AURALiC Vega G2.2

Some ten years after its introduction, the minimalist Vega USB DAC has grown into a fully-fledged streaming solution incorporating a host of proprietary technologies

Review: **Andrew Everard** Lab: **Paul Miller**

The Auralic Vega G2.2, selling for £6899 in best basic black, comes in at just £100 more than the previous G2.1 [HFN Oct '22], and appears to offer evolutionary changes rather than anything truly radical. One thing's for sure, however – the brand has come a long way since it launched its original Vega model, which was basically a USB-input DAC, getting on for a decade ago [HFN Jan '14].

Yes, there are similarities between the first Vega unit and this latest version – the USB-B input is retained, for example, as is the ability to work straight into a power amplifier or active loudspeakers thanks to its built-in preamp. Otherwise the Vega G2.2 is a complete network streaming solution as well as a DAC, able to play music from network storage, such as a NAS device, as well as from a wide range of online streaming services, and all this with file handling all the way up to 384kHz/32-bit PCM and DSD512.

JOINNING THE ROTARY CLUB

The clue to this, if you need one, is the presence of a prominent volume control to the right of the Vega G2.2's solid, sculpted fascia. Well, sort of a volume control because, depending on what you're doing at the time, this rotary encoder will help you navigate the unit's menu system. Nevertheless, to dig really deep – not to mention actually select and play music – you'll need to resort to an external network-connected device.

In addition to its Ethernet port and analogue outputs (on both RCAs and XLRs, plus a 6.35mm headphone output), the Vega G2.2 has coaxial, optical and AES digital inputs; the USB-B port for computer hook-up; an HDMI eARC connection to route audio from a TV or other video device; and even a single set of analogue inputs. Also on HDMI-type connectors are Auralic's Lightning Link ports [HFN Oct '22] for the company's Aries network transports and Leo GX.1 master clock, the latter also being served by a master clock input.

In other words, this new model almost has it all, though some will miss a simple USB-A port for fast and easy playback from local storage devices, and others might perhaps want a Bluetooth/AirPlay input for their phone, or Wi-Fi networking.

APPLE CORE

A more significant point for many will be the continued absence of an Android version of the Lightning DS app to control the unit. Auralic remains solidly loyal to Apple, although the Vega G2.2 can be set up in detail with a web browser [see boxout p61], leaving day-to-day music selection and playback to third-party Open Home control apps running on Android devices. You can also map the unit to the keys on an existing remote handset, but this does sound like something of a faff. Note to Auralic: the latest figures suggest Android has around a 70% share of the smartphone market, while Apple iOS accounts for about 28% – just sayin'...

So why a new version of the Vega? Well, the flip answer is that the Chinese company's engineers just can't leave well alone, but the reality is that this is a further evolution of a long-running design. One of the headline features is what the brand calls its Direct Data Recording (DDR) technology, taking the audio data into system memory on the Tesla G3 platform at the heart of the Vega G2.2, then clocking it out after processing. Like all high-quality DACs, there are two master clocks, one for 44.1kHz-centric data and another for 48kHz-based data.

With all data reclocked and buffered, only the core of the ESS Sabre DAC is used. In what Auralic calls its 'Fusion' DAC, the PLL, digital filter and oversampling functions of the ESS DAC are bypassed in favour of its own DSP-driven solutions.

PREAMP PARTNER

Downstream of the Vega G2.2's digital conversion stage, both the 'Orfeo'

RIGHT: The Vega G2.2's linear PSU [top right] feeds the screened-off DACs [top left], ladder volume controls [centre left] and 'Class A Orfeo Output modules' [heatsink, bottom left]

preamplifier and its ladderstyle volume control are pure analogue designs, bypassable to offer a direct 2V output to feed a preamp, and permitting an AV bypass via that single set of analogue inputs. There's also extensive isolation, both electrical and mechanical: galvanic isolation is employed between the processing platform and the G2.2's audio section, while the outer aluminium casework houses a second nickel/copper box within that provides additional screening. Finally, the chassis is mounted onto a high-mass alloy base suspended on coil-sprung feet.

CRISP AND CLEAR

With many high-end network products, and network transports in particular, it's hard to describe their sound simply because they output digital data only. However, as I said in my introduction, the Vega G2.2 is a complete player with onboard conversion. As PM explains in his Lab Report [p63], both upsampling and a choice of digital filters are available and, as usual, I'd suggest you experiment with these on initial setup, settle on the settings you prefer and stick with them. Over-obsession in this department will typically get in the way of actually listening to music. For the record, I chose the 'Balance' filter for much of my auditioning.

And as one might hope at the price, the Vega G2.2 is not just a convenient DAC/player/preamp combination, but a finesounding one into the bargain. With Amalie Stalheim's recital of Stravinsky, Poulenc, and Debussy cello pieces [Lawo LWC1260; 352.8kHz/24-bit], there's a wonderfully fresh and focused view of both the instrument and its piano accompaniment, with plenty of space in the sound for both the ambience and the dynamics of the two performers. With all that processing going on, the sound remains clear, crisp, and fluid, especially so when the preamp stage is bypassed, and the output is run at linelevel into conventional amplification.

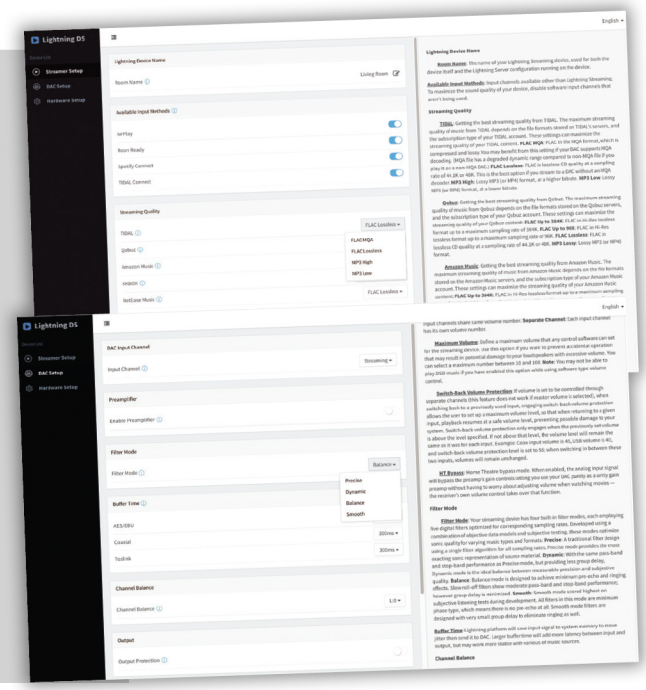
That clarity is also well-suited to the late Sinead O'Connor's 2002 Sean-Nós Nua set of traditional Irish songs [RandM Records RAMCD001], with accompaniment from the likes of Christy Moore and Donal Lunny. 'Lord Baker' is made all the more attractive by its ethereal backing and the way Moore and O'Connor's voices work together but still have clarity and character – one rich and resonant, the other not much more than a whisper.

ABOVE: The 4in TFT display reveals the library of albums/songs available or in play (inc. cover art) in addition to allowing the user to navigate the comprehensive system/set-up menu

LIGHTNING STRIKES ONCE

Make no bones about it – Auralic's Lightning DS platform is brilliant, and as fine an example of software/hardware integration as you're going to find on the hi-fi market, enabling products such as the Vega G2.2, or indeed a whole stack of Auralics, to be setup and controlled from a clean, easily-understood app interface. Well, provided you're an Apple iOS user, anyway... Unfortunately, if your world revolves an Android device things are a little more complex, requiring the use of a web browser – which could, of course, be running on your Samsung or Sony tablet, or whatever – to set up the Vega, with a third-party Open Home client to 'drive' it to play music.

Fortunately, the web interface [pictured] is simple to access: you just need to read the G2.2's IP address from its front-panel 'Welcome' screen once it's wired into your network, and enter that address into a browser – Auralic recommends Google Chrome or Safari – to get to the menu. Beyond that it's all plain sailing, with simple pull-down menus for the likes of digital filter selection, upsampling, display performance and so on. With the true flexibility of the Vega G2.2 revealed, it's then just a matter of firing up a suitable client app on your Android phone or tablet – the latter will be better for readability and viewing album/track details. Auralic recommends Bubble UPnP or DS, Linn's Kazoo or Lumin, but not pure UPnP clients such as JRiver Media Centre.



ABOVE: Digital inputs on AES, coaxial and optical (192kHz/24-bit and DSD64 over DoP) are joined by wired LAN, USB-B and Auralic Lightning Link ports (384kHz/32-bit and DSD512) plus an external clock input. Line inputs (on RCAs) sit alongside fixed/variable preamp outputs on XLRs (balanced) and RCAs

MEMORY MAKER

Change pace entirely to 'Born Slippy' on the 2015 re-release of Underworld's Second Toughest In The Infants [Universal UWR00052] and the Vega G2.2 delivers what can only be described as a 'bangin' choon' with superbly extended, hard-hitting bass to underpin the characterful vocals and sweeps of electronica. This explicit, weighty sound also does a fine job with the Steven Wilson remixes of ABC's The Lexicon Of Love [Neutron Records/ UMC; 96kHz/24-bit], bringing out both the quality of the multi-layered original pop masterpiece and the skill of the remastering. It's an odd experience of hearing an album how memory suggests it always sounded, but never quite did, and appreciating its new-found clarity.

After listening to some early Alice Cooper for another review in this issue [p42], I was rocked back in my seat when I loaded up his latest outing, Road [Ear Music/Edel/Alive 0218844EMU], which is both a loose concept about the touring life, a survey of his career, and a storming band album. There's a sense of live performance here, the Vega G2.2 creating a massive sound with hardhitting bass and crisp vocals and instruments. It all sounds like classic Alice, with a decent dose of shockrock and theatricality alongside the charging musicianship.

SHEER INSIGHT

With the density and warmth of an orchestral recording, the Vega G2.2 shows it has the wherewithal to render scale while at the same time taking the listener into the heart of the production. The explosive opening of Strauss's 'Also Sprach Zarathustra', performed by the Berlin Radio Symphony Orchestra/Vladimir Jurowski [Pentatone PTC5187121; 192kHz/24-bit], sounded huge and magnificent, but this streamer/DAC then goes on to captivate with the sheer insight, presence and information it delivers.

That it does this consistently across a wide spread of music is testament to what some may see as the Auralic engineers' continuous tinkering, but which they'd describe as rolling improvement. Either way, this innovative team has created something rather special here.

BELOW: Hidden within the alloy chassis, and screening the circuitry within, is a branded nickel-plated copper enclosure

HI-FI NEWS VERDICT

This is another worthwhile upgrade for Auralic's Vega model, the G2.2 gaining even greater clarity and clout with everything from driving rock to complex classical music. As a network player you can just slot it into your system as you would, say, a CD player. Moreover, it's as simple to use as it looks, and includes the flexibility to set it up exactly how you want, given enough time (and patience).

Sound Quality: 87%

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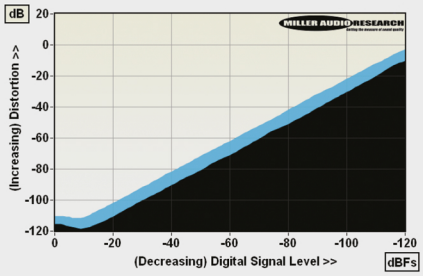
LAB REPORT

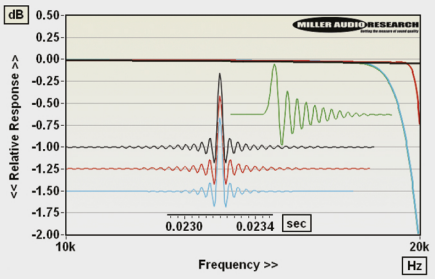
AURALIC VEGA G2.2

Auralic's Vega DAC has witnessed improvements in processing speed, functionality, file format handling and technical performance since its first-gen platform was tested [*HFN* Jan '14] right up to the most recent G2.1 [*HFN* Oct '22]. This new G2.2 variant sees improvements in PSU capacity and filtering, clock precision and data buffering ('DDR' or Direct Data Recording) while other core features – including the 'Fusion' DAC, the R-2R analogue volume control and Class A 'Orfeo' analogue output stage – are broadly unchanged. Tested here in fixed output mode the maximum output drops to 2.15V but the A-wtd S/N ratio is still a hugely impressive 110dB (re. 0dBFs) and the output impedance an entirely 'interconnect cable agnostic' 275mohm (0.28ohm). Distortion remains a low 0.00015-0.00025% from 20Hz-20kHz/0dBFs [see Graph 1] while jitter is suppressed to a state-of-the-art ~10psec over all sample rates and inputs.

The latter is a function of both the ESS Sabre DAC's inbuilt technology and Auralic's own data/clocking management, but the real customisation comes in the form of its alternative digital filters – Precise, Dynamic, Balance and Smooth – the latter two having been updated over the Vega G2.1. The first three filters are linear phase types with progressively lower tap lengths, lower group delay and lower 130dB, 122dB and 63dB stopband rejections, respectively. Responses reach –0.05dB, –0.8dB and –2.2dB/20kHz with 48kHz data; –0.6dB, –11dB and –5.6dB/45kHz with 96kHz files and –1.7dB, –14dB and –8.7dB/90kHz with 192kHz media, respectively [black, red and blue; Graph 2]. The 'Smooth' filter is a minimum phase type [green traces, Graph 2] with the same roll-off and stopband performance as 'Balance' but with much reduced 'time domain' distortion. **PM**



ABOVE: Distortion vs. USB 24-bit digital signal level over a 120dB range at 1kHz (black) and 20kHz (blue)



ABOVE: Impulse and HF freq. resps. (48kHz; Precise, black; Dynamic, red; Balance, cyan; Smooth, green)

HI-FI NEWS SPECIFICATIONS

Maximum output level / Impedance	2.15Vrms / 275mohm
A-wtd S/N ratio (USB / Network)	109.9dB / 110.0dB
Distortion (1kHz, 0dBFs/–30dBFs)	0.00015% / 0.00045%
Distortion & Noise (20kHz, 0dBFs/–30dBFs)	0.00025% / 0.00095%
Freq. resp. (20Hz-20kHz/45kHz/90kHz)	+0.0 to –0.1dB/–0.5dB/–1.7dB
Digital jitter (48kHz / 96kHz)	11psec / 10psec
Resolution (re. –100dBFs / –110dBFs)	±0.05dB / ±0.1dB
Power consumption	16W (3W standby)
Dimensions (WHD) / **Weight**	340x96x320mm / 9.3kg