

Micromega Aria (£3600)

With its latest Aria AirDream DAC Micromega has taken Apple's AirPlay wireless streaming to a high-end audio level. But such sophistication comes at a hefty price
 Review: **John Bamford** Lab: **Paul Miller**

Such is the march of technology that wireless connectivity of audio and video components is now commonplace in today's networked homes. Since the advent of the Squeezebox and Apple's inexpensive AirPort Express, the ability to access music stored remotely on a computer from the comfort of your living room sofa has become the norm for many music consumers. Just ask your local hi-fi shop how many Sonos multi-room systems it has sold in recent years.

Networking functionality now comes virtually free of charge in consumer electronics, modern AV receivers featuring Bluetooth or Apple's AirPlay wireless streaming – or both – as value-added features to capture a would-be buyer's attention. But does it have a place in high-end audio, where sound quality takes precedence over convenience?

Micromega clearly believes so, having first created its circa-£1000 WM-10 'wireless DAC' in early 2010. Gadget freaks may have howled with derision that a specialist audio firm should have had the temerity to take a £79 AirPort Express module, put it in a posh box with a beefed-up power supply and charge 'delusional audiophiles' a grand for the privilege. (Of course, by that same token there's nothing wrong with those free-of-charge patch cables supplied with mass-market gear...)

MOVING UP A GEAR

With its latest Aria wireless DAC Micromega has taken 802.11n Wi-Fi streaming to an altogether higher level, cost be-damned. While still based on Apple's AirPort Express module, it has been completely redesigned with independent power supplies and superior power supply regulation feeding Micromega's 25MHz master clock oscillator and the Aria's separate digital and analogue sections. To help avoid modulating the electronic circuitry with

RIGHT: Removing the case reveals independent linear power supplies with R-Core and UI transformers for Micromega's proprietary master clock and digital and analogue circuits

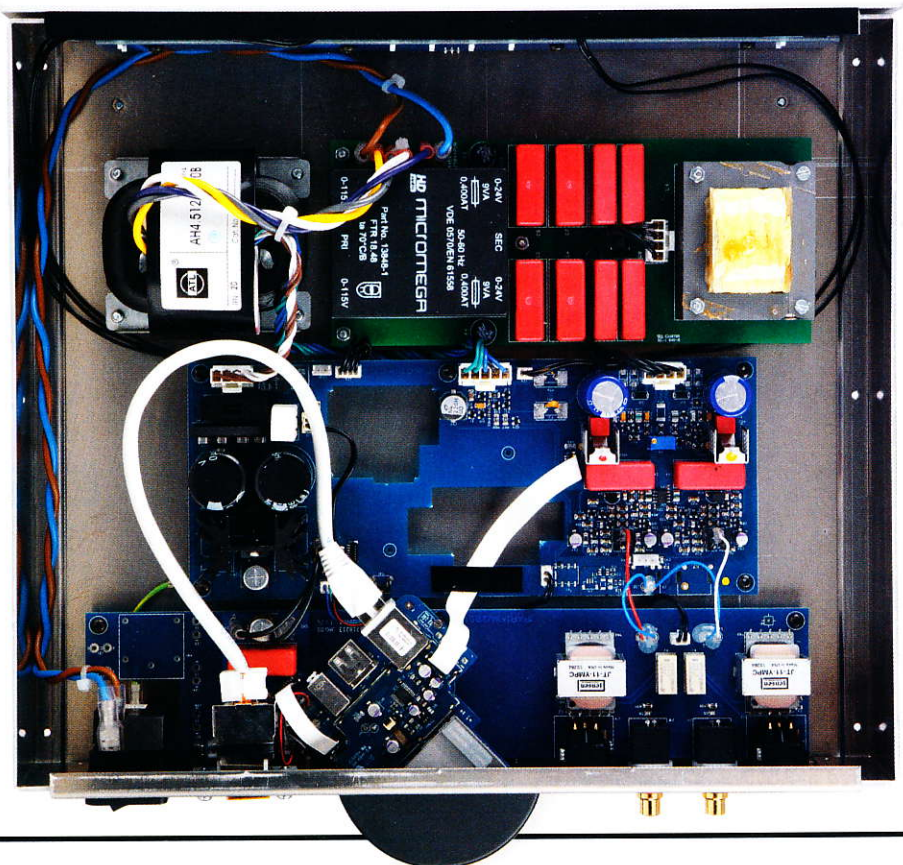
low frequency vibrations generated by these power supplies, the transformers are mechanically decoupled from the chassis using rubber mount isolators. The chassis and casework are also entirely non-magnetic, in aluminium, sandblasted and anodised to a matt black or silver finish.

Nor does the Aria employ the DAC embedded in the AirPort, instead it uses a Cirrus Logic CS4351 24-bit/192kHz-capable DAC followed by discrete JFET buffers, the D/A section being on a separate PCB connected to the shield of the AirPort module. Where the lesser WM-10 component sported only single-ended outputs the Aria's analogue output stage features Jensen output coupling transformers to provide an additional pair of XLR sockets. The WM-10's coaxial S/PDIF socket has been replaced by an AES/EBU (XLR) digital output.

Installing and setting up the Aria takes but a couple of minutes and is simplicity itself. Indeed, simplicity really is the keyword here as, out of the box, the Aria is configured to create a home network that's independent of your router. Used as such, with your music and internet data on separate channels, it won't be taking any bandwidth from your primary home network and you'll never experience audio dropouts when listening to music while another family member is attempting to stream hi-def IPTV! However, this does suppose you're dedicating a computer to audio, otherwise you'll constantly have to 'switch networks' when choosing to play music or access the internet.

RESOLUTION LIMIT

Should you wish to re-configure the Aria to share your existing Wi-Fi network, thereby





allowing access to internet radio stations too, instructions on how to do this (using Apple's AirPort Utility) are available on Micromega's website.

If you're managing and playing music files using iTunes, whether on a Mac or PC, it really couldn't be more straightforward. Owners of Wi-Fi-enabled iPods, iPhones and iPads can also 'push' music directly to the Aria literally at the touch of a (soft) AirPlay button. Furthermore, as any Mac fan will show you with considerable glee, Apple's free-of-charge 'Remote' app allows you to use your iDevice as a touch-screen remote controller (showing cover art as well) for your iTunes library – wherever it might be located.

While its plug-it-in-and-off-you-go simplicity is heavily geared towards Apple's eco-system, remember that you don't have to use iTunes as a music player [see boxout]. But if you're an audiophile who is being dragged into a brave new world of computer audio thanks to the availability of high resolution digital audio downloads, the Aria AirDream is not for you.

Because it relies on Apple's AirPlay wireless transmission protocol, its capability is limited to CD's 16-bit/44.1kHz audio quality. Any hi-res downloads you've

collected on your hard drive will be truncated and downsampled.

A REFINED SOUND

Feeding the Aria a wholesome diet of uncompressed WAV and AIFF source files revealed a sonic signature that majored on 'caution', possessing a refined smoothness and fairly warm tonality that tended to tame raucous recordings and allowed for prolonged, fatigue-free listening. Play

some well-recorded tracks from any iDevice (I have a 32GB iPhone 4) and you'll amaze your audiophile friends with the refined quality of sound that a mobile 'phone is capable of delivering via the AirDream. In fact if they

walked into the room and you didn't tell them what you were playing, there's little chance they would ever imagine that you weren't playing music via a refined and sophisticated CD player.

Through the vital midrange and up into the high treble the Aria is even-handed and sweet-tempered. Throughout my extensive listening, mostly via iTunes and a Mac mini, one phrase kept coming to mind: smooth and natural warmth. Not all that long ago it would have been unthinkable to describe the sound of recordings sent wirelessly from a computer – and auditioned through

'The sound was wholesome and organic: far from stark or clinical'

ABOVE: Front panel logos illuminate merely to show functionality, with no indication of track playing. Three brightness settings are available by moving a jumper beneath the fascia

a high-end audio system at that – with such a phrase, much less from a mobile 'phone or tablet. But there you have it. Via the AirDream the sound has a natural, unforced and easy-going presentation that shines through from all manner of recorded material, its performance treading a fine line between being revealing enough to bring details to the forefront while ensuring that dynamically compressed rock and pop material remains mostly listenable.

Where critical listeners with highly revealing systems might censure the sound is its bass character, in particular the upper bass/lower-mid, which errs towards fullness and warmth rather than crisp, taut precision. With the foot-stomping electric rock version of the track 'Muddy Water Blues' from Paul Rodgers' album of the same title [Victory Music 828 414-2] the Aria threw out a huge soundstage, wide and deep with good layering and separation. But the bass seemed a tad 'slow' and lazy, lacking the definition and clarity one might expect from a first-class CD front end. Still, the sound was wholesome and organic – far removed from the stark, clinical effect of reconstituted digital bits that so often comes when playing music via unsophisticated digital electronics, or a straight-out-of-the-box computer audio set-up.

The scale and majesty of Hans Zimmer's score for the movie *Inception* [Reprise 9362-49650] sounded heroic, the composer's signature four- to eight-chord round building menacingly from a subtle breeze to a force eight gale. The Micromega reproduced the dynamic swell of the orchestra without introducing any stress or hardness, avoiding the glare caused by compression in the recording's rather 'electronic' production. Again, it was the Aria's forgiving nature that ☺

NOT JUST FOR ITUNES

You don't *have* to be a Mac fanatic to buy into the concept of Micromega's Aria AirDream or the company's WM-10 AirStream that preceded it. Nor are you locked into Apple's eco-system and forced to use iTunes to manage and play your digital music library. As ever with computer audio there are 'workarounds', such as Rogue Amoeba's \$25 software utility dubbed Airfoil [see www.rogueamoeba.com]. This allows alternative media players – Windows Media Player, VLC, J River Media Center, Winamp and foobar2000 to name the most popular – to play out wirelessly to an AirPlay receiver. While you will still be limited to CD-quality playback, of course, due to AirPlay's wireless transmission protocol, this does at least circumvent iTunes' current inability to play certain file types such as RealAudio and those encoded using the Free Lossless Audio Codec (FLAC).

STREAMING MEDIA PLAYER

MICROMEGA ARIA (£3600)

While it is not mandatory, many enthusiasts will still be routing their media files via iTunes to best avail themselves of the Aria's host AirPort base station. The Aria was lab tested in the same fashion using uncompressed (WAV) files broadcast over an 802.11n wireless network via an AirPort Extreme card fitted to a new (late 2011) MacBook Pro (2.2GHz/i7, Mac OS X Lion 10.7.2). Having learned lessons with its AS-400 AirPort/Class D amplifier combo [HFN May '11], Micromega has equipped the Aria with multiple, isolated power supplies and this is reflected in the usefully wide 106dB A-wtd S/N ratio. This is as good as might be expected from a conventional CD player equipped with a CS4351 DAC, and rather better than Micromega specifies as, I might add, is the 2V/85ohm output which is better at driving longer interconnects than its 600ohm rating (balanced and single-ended) might suggest.

Distortion is highest at peak output only at the frequency extremes – 0.24% at 20Hz/0dBfs and 0.007% at 20kHz/0dBfs – but holds to 0.003% through the midrange and achieves a minimum of 0.0008% between –10dBfs and –20dBfs [see black trace, Graph 1, below]. THD+N is uniformly higher at high frequencies thanks to the contribution of the DAC's ultrasonic requantisation noise, peaking at –80dBV at 100kHz. Frequency response is otherwise ruler-flat through the audioband, crosstalk is better than –100dB and jitter an impressively low 130psec [see Graph 2, below]. Readers are invited to view a comprehensive QC Suite test report for the Micromega Aria's wireless audio performance by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Power switch is at the rear. Both single-ended (RCA) and balanced (XLR) fixed level analogue outputs are provided, and an AES/EBU (XLR) digital output

made the musical event so rewarding, the macro dynamics being dispensed with an engaging sense of scale and drama.

Where Micromega's care in the design appears to pay dividends is the manner by which it makes light work of dynamic contrasts. An early stereo recording from Kingsway Hall of Chabrier's *España*, performed by the LSO conducted by Ataúlfo Argenta [Decca 466 378-2], begins calmly enough with plucked strings, but ebbs and flows dynamically throughout its entirety. Here I was made aware of the Aria's ability to recreate light and shade, both in tempo and volume, the vigour of the performance being served up with commensurate power and energy – and delicacy where required.

While I've described the tonality as warm and smooth the Aria doesn't sound thick or syrupy, so you could still hear deeply into the recorded image to observe subtle details of delicate harp and triangles in the orchestration.

AS GOOD AS IT GETS?

I couldn't help but smile at a statement in Micromega's user guide that says: 'An AES/EBU digital output is also available if required. However, it is worth noting that endless listening sessions have proved that sound quality is better when using the [analogue] stereo output.' Wha-at? Does the company really mean to imply that there's no advantage whatsoever in hooking up the Aria to any of the finest cost-no-object D-to-A converters the world has to offer? This is something you might wish to examine with your dealer if you're the proud owner of a high-end DAC.

Indeed, I experimented with a far-from-esoteric Musical Fidelity M1 DAC that, despite its modest

£399 price, sports an AES/EBU input, and certainly wouldn't claim that the M1 improved fidelity to the source. However it didn't spoil the performance either, merely changed the cosmetic presentation.

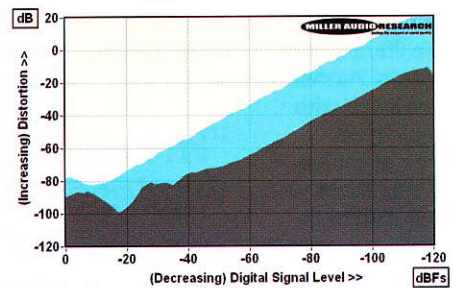
Listening to the MOR rock anthem 'Black Velvet' from Alannah Myles' eponymous album [Atlantic 7567-81956-2] highlighted the Aria's polished sophistication, where the M1 sounded more forthright and less gracious. Via the Aria's balanced analogue outputs the sound was full-bodied and luscious, with no artificial sense of separation of instruments in the mix. Through the M1 DAC the track sounded more 'squeaky clean' – the sizzle and crack of snare drum and percussion more obvious. Preference will be down to your system's overall balance.

The point is, the Aria *does* deliver extremely good CD-quality sound worthy of a fine audiophile system. It is also straightforward to install and provides a robust wireless connection. But as with exotic high-end cables and equipment supports, only you can say whether you're prepared to pay the ticket price. ⏻

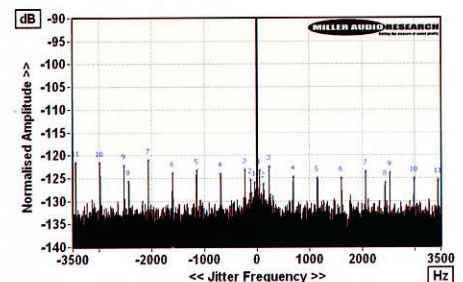
HI-FI NEWS VERDICT

Audio perfectionists might consider the concept of high-end wireless connectivity between a computer and their listening room's hi-fi system a contradiction in terms, given that it's limited to CD resolution. Nevertheless from lossless files the Aria's sound is indistinguishable from good quality CD replay, its unforced naturalness producing a result that makes it a delightful source to listen to over long periods.

Sound Quality: 78%



ABOVE: Distortion versus digital signal level over a 120dB dynamic range using 16-bit CD data at 1kHz (black) and 20kHz (blue)



ABOVE: High res. jitter plot using transmitted CD data. Residual sidebands are inherent to 16-bit data

HI-FI NEWS SPECIFICATIONS

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|---|--------------------|
| Maximum output level (Balanced) | 2.04Vrms / 85ohm |
| A-wtd S/N Ratio | 106.2dB |
| Distortion (1kHz, 0dBfs/–30dBfs) | 0.0032% / 0.0041% |
| Distortion & Noise (20kHz, 0dBfs/–30dBfs) | 0.0068% / 0.063% |
| Frequency response (20Hz–20kHz) | –0.02dB to +0.02dB |
| Digital jitter | 132psec |
| Resolution @ –100dB | ±0.3dB |
| Power consumption | 14W |
| Dimensions (WHD) | 330x70x330mm |