducing load impedance [see Graph 1]. Couple this with the infinitesimally low 0.003ohm (3mohm) output impedance and, provided you don't use scrawny cables, the 170 will rule your loudspeakers with the proverbial rod of iron.

Through bass and mid frequencies, 'digital' distortion is half that for the analogue input, the former achieving 0.0005% as opposed to ~0.001% for the same 1kHz/10W/8ohm output. The opposite occurs at very high frequencies where the line input reaches 0.006%/20kHz and the digital inputs, regardless of sample rate, increase to 0.017% (10W/8ohm). The A-wtd S/N ratio is fabulously wide at 93dB and 98dB re. 0dBW (analogue/digital) or 118dB re. 100W/8ohm while the response(s) are flat to +0.14dB/20kHz, –0.6dB/45kHz and –1.6dB/85kHz (48kHz, 96kHz and 192kHz media). Jitter is very low and PSU-related at 53psec/10W [see Graph 2]. Readers may view comprehensive QC Suite test reports detailing the 170's analogue (power), S/PDIF, and USB performance by navigating to www.hifinews. co.uk and clicking on the red 'download' button. PM
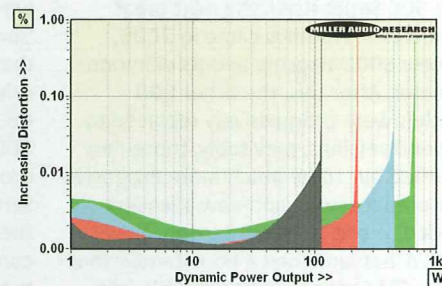
ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) loads. THD is halved via digital inputs

ABOVE: High resolution 24-bit/48kHz jitter plots. USB input (red) versus S/PDIF input (black) at 10W/8ohm

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	120W / 240W
Dynamic power (<1% THD, 8/4/2/1ohm)	115W / 230W / 450W / 675W
Output impedance (20Hz–20kHz)	0.001–0.004ohm
Freq. resp. (20Hz–20kHz/90kHz)	–0.0 to +0.15dB / to –3.7dB
Digital jitter (S/PDIF / USB at 48kHz)	58psec / 53psec
A-wtd S/N ratio (re. 0dBW/0dBFs)	93.2dB (Analogue) / 97.7dB (Dig)
Distortion (20Hz-20kHz; An/Dig 10W)	0.001–0.0059%/0.0005–0.017%
Power consumption (idle/rated o/p)	51W / 286W
Dimensions (WHD)	383x40x383mm