

Aurender N200

In raw form this is a digital streamer/network bridge governed by the Conductor app, but add optional SSD storage and the N200 becomes a fully-fledged music library
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Music storage: it can be a thorny subject, not least because those network products offering internal capacity for your library tend either to have fixed, non-expandable storage, or offer the option of dealer-installed drives. The cost of such storage is usually high, too – okay, not ‘adding capacity at time of ordering your new Apple computer high’, where an extra Terabyte can cost you £400, but still at prices to have you looking at HDDs on the likes of Amazon and scratching your head.

Not so with the Aurender N200, available in silver or black at £6700. As supplied it has no storage capacity aside from the 240GB NVMe SSD used for caching music for playback, of which more later. Instead, two slots on the rear take 2.5in HDDs or SSDs, installed by the user to suit their needs. And that’s a good thing for two reasons: one is that you can buy your own drives at sensible prices – think just over £100 for a 1TB Samsung SSD, less if you go for the likes of a Seagate Barracuda HDD – and the other is that Aurender has made it simple to install the storage.

TAMING OF THE SCREW

In fact, armed with a Samsung SSD, I was so delighted with the speed and ease of installation that I took it out again and timed myself at less than a minute to fit it once more. Switch off the N200, undo two thumbscrews on the rear panel, slide out the tray, drop in the drive – the N200 will take any 2.5in storage up to 7mm thick – then slide the tray in and do up the screws. Power up again and job done – the N200 will format the storage if required, and you’re good to play. No tools, no fiddling with tiny screws you’ll inevitably drop – that’s all there is to it.

Clearly the Korean designers of this music streamer/server have got things

thoroughly thought through, and in the N200 they’ve further refined a design we’ve admired before, for example in the £19,000 A30 CD ripper/player/server [HFN Dec ’19]. The N200 may be half the price of that monster high-end unit, but it gives away little apart from an optical disc-drive. Its design and audio capability have been substantially revised for this relatively compact model, from the mainboard processor to the PSU, which even has its own uninterruptible super capacitor provision, allowing an orderly shutdown in case the mains fails. See what I mean about thinking things through...?

However, Aurender’s N200 isn’t quite the complete one-stop shop. For a start it has no built-in digital-to-analogue conversion, and so needs to be used into either a suitable DAC – it has outputs on USB and coaxial S/PDIF – or an amp/preamp

with onboard conversion. And while it comes with a simple quartet of front-panel controls, operation via the Aurender Conductor app is much slicker [see boxout, p73] and also makes over-air firmware updates a breeze.

THE INSIDE STORY

At the heart of the N200 is a new low-power Intel Quad-Core processor, low-noise linear power supply and increased system memory for smoother operation. The rear-panel Ethernet connection, adjacent to two further USB ports to which external storage can be added, is double-isolated to keep network noise at bay, and the whole thing is poured into a high-quality machined aluminium housing with a large, bright, clear display.

Aurender’s player is built around the principle of caching music on its way to



RIGHT: Multiple linear PSUs [top left] serve the Intel Quad Core-based mainboard [under heatsink], 240GB NVMe cache for music playback, and optional SSD/HDD storage [right]. A super capacitor [bottom left] serves as a UPS



the output, using that 240GB internal SSD to avoid any glitches or drop-outs whether playing from (your) internal hard-drives, external USB storage or online services such as Qobuz and Tidal, both of which are supported here. In fact, once music is summoned from internal or external drives to the cache, the ‘supplying’ drive is idled to optimise audio performance.

I’ve already mentioned that the N200’s linear PSU is backed-up by a super capacitor UPS to cover any mains failures. Having had more than one device of this kind ‘bricked’ by a power outage in the past, that seems like a sensible provision, along with the gentle shutdown procedure the unit executes when turning it off. This is, after all, a computer at heart.

You could, of course, use the N200 simply as a means of accessing streaming services, where I have to say it sounds very good indeed, even if £6700 is quite a lot of expense just to listen to your playlists on Qobuz or Tidal (for which MQA decoding is available as an extra-cost download add-on). However, like all its products, the N200 isn’t Roon-compatible, Aurender

saying that ‘Roon is a very CPU-demanding piece of software, and our servers are intentionally designed to be minimalistic where processing is concerned’. The company believes this is ‘a big reason why your Aurender sounds so good’, adding that its own playback software is custom engineered and tailored to its hardware. You can, however, ‘cast’ to the player from

a Roon installation, though this is via AirPlay and thus really only designed for casual listening.

The intention here is that you use the N200’s optional internal storage capacity to house your complete music library. A couple of

2TB drives should give you plenty of space for 15,000+ albums in CD-quality FLAC, or almost 2000 in 192kHz/24-bit, and they can be loaded to those drives by simple copying from USB storage. Alternatively you can access the N200 over a local network and drag content to its drives from your NAS library – this can be a little slow but works well in the background while you listen!

Otherwise, there is a simple ‘copy from NAS’ routine built into the player, but this

‘...chilling and ominous, with a real sense of menace’

ABOVE: Full-colour 6.9in (1280 x 480px) LCD display offers album art/information plus system details. Menu and playback controls sit to the right, but the N200 is better driven via the app

is designed to transfer an entire library, and some 30TB of music wasn’t about to go onto the smaller-capacity drives I had installed in the N200!

PERFORMANCE PAY-OFF

Having tried a number of DACs I had to hand with the N200, I finally settled on using the iFi Audio Neo iDSD [HFN Mar ’21, and see PM’s Lab Report, p75] as the ‘bridge’ between its USB output and my Naim amplification. As with the drive installation, setup was fast and simple, and with music playing in very short order it was soon clear that Aurender’s approach to network player design was paying off.

It certainly made iFi Audio’s classy little DAC work to the best of its considerable abilities, even when streaming hi-res content from Qobuz. Pink Floyd’s ‘Hey Hey Rise Up’ single, in 96kHz/24-bit, was superbly presented with a deep, dramatic opening that then gave way to Nick Mason’s powerful drumming and Dave Gilmour’s soaring, soulful guitar. ↪

AURENDER’S APP

The way to control the N200 is using the free Aurender Conductor app running on an iPad or Android device – the ‘lite’ version for iPhone is less satisfactory, but the full version will give you complete control over the unit, from streaming your favourite subscription services to organising a library stored on (optional) internal drives. Making use of that SSD/HDD option is the slickest way to do things, as is setting your music up in playlists, but be careful not to use the ‘Consume’ mode if you want to revisit your selections, as this will delete tracks from the playlists – not your storage! – as they’re played. Once set up, with all copying handled via the Conductor interface, the app makes the N200 a breeze to use, the unit even updating automatically as music is added. Cover artwork is displayed clearly, and can be zoomed up to full-screen if required; multiple playlists can be saved; and it’s almost impossible to get lost in the app, however hard you may try! And as a final hint, go into settings and enable Critical Listening Mode: this kills the unit’s front-panel display and background functions, saving resources for optimal sound quality.



NETWORK AUDIO TRANSPORT

AURENDER N200

We've reviewed a host of network-attached digital bridge/transports which, like the Aurender N200, are not simply music storage devices. Instead, like the recent Melco N10/2 [HFN Apr '22] – and all previous 'Melcos' including the N1ZS20/2 [HFN Jun '17], N1ZS10 [HFN Feb '15], N1AH40 [HFN Aug '15] and N1ZH60 [HFN Jun '16] – the N200 is also a transcoding/signal conditioning device. Other brands/models of this genre include the Innuos Statement [HFN Jan '20], Aqua LinQ [HFN Sep '20], Grimm Audio MU1 [HFN Dec '20], Auralic Aries G2.1 [HFN Feb '21] and Roon Nucleus+ [HFN May '18]. However, unlike the Grimm Audio and Auralic network bridges, but like the Melco, Aqua and Roon transports, the N200 does not invoke its own upsampling or digital filtering when converting between network and USB or S/PDIF data formats. Data buffering (reclocking/'de-jittering') and delivery from a very low-noise source, with very low levels of circulating RFI, is the focus of Aurender's 'high performance caching music server'.

Performance differences are best inferred via a third-party DAC and for this review I installed a 120GB Samsung EVO SSD into the N200 and compared a number of AC mains-, battery- and hub-powered DACs via both PC and N200. DACs including the Mytek Brooklyn [HFN Aug '17] and dCS Vivaldi One [HFN Feb '18] provide sufficient galvanic isolation and onboard reclocking that no appreciable difference was measured between PC and N200 'USB sources'. However, as we saw with the Melco N10/2, a significant improvement was realised with iFi Audio's NEO iDSD [HFN Mar '21] where the 550psec of $\pm 33/66/99$ Hz sidebands collapsed to <10psec [red versus black spectra, Graph 1] with the N200 as the USB source. Hub-powered DACs, illustrated by AudioQuest's DragonFly [HFN Mar '14], also typically realised a worthwhile suppression of circulating interference (spuriae) as well as correlated jitter [see Graph 2]. In this instance, 95% of spuriae was eliminated while jitter was halved. PM



ABOVE: The N200 includes an isolated Gigabit Ethernet port, two USB-A 3.0 hubs for outboard drives, and two bays [above] for user-installed 2.5in SSDs or HDDs. Outputs are on USB-A 2.0 (to 384kHz/32-bit; DSD512) and coaxial S/PDIF (to 192kHz/24-bit)

With that single track I was almost convinced by the viability of streaming as a music source, the N200's handling levelling the playing field between this method and the download I'd previously purchased. Mind you, it also put on a rewarding show with a BBC Radio live concert recording in 320kbps/m4a, delivering the dynamics and detail in splendid fashion, and giving a real sense of the concert hall ambience in the first part of Bach's *St Matthew Passion*.

LUCKY ME

But enough of the not-so-casual listening during setup and familiarisation: with the piano and electronica of the soundtrack from John Carpenter's *The Fog* [Silva Screen FILMCD 342] the N200 made those deep chords and ambient effects – all performed by the director – chilling and ominous, with a real sense of menace.

The same held true for the live version of Nick Cave's 'Where The Wild Roses Grow' from Kylie Minogue's *The Abbey Road Sessions* set [Parlophone P015 0232], made all the more disturbing by the simple accompaniment and the contrast between Minogue's voice and Cave's. Mind you, on this album Minogue can even tingle with her slow-burn, string-accompanied take on 'I Should Be So Lucky' when played through this system!

Just as powerful was Mitsuko Uchida's recording of Beethoven's 'Diabelli Variations' [Decca 4852731; 192kHz/24-bit], in which the N200 revealed even the slightest touch of finger on key as well as the complexities and intricacies of the writing. Meanwhile, the speed and definition of the sound here – even in the complexity of the Variation 33 fugue, with notes tumbling over each other – was quite breathtaking.

This characteristic was also readily apparent in another fugue, the massive piece concluding Britten's 'Young Person's Guide To The Orchestra', in the Michael Stern/Kansas City Symphony *Britten's Orchestra* recording [Reference Recordings RR-120SACD; DSD64] This is one of my go-to test pieces, and remains hugely enjoyable even on repeated listening. Through the Aurender/iFi Audio combination the instruments sounded wonderfully well-shaped, and the drama of the crashing finale is of a quality to have you turning it up and listening again.

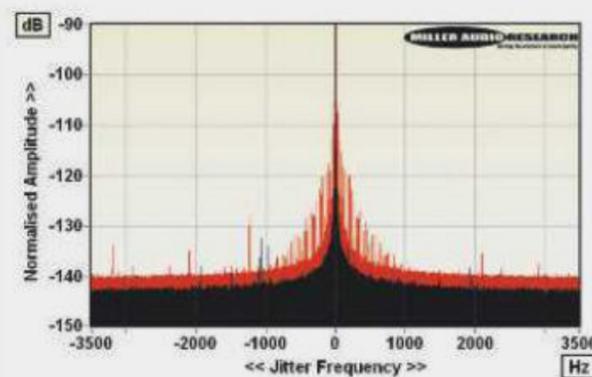
MAXIMUM REWARD

That combination of speed and full-fat sound also served well a wide range of music, from the exuberant jazz of the McCoy Tyner/Freddie Hubbard Quartet on their *Live At Fabrik Hamburg 1986* set [Jazzline D77100] to the full-on blast of The Red Hot Chilli Peppers' 'The Heavy Wing' [*Unlimited Love*; Warner Records 093624880646]. Whatever the music, the minimal time you'll need to spend getting used to the way Aurender's N200 does things will be richly rewarded. ⏻

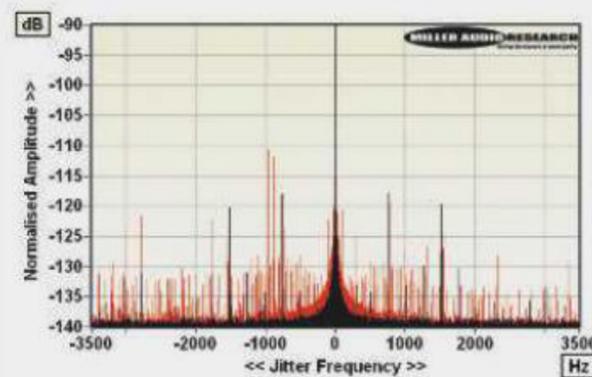
HI-FI NEWS VERDICT

In common with most server/streamer components, the N200 has its own idiosyncrasies and will take a little familiarisation. Nevertheless, its combination of performance and sensible approach to adding user-defined hard drives makes it a highly attractive prospect, and one that rapidly becomes a delight to use. In fact, even if you only ever use it with online services, you're likely to be delighted by what it can do.

Sound Quality: 88%



ABOVE: 48kHz/24-bit jitter spectra from iFi Audio's NEO iDSD DAC (via Aurender N200, black; via PC, red)



ABOVE: 48kHz/24-bit jitter spectra from AudioQuest's DragonFly DAC (via Aurender N200, black; via PC, red)

HI-FI NEWS SPECIFICATIONS

Digital inputs	1x Ethernet; 2x USB-A 3.0
Digital outputs	1x USB-A 2.0; 1x S/PDIF
Digital jitter (Mytek Brooklyn)	10psec (8psec via PC USB)
Digital jitter (iFi Audio NEO iDSD)	9psec (550psec via PC USB)
Digital jitter (AQ DragonFly)	150psec (300psec via PC USB)
Power consumption	14W (3W standby)
Dimensions (WHD) / Weight	330x96x355mm / 9kg