Network-attached music library/digital server
Made by: Auralic (Beijing) Co., Ltd, China
Supplied by: Auralic Europe, The Netherlands
Telephone: 075901 06105
Web: www.auralic.com
Price: £4200 (£4600 with 2TB storage)

AUDIO FILE

hi-fi news OUTSTANDING PRODUCT

Auralic Aries G2.1

Now housed in a 'chassis within a chassis', featuring an uprated USB interface and slicker Lightning OS, Auralic's G2.1 series kicks off with the Aries streaming transport
Review: **Andrew Everard** Lab: **Paul Miller**

At first glance, Chinese company Auralic's range looks baffling, such is the choice of similar-looking units – and it's becoming more so with the arrival of new 'second generation' G2 models, confusingly distinguished by the addition of a '.1' suffix on its product designations. In the new lineup there's the Vega G2.1 streaming DAC, at £5999, the Sirius G2.1 upsampling processor at the same price, the £7999 Leo GX.1 master reference clock, and the product we have here, the £4199 Aries G2.1, described as a 'Wireless Streaming Transporter'.

The Aries G2.1 is for those who already have a high-quality DAC in their system but want to add extensive network audio capability. This is an all-digital device, with outputs on USB, coax, optical and AES/EBU, plus an HDMI port hosting a proprietary Lightning-Link (not to be confused with Apple's Lightning connector) which offers a clock-synchronised audio connection as well as system control, direct to the company's other units.

EVERYTHING ON TAP

As well as its network capability, it can also play content stored on USB drives. It's also possible to play, or rip from, an external USB CD drive with optional internal 2.5in HDD or SSD stores installed inside the Aries G2.1 by way of creating an integral library. Networking is achieved via Gigabit Ethernet and tri-band Wi-Fi, with two antennae being provided for the latter. My time with the Aries G2.1 suggests there's no sound quality difference between wired and Wi-Fi connections, but if you have a fairly busy wireless environment in your home then I'd opt for the wired Ethernet for hi-res audio.

Neither is there any shortage of format compatibility here. The Aries G2.1 will handle the lot from 384kHz/32-bit to DSD512, although of course these upper limits are only available when connecting to a suitable DAC via the USB port or the Lightning-Link into an Auralic DAC. The limitations of the S/PDIF outputs mean they can't handle these higher-rate formats, though it is possible to output DSD64 converted to PCM in the DoP format, and the unit will also downsample higher rate PCM if the DAC is limited to, say, 192kHz.

It's worth noting here that, unlike some similar products whose 'enhanced' digital output, courtesy of onboard digital signal processing, is only available on a specific connection – such as Grimm Audio's MU1 [*HFN* Dec '20] – the Aries G2.1's onboard processing feeds all its output options.

Compatibility with MQA is claimed, with the caveat that 'Auralic streaming devices are capable of decoding MQA files using Auralic's proprietary resampling and de-blurring method. This technology is not an MQA-created or MQA-licensed process. Auralic has no official relationship with MQA and its allies'. Er, right – so it does it, but not officially, and if you're minded to read more on the background to all of this, click through to *us.auralic.com/pages/auralic-vs-drm* for a fuller explanation of the company's beef with MQA.

GOOD TO GO

There's no such qualification on the Aries G2.1's Roon-ready certification. Auralic is front and centre on the Roon Labs partners list, so all you need is a Roon Core on your computer or a standalone device, and you're good to go. Neither does this unit shirk on the streaming front, for in addition to its ability to play music from a shared folder or UPnP/DLNA server on the home network, it can also handle Tidal, Highresaudio and Qobuz Sublime+ streaming services, plus Internet radio, AirPlay, Bluetooth and Songcast.

The company's latest version of its Lightning OS is just part of the enhancements involved in the creation of this '.1' design – at the heart of this new model is the latest generation of the company's hardware platform, Tesla G2, which offers twice the processing power of, and is 50% faster than, the original version.

RIGHT: One linear PSU [top right] feeds an Intel Tri-Band Wi-Fi/BT module [lower right], XMOS USB solution [lower middle], Cirrus CS8406 digital transmitter and clocks on the 'Tesla' PCB. Second PSU feeds display and storage [top centre]

In addition to this, the new model uses a double-layer enclosure, with an inner layer of copper within the aluminium outer, and a high-mass base on multi-spring isolation feet [see pic, p59]. Also new for the '.1' is greater power for the USB HDD connection, in order to allow it to work with more storage devices, an enhanced USB DAC compatibility plus improved galvanic isolation to keep noise at bay. The latter is comprehensively applied on the unit's mainboard where the clock, digital transmission and main processor sections are all isolated.

All this has been achieved for a relatively minimal price increase over the G2 model – the Aries G2.1 is £300 more expensive.

> 'Like stumbling into a killer pub gig on a Saturday night'

What's more, existing owners of Auralic equipment wanting to match their older components can take advantage of the company's offer to build the new model into its old-style casework if required.

The Aries G2.1 retains other elements of the G2, notably the use of 'dual Femto' clocks ostensibly to reduce jitter – one of which is dedicated to the AES/EBU, coaxial and optical outputs, the other to the USB controller. Meanwhile, dual 'Purer-Power' linear power supplies are employed, one for the processor, display and storage, and the other for the unit's clocks and USB output.

SURE-FOOTED

The Aries G2.1 was pressed into service with a variety of DACs, using all of its various digital outputs, and while minimal differences were heard with the digital filtering options, as ever the effect of these was subtle enough to be a matter of personal preference rather than the cause for any kind of 'use this one for the best sound' imperative. Indeed, one might find that different settings are favoured for each digital 'source', not to mention for specific recordings, but that way madness lies. I'd suggest some limited initial experimentation is worthwhile to determine the setting best suited to personal taste and the system with which the Aries G2.1 is being used, and then the filter settings can be ignored.

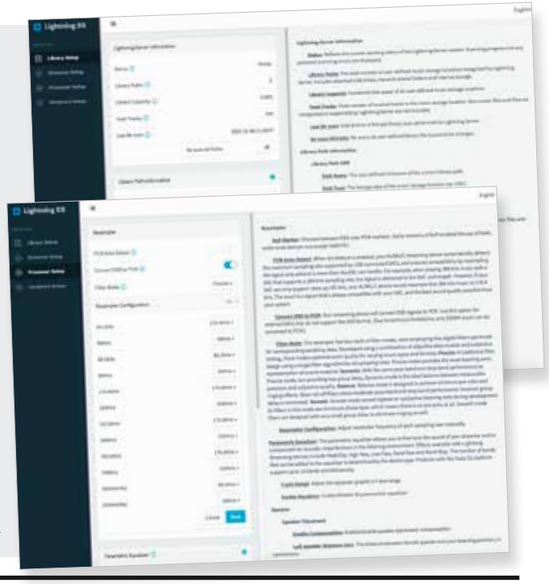
ABOVE: The 4in TFT display reveals the library of albums/songs available or in play (inc. cover art) in addition to allowing the user to navigate the comprehensive system/set-up menu

For the majority of my listening, I settled on what might look like a slightly unbalanced system, but one which proved excellent in the role, with the Aries G2.1 feeding an iFi Audio NEO iDSD DAC/headphone amp/preamp [scheduled for *HFN* Mar '21] into my usual Naim/PMC amplification and speakers. The sound played to the strengths of all the ⟳

LIGHTNING DS

You can 'drive' the Aries G2.1 using third-party OpenHome apps on a tablet, phone or computer, Auralic citing Bubble UPnP, Kazoo and Lumin by way of example. However, this route means missing out on one of the smartest parts of the whole Auralic eco-system – its Lightning DS app, which runs on iOS devices and controls the player both elegantly and effectively. Lightning DS goes further than simply operating the Aries G2.1 for it also allows the user to control the myriad digital 'sources' the unit can deliver and gives detailed access to its various set-up and configuration options.

For example, there are the four digital filters [see PM's Lab Report, p59], plus the ability to set different upsampling regimes, and that's on top of one of the slickest day-to-day user interfaces in the business. The app also integrates the Aries G2.1 into a multiroom Auralic system, and allows access to the user's 'Auralic account'. As well as handling warranty registration, the account lets the company provide offers, as well as giving access to as-yet-undisclosed 'forthcoming features'. On the other hand, if you're a committed Android user, that third-party compatibility is invaluable in selecting albums and tracks via the Aries G2.1. In this case, changes to set-up and configuration are achieved via a browser interface using a tablet or PC [see illustrations, inset right].



ABOVE: Digital only – the Aries G2.1 offers wired/wireless network control/streaming ins plus access to more music via internal and an external (HDD) USB drives. DSD512/384kHz outs are on USB-A, I²S (via HDMI) and DSD64/192kHz on Toslink, coax and AES

components involved, for while there wasn't quite the drive, focus and taut, extended bass of my usual Naim ND555/555PS DR front-end [*HFN* Apr '19], it got close. What was beyond doubt was that switching between a computer feeding a DAC and the same converter with the Aries G2.1 in harness revealed that this dedicated 'transporter' was removing a layer or two of haze from the sound, and delivering more sure-footed, weightier bass.

PURE INSTINCT

Furthermore, this isn't one of those players demanding you only ever listen to the finest of audiophile-approved recordings. Indeed, playing the raucous, riotous *Light My Byre* by Peat & Diesel [Wee Studio, n/a cat no], the Auralic Aries G2.1 delivers all the snarl of vocalist Callum 'Boydie' Macleod, and the character of his 'turned to the max' guitar. Likewise, the unusual combination of drums and accordion have drive, pace and fine character, even in the dense sound.

The whole effect on tracks such as 'Pirates Of The Hebrides' and 'Kishorn Commandos' is one of stumbling into a killer gig in a pub on a Saturday night and not quite believing what you're hearing.

ABOVE: Hidden under the top-plate and screening the digital electronics within is a luxurious, branded copper enclosure

Pull back to the simplicity of cellist Joachim Eijlander's recent *Dark Fire* set [TRPTK TTK0056; DXD], and the immediate impression is of resolute focus on the instrument, enhanced by an entirely natural sense of space around it. While the lower strings resonate dramatically, the higher registers have a singing purity that's thrillingly lyrical.

That same sense of focus is also much in evidence with James Blake's *Covers* EP [Republic/Polydor, n/a cat no], with its simple combination of powerful voice and piano in a rich resonant acoustic. The immediacy here delivers on the promise of Blake's cover of Frank Ocean's 'Godspeed', and the multitracked vocals of 'When We're Older' sound magnificent, as does the stripped-back reading of 'The First Time Ever I Saw Your Face'. Lovely stuff.

As, too, is the way everything from streamed Tidal tracks to big orchestral works sound. The Jacob Kellermann/LPO recording of Rodrigo's *Concierto de Aranjuez* [BIS BIS2485; 96kHz/24-bit] brings familiar music up fresh, and the tightly controlled yet expansive sound the Aries G2.1 allows a DAC to deliver makes this a captivating listen, with a fine balance between the solo guitar and the sprightly orchestra under Christian Karlsen.

HI-FI NEWS VERDICT

It's always difficult to assign a score to products such as this, when how it sounds is as much a function of the partnering DAC. In this case, it's clear that the Aries G2.1 fulfils its task of letting DACs give of their best and this – plus its wide-ranging format/service compatibility and slick Lightning DS app control – make it worthy of very close consideration for use in any serious network-based audio system.

Sound Quality: 87%

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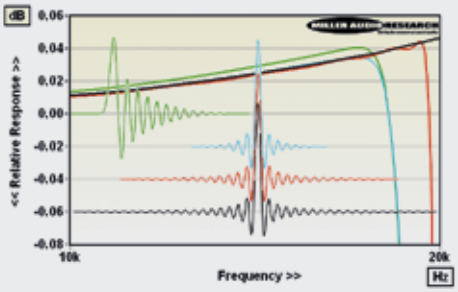
LAB REPORT

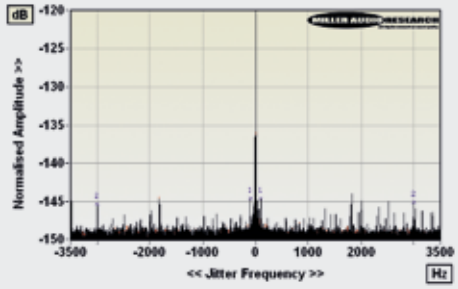
AURALIC ARIES G2.1

Auralic's Aries G2.1 is not only a network-attached music storage device but, like the recent Grimm Audio MU1 [*HFN* Dec '20], Innuos Statement [*HFN* Jan '20], Melco N10 [*HFN* Jun '19] and Roon Nucleus+ [*HFN* May '18] it also includes proprietary signal conditioning. In this case the 'conditioning' – upsampling and/or downsampling to 2x or 4x the base 44.1kHz/48kHz sample rates to a maximum of 192kHz – is offered over a choice of four digital filter types. 'Precise' is a very long-tap, linear phase FIR filter that offers the flattest responses (+0.05dB/20kHz) and most complete stopband rejection (up to 133dB) at the expense of extended pre/post 'echoes' in the time domain [see black traces, Graph 1 below]. Another linear phase filter, with fewer taps, is called 'Dynamic' and offers a similar 133dB stopband rejection and flat response, with minor ±0.002dB ripples, and reduced pre/post echoes [red traces, Graph 1]. The 'Balance' filter option trades a still acceptable 70dB stopband rejection for a slightly earlier in-band roll-off (±0.0dB/18kHz to –2.2dB/20kHz) and much reduced ringing and group delay in the time domain [blue traces, Graph 1]. The only minimum phase filter, 'Smooth', has no acausal echoes (no pre-ripples, but significant post-event ripples) combined with a 67dB stopband rejection and almost identical HF roll-off to the 'Balance' option [green traces, Graph 2].

Jitter, tested with three AES/USB DACs, is unaffected by the digital filter and is essentially defined by the choice of hardware. Similarly, the dCS Vivaldi One [*HFN* Feb '18], Mola Mola Tambaqui [*HFN* Nov '19] and Mytek Brooklyn [*HFN* Aug '17] showed no significant difference in either distortion or A-wtd S/N via either USB, S/PDIF or AES streams – remaining at 0.00005-0.00007% (0dBFs to –30dBFs) and 118.5dB, respectively, for the Tambaqui. Jitter remained <10pec via all digital interconnects via the Mytek and Tambaqui DACs [see Graph 2, below]. **PM**



ABOVE: Treble (zoomed, 10kHz-20kHz) and impulse responses for the Tambaqui DAC via Aries G2.1 (Precise, black; Dynamic, red; Balance, blue; Smooth, green)



ABOVE: 48kHz/24-bit jitter spectra from Mola Mola Tambaqui DAC fed from Auralic Aries G2.1 streamer (via balanced AES connection, black; via USB, red)

HI-FI NEWS SPECIFICATIONS

Digital inputs	Wired/wireless Ethernet; USB-A
Digital outputs	USB 2.0; Toslink; Coax; AES; I²S (HDMI)
Digital jitter (dCS Vivaldi One)	45psec (AES) / 55psec (USB)
Digital jitter (Mola Tambaqui)	8psec (AES) / 7psec (USB)
Digital jitter (Mytek Brooklyn)	6psec (AES) / 7psec (USB)
Power consumption	9W
Dimensions (WHD) / **Weight**	340x96x320mm / 9.3kg