

Auralic Aries G2.2

Incorporating Auralic's latest Tesla G3 streaming platform, the Aries G2.2 digital server also features a beefed-up PSU, a solid-state storage option and the promise of Dirac Live Review: **Jamie Biesemans** Lab: **Paul Miller**



At Munich's High End show in May 2023, a rare appearance by Auralic founder Xuanqian Wang heralded the launch of G3 versions of its Aries streaming transport and Vega streaming DAC, destined to extend the company's reach into the highend when they arrive later this year. Yet at the same event the digital audio specialist introduced new G2.2 iterations of the Aries (tested here) and Vega [HFN Nov '23], both now available priced £5299 and £6899, respectively. Somewhat confusingly, all four models – regardless of their generation number – use the same G3 version of Auralic's Tesla streaming platform.

Marrying an ARM-based chipset with bespoke software, 'Tesla' is the company's secret sauce. For G3, Auralic has moved to a 64-bit architecture and increased its onboard memory to 4GB. The boosted processing power of the G2.2 and G3 models also means they will be able to run Dirac Live calibration software [see boxout, p49]. And regardless of Dirac – which some will find useful, but others might not – new circuit topology in the G2.2/3 hardware promises reduced latency and a claimed '90% reduction' in jitter.

A TEAM PLAYER

There's also a focus this time on removing noise, with a new 'Purer-Power' PSU said to double the capacity of the G2.2 designs, while adding separate supplies for the digital audio components (the Aries G2.2 is

digital-only, of course). Galvanic isolation of the USB-B port has also been improved, and you can choose whether you want to power a DAC over USB. This is a 'just in case' option as, ideally, the connected DAC will have its own (noise-free) PSU.

It isn't always obvious which Auralic box does what [see HFN Oct '22], something made harder by the company's uniform industrial design language – compared to competitors including Aurender, Lumin and HiFi Rose, it prefers a low-key, sleek approach. That hasn't changed on the Aries G2.2, as it retains the sturdy 'UnityChassis II', with nickel-plated sub-enclosure [see p51], of the G2.1 model. This has a larg(ish) display on the front, which shows album art and an interface when required, but it's not touch-enabled nor, to be frank, very necessary. Auralic's Lightning DS app is meant to be your primary way of interfacing with the unit.

The Aries G2.2 is clearly distinct from the similar-looking Vega G2.2 network DAC and the do-it-all Altair G2.1 [HFN Dec '22 – there isn't yet an Altair G2.2]. It specialises in one thing: feeding a DAC, be it a standalone unit or a digital input on an integrated amplifier or active speakers, but can be fitted with internal storage to morph into a media library/server, so is more versatile than most rival transports.

In the past you (or your dealer) could slip in an SSD, but with the G2.2 platform Auralic has moved to faster PCI

Express-based NVMe storage that's pre-installed in the factory. This means you need to decide when purchasing whether you want an Aries G2.2 with or without 4TB of storage. The device plays very nicely with music files on a NAS or connected via USB, of course.

LIGHTNING FAST

Plenty of changes here, then, but Auralic is nothing if not consistent when it comes to features and app control. From its entry-level models to the elite G3 units (which, for the first time, will be built in the US), you use the same Lightning DS app and broadly speaking enjoy the same user experience. I have no complaints about that, as Lightning DS is a good reason to pick an Auralic device over other streamers. The interface is responsive and fun to use, both when playing music

from your own library or when using one of the built-in streaming platforms. The selection of services currently offered is limited but includes audiophile favourites Tidal and Qobuz, plus HRA, the German-based streamer which takes a strict stance against 'fake' hi-res material. You can also play directly from Spotify or Tidal, or via AirPlay, Bluetooth, Roon or over DLNA, so the Aries G2.2 lets you listen to just about any music service.

One gripe remains, however and that's Auralic's steadfast refusal to offer the Lightning DS app on non-Apple devices.

Android users who don't want to also invest in an iPad or a Macbook with an M-processor therefore need to access the Aries G2.2's settings and sound processing options via a web interface. And it's only when you enter these settings that you discover the extent of this network transport's capabilities. There's a lot you can do, including much that you won't find elsewhere, including resampling AirPlay streams and dictating what upsampling should be applied to different source sampling rates.

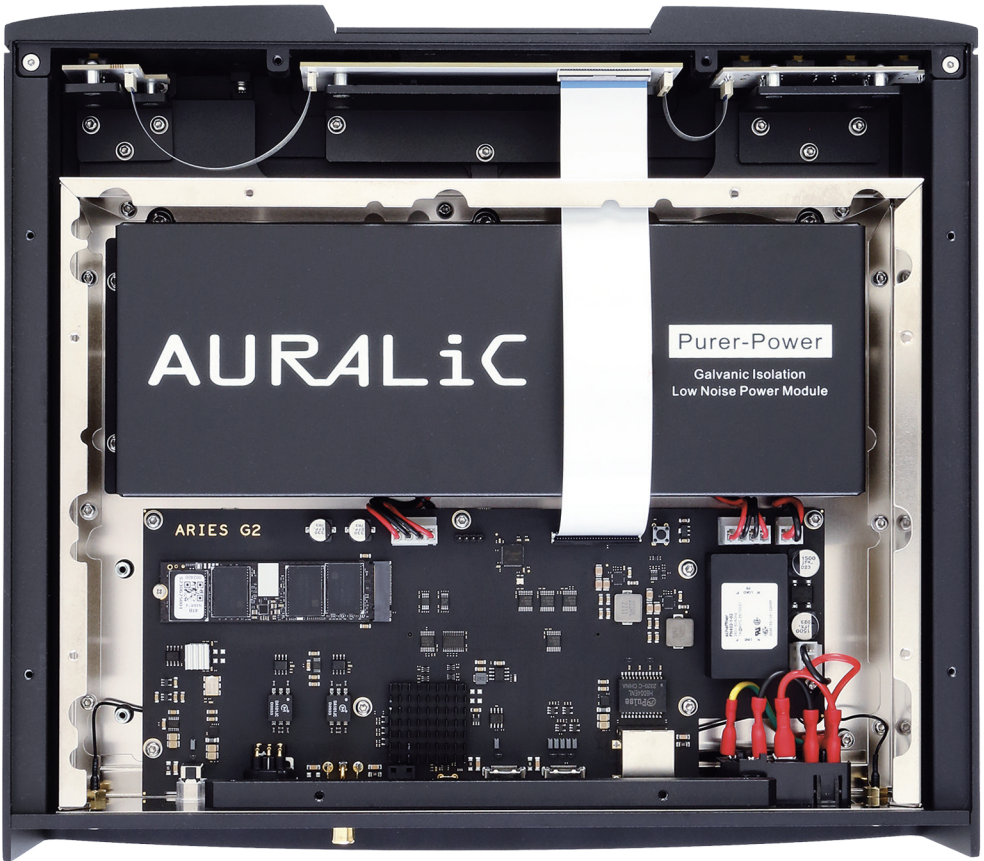
MUSIC MADE EASY

Our Aries G2.2 was fitted into a system comprising a Primare A35.8 amplifier [HFN May '22] and Focal Sopra No2 loudspeakers [HFN Sep '15], with T+A DAC200 [HFN May '22] and Musical Fidelity M6x [HFN Jul '22] DACs. Auralic would no doubt suggest that its Vega G2.2 is a very suitable match as well, and if you take that route there's a dedicated HDMI Lightning Link to connect the devices together. You can even take it up a notch, as a second Lightning Link caters to Auralic's outboard Leo GX.1 clock.

A first impression is that using the Aries G2.2, and selecting music from an iPad, is more convenient than hooking up my 15in MacBook to a DAC with a long USB cable. But what about sound quality? A USB cable is a lot cheaper than Auralic's streamer after all [see PM's Lab Report, p51]...

It turns out there's more than expediency at play. Using Radiohead's Amnesiac album [Parlophone CDFHEIT 45101; 44.1kHz/16-bit] as a benchmark, tracks like 'You And Whose Army' and 'I Might Be Wrong' were tighter and more precise via the Aries G2.2. We're not talking about a night and day difference, but using the transport resulted in what felt like a more accurate – and involving – reproduction of

BELOW: Inside the secondary chassis [see p51] two PSUs are now screened inside a third box [top], feeding an Intel Tri-Band Wi-Fi/BT module and XMOS USB solution [under PCB]. Optional 4TB NVME storage is installed here [lower left]



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DIRAC INBOUND

The Aries G2.2 (together with the Vega G2.2 and forthcoming G3 models) are soon to be Dirac Live-enabled. This is unusual for a source component, especially a digital transport, as the Swedish-built 'room correction' software is generally found in devices situated further down the playback chain – mainly AV receivers and stereo integrated amplifiers. These include the EISA Award-winning Arcam SA30 [HFN Jul '20], NAD's M33 [HFN Aug '20] and the active loudspeakers from Dynaudio's Focus range. It makes sense, though, to incorporate Dirac Live, which applies digital filters to correct both frequency and impulse response, in a processing-rich device such as the Aries G2.2.

Using Dirac will involve running the licensed software on a laptop or a mobile device, the latter being more user-friendly but offering fewer possibilities in terms of manual frequency adjustments. A measurement microphone (Dirac recommends miniDSP's UMIK-1) is required. Depending on your listening situation, the software will ask you to make measurements from anywhere across nine to 17 positions, and will then calculate a correction filter according to a chosen target curve. Dirac allows for bespoke user adjustments, but fine-tuning the target curve is something of an art and science rolled in to one, especially when correcting over the full frequency band where Dirac's default curve tends to 'flatten out' the response.

Auralic estimates that Dirac Live will be available by Spring 2024, depending on further testing, and will arrive as a firmware update.

SPATIAL AWARENESS

Diving into the processing settings and switching the Aries G2.2 to upsample to 352.8kHz/32-bit (and with the Smooth filter in tow) enhanced it even further, adding a greater sense of space. This augmented three-dimensionality is worth it, as it made the introduction to Radiohead's 'Hunting Bears' that bit more tangible. Indeed, I found the experience intriguing, as in the past I've observed such differences mainly when upsampling PCM to DSD, not when boosting CD-quality PCM to a higher sampling rate.

As an aside, Auralic's upsampling delivered a more natural-sounding result than that offered by Roon. And while there are other permutations possible with the latter when playing around with streaming and upsampling, for example involving the HQPlayer add-on, the Aries G2.2 nearly always offered the best result. Its ease of use

also meant I was focused on the music, not fiddling around with options (nor complaining about network stability, as is the case when upsampling happens on a server and a large stream must be transported over the local network).

Swapping out T+A's DAC200 for the M6x DAC from Musical Fidelity required no more than changing over the cable. In that sense, the Aries G2.2 is a bit like Switzerland: it'll work with virtually anyone. Twice I listened to Francesco Turrisi and Rhiannon Giddens' *There Is No Other* [Nonesuch Records; 96kHz/16-bit], once with the DAC200 and once with the M6x DAC. This album mixes a lot of eclectic instruments and musical traditions, so if you want to listen intently, there's plenty to focus your hearing on.

VIVE LA DIFFERENCE

The Aries G2.2 brought out the two DACs' respective characters: detailed and crisp for Musical Fidelity's model, transparent and exact for T+A's. The percussion in the lively background on 'Little Margaret', for example, was a shade more expansive and natural via the DAC200. Determining differences between D/A converters is always challenging, but I felt the Aries G2.2 was aiding the investigative process, not muddying the waters.

Upsampling low-quality source material can be tricky, but when streaming MP3 renderings of Luka Bloom's *The Platinum Collection* [Rhino Records; 8122-79993-3] via Amazon Music, the Aries G2.2's processing came to the fore. Even though I was playing lossy 192kbps encoded files, the semi-acoustic guitar on 'Dreams In America' or the fiddle on 'You Couldn't Have Come At A Better Time' sounded pretty close to excellent. Listening to the same tracks from local files on a NAS was more satisfying, as dynamics and very high-frequency detail sounded more authentic. Nonetheless, the Aries G2.2 offered a very good performance

despite the lacklustre file quality. Ultimately, the mission of a digital transport is twofold: ensuring you can find and play your music with as little hassle as possible, and delivering a digital feed to whatever DAC you've chosen in the best quality. Logically, this last requirement means an ideal digital transport is transparent and lets the rest of your music system get on with it. This is what the Aries G2.2 sets out to achieve, and succeeds – unless you wish differently.

ABOVE: Hidden under the top-plate and screening the digital electronics within is a separate nickel-plated copper enclosure



HI-FI NEWS VERDICT

There's no beating the Aries G2.2's flexibility. It will let your DAC shine, allowing you to get on with discovering new music through the slick Lightning DS app. Or it can become a powerful sound processing tool in your quest for ultimate reproduction. Whatever your use case, Auralic's dedication to updating means the Aries G2.2 is an investment in sound quality that promises long-term listening gains.

Sound Quality: 87%

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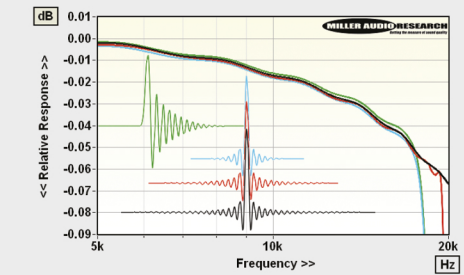


ABOVE: Digital only – the Aries G2.2 offers wired/wireless network control/streaming inputs plus access to more music via internal and external (USB) drives. DSD512 and 384kHz outs are on USB-A, I2S (via HDMI) and DSD64/192kHz on Toslink, coax and AES

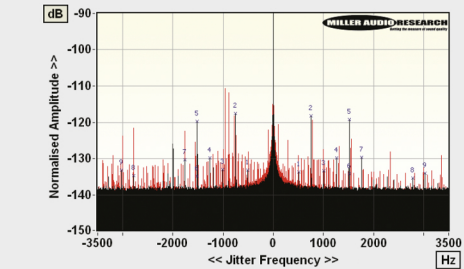
LAB REPORT

AURALIC ARIES G2.2

In common with the predecessor Aries G2.1 [*HFN* Feb '21], Auralic's Aries G2.2 is not only a network-attached music storage device but also includes a deal of proprietary signal conditioning. This takes the form of upsampling and/or downsampling up to 8x the base 44.1kHz/48kHz sample rates to a maximum of 384kHz and DSD1024, depending on how the USB interface reports the capability of the attached DAC back to the Aries G2.2. Numerous digital filter algorithms are embedded in the code, many tied to a specific sample rate, and these are broadly represented as four user-selectable options. Comprehensively re-tested here with the Mytek Brooklyn DAC [*HFN* Aug '17], the Aries G2.2 shows no substantive difference in filter performance over the G2.1 – 'Precise' remains a very long-tap, linear phase FIR filter that offers the flattest responses (–0.07dB/20kHz) and best stopband rejection (up to 132dB) at the expense of extended pre/post 'echoes' in the time domain [black traces, Graph 1]. 'Dynamic' and 'Balance' are also linear phase filters albeit with reduced taps/ringing, traded for 130dB/71dB stopband rejection and in-band cut-offs of –0.8dB and –2.3dB/20kHz [red and blue traces, respectively]. The only minimum phase filter, 'Smooth', has no acausal echoes, a 71dB stopband rejection and almost identical HF roll-off to the 'Balance' option [green traces, Graph 2]. Jitter, tested with four USB DACs, is unaffected by choice of digital filter. AudioQuest's DragonFly [*HFN* Mar '14] enjoyed a halving of jitter from 300psec (PC interface) to 131psec [see Graph 2] while the repeating ±33/66Hz/99Hz sidebands seen from iFi Audio's NEO iDSD [*HFN* Mar '21] were reduced from 550psec to just 6psec here. Finally, both the dCS Vivaldi One APEX and Mytek DACs provide full galvanic isolation/onboard reclocking, so very little difference in their inherent ~10psec jitter was detected. As usual, budget/hub-powered DACs are seen to benefit the most. PM



ABOVE: Treble (zoomed, 5kHz-20kHz) and impulse resps. for Mytek Brooklyn DAC via Aries G2.2 (Precise, black; Dynamic, red; Balance, blue; Smooth, green)



ABOVE: 48kHz/24-bit jitter spectra from AudioQuest's DragonFly (via Aries G2.2, black w/mkrs; via PC, red)

HI-FI NEWS SPECIFICATIONS

Digital inputs	Wired/wireless Ethernet; USB-A
Digital outputs	USB 2.0; Toslink; Coax; AES; I²S (HDMI)
Digital jitter (AQ DragonFly)	131psec (300psec via PC USB)
Digital jitter (iFi Audio NEO iDSD)	6psec (550psec via PC USB)
Digital jitter (Mytek Brooklyn)	9psec (10psec via PC USB)
Power consumption	10W
Dimensions (WHD) / Weight	340x96x320mm / 10.2kg