

Innuos Nazaré

music server

Alan Sircom

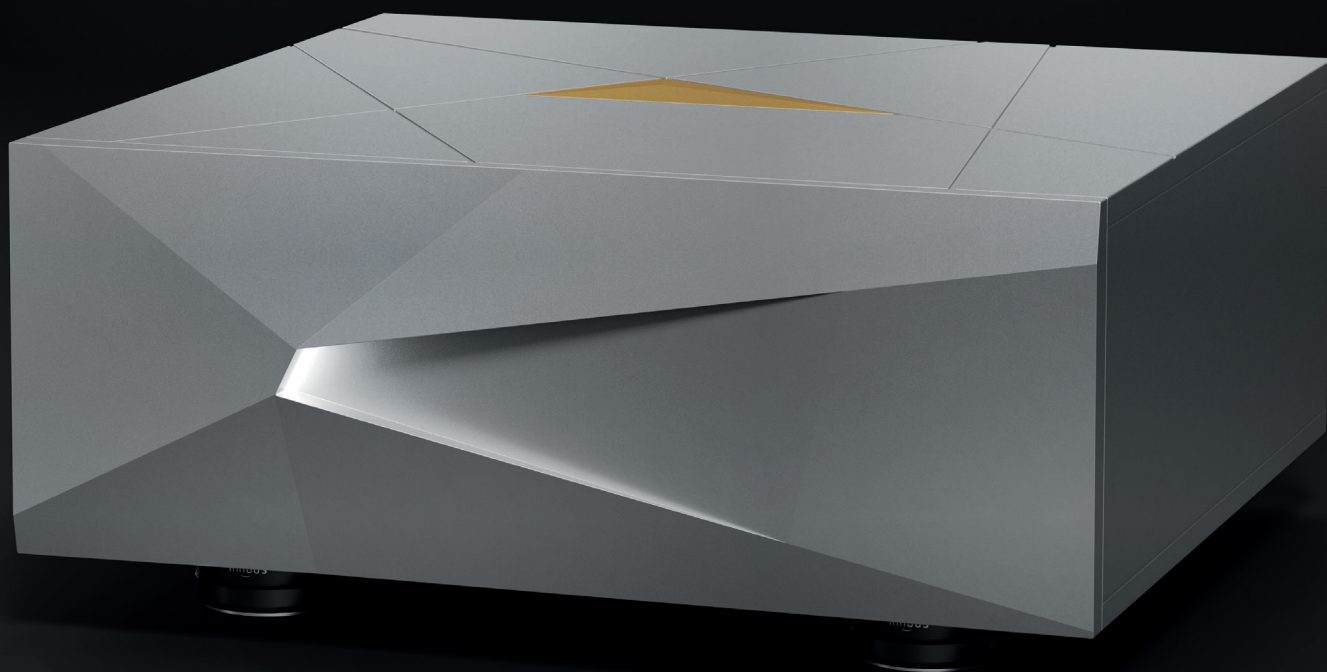
We have looked at many Innuos servers, streamers, and network-side devices over the years. Precisely none of which prepares you for the power of Nazaré. The new flagship from Innuos sees the brand shift into high gear. In the process, Nazaré take one of the brands with the longest experience in producing servers and places it at the forefront of the high-end revolution that has finally seen a move away from physical disc.

Anyone following the fortunes of super- and ultra-high-end audio will note that it's only been in the last few years that CD and SACD discs had finally been challenged for their digital top-spot. Spinning polycarbonate is still a force to be reckoned with in this select group, but now more as a one-time carrier to be ripped and stored rather than a disc to be played. This contrasts with music lovers where the air is less thin, who have long since adopted stored and streamed audio as their digital mainstays.

It's more than just snobbery and one-upmanship that prevented the top tier from fully grasping the digital nettle. It was an understanding that everything matters. Every high-end turntable enthusiast can hold down a week-long conversation about cartridge compliance. All owners of a multi-box CD/SACD player have tried dozens of cable, platform, grounding and even aftermarket fuse options. But in networked systems, the jury was still out. Can packetised data be affected by the choice of cable, is there something else at play, or is it all just nonsense on stilts? Do we need a server anymore? Isn't it just a computer... why not just buy an off-the-shelf PC?

It all matters

As it turns out, it all matters! And that's where Nazaré comes in. Innuos started the whole Nazaré project from the position of 'it all matters' and applied that thinking to every component, system and subsystem of an Innuos server. The result is big and heavy because anything else meant compromise. >>





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» Nazaré was shown in prototype form at the last Munich High-End, and it's taken almost a year to get here. That's not strictly true; Nazaré has been in regular production for several months, but Innuos can't build them quickly enough to meet demand. The name comes from Portugal's Nazaré Canyon. The story goes that Innuos Director of Research and Development Nuno Vitorino and the design team wanted the new server to reflect the company's Portuguese heritage and for that to be integral to the industrial design. The front panel represents that canyon and the side-mounted vertical light represents Farol da Nazaré atop the cliffs at the Forte de São Miguel Arcanjo; the lighthouse that stands resolute against that elemental force. Innuos also adds that, "Just as the lighthouse stands firm against the spray of the Atlantic, the Nazaré's internal components are shielded from the 'spray' of electromagnetic interference (EMI) and vibration by this massive, fortress-like construction." That might sound a touch pretentious at one remove, but after trying to lift a Nazaré and hearing what it can do... maybe they've got a point.

Specific asymmetry

Of course, in the spirit of everything matters, that front panel isn't just there as a spot of topographic industrial design; it's designed asymmetrically specifically to help mitigate standing waves and internal structural resonance. As are the asymmetrical panels that form the sides and top panels

of the outer shell of the Nazaré. No two panels are the same shape on the Nazaré top plate, the logic being that any resonances in one panel cannot contribute to any other. Everything is CNC-machined aerospace-grade aluminium of varying thicknesses, and the whole chassis sits on special IsoAcoustics decoupling feet, meaning the entire outer shell of the Nazaré creates a 'mechanical ground.' And we're not done with the Nazaré Canyon parallels; a 'wave' motif is subtly integrated into the heat-sinking and the contouring of the metalwork.

Behind that metalwork is a very different server to anything Innuos has made before. Also, directly behind the outer case is a lot of TONEO damping material. In addition, all previous and current Innuos models have components like the Ethernet connector and USB subsystem on the same main board. Now, the main board is stripped down to just the processor, memory and storage. Everything else is made by Innuos to perform with as little compromise or intrusion as possible.

The methodology here is all to create as little noise as possible. By turning off noisy components and having as direct a path as possible, and then regenerating the signal in stages that are cleaner step by step. It is an architectural approach to electronics, where each section resides in its own 'room' within the fortress, ensuring that the delicate digital pulse is never corrupted by the heavy lifting of the CPU.



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» That fortress approach extends to the power supply for the main board, as well as to separate power supplies for the inputs and outputs. These use two 400VA toroidal transformers, which goes some way to explaining why a server looks as big and feels as heavy as a power amplifier. Each power supply has four separate rails, and everything from the plug socket outwards runs from its own power supply.

Naturally, the same approach used in the Nazaré's architecture extends to mitigating the effects of jitter. This is why the Nazaré employs a proprietary Oven-Controlled Crystal Oscillator (OCXO) clocking system. These clocks are kept at a constant temperature to prevent frequency drift, ensuring a level of precision measured in parts per billion. In the Nazaré, this clock is located mere millimetres from the Ethernet and USB outputs. This 'short-path' methodology minimises the opportunity for the signal to pick up noise between the clock and the exit point.

Supremely easy

It's supremely easy to hook the Nazaré up, as there aren't many options to play with. Just add a power cord, an Ethernet cable connecting the Nazaré to the outside world and a USB to a DAC of sufficient quality. You turn it on and off by pressing a touch-sensitive panel beneath the centre of the front panel. If you've used an Innuos device, you already have the Sense app, and once the Nazaré is in the system, a search of the network will find

it. That's it. Job done... for now. Of course, NazaréNET may well do the same to an Ethernet connection as Nazaré does to the server, and the NazaréFLOW will likely reclock your USB signal way better than the Nazaré on its own, but they are for another day, as they weren't available at the time of the review.

The Sense app is not simply a throwaway part of the Innuos Nazaré; it's more like the app-shaped front-end of Innuos' Sense operating system. Why this matters is Sense actively creates a quiet environment, avoiding all the background checks and balances that undermine performance. This is no small problem, even if modern computers have sufficiently processing speed to make such heavy lifting easy; tying up the CPU in handling thousands of little background tasks, while the app is constantly interrogating the server often has a profound influence on the end result; the sound quality.

Instead, Innuos creates a 'quiet' computing environment within the Nazaré. Because the processor isn't working as hard, it generates less heat and, more importantly, less electrical noise. This results in a 'darker' background—a silence between the notes that allows the natural decay of a piano string or the faint echo of a recording studio to become audible.

Didn't matter

I worried that the absence of NazaréNET and NazaréFLOW would mean I was listening to half a Nazaré. Well, if that's the case, half a Nazaré is twice as good as many of its rivals. I wouldn't have been able to focus on the extra boxes anyway, as I was too busy having my standards reset by the main Nazaré. As someone who regularly uses an Innuos ZENith NG server (reviewed in Issue 247) and has used Innuos products for some time, I thought I was prepared for the change to Nazaré. After all, the move to ZENith NG from Statement NG (and to Statement NG from the original Statement) was sufficiently wide to make a clear difference. How large can the difference be? Huge!

Listening to the Innuos Nazaré almost immediately highlights the flawed thinking in assuming that you need a really top-notch system to hear the nuanced differences between two server products. Nothing could be further from the truth. I could have made the comparison on even the most humble one-box system and entry-level loudspeakers and still heard the differences between ZENith NG and Nazaré. It's the kind of difference that is so stark, it would take you longer to read this sentence than to hear what the Nazaré does. »

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» A couple of bars into 'Stoneyman' by Craven Faults [*Sidings*, Leaf] was all it took. That metronomic beat had great depth, shape and drive. The British synthesist of mystery is keeping the Berlin School flame alive with bleak, hypnotic arpeggios and doom-laden basslines that move forward and back in the soundstage. It's close to 1970s Kosmische Musik, but it's how the server deals with the synthesised sounds is key. Even the ZENith NG makes it seem a little spacey and Tangerine Dream-like, whereas the Nazaré evokes images of bleak Northern British landscapes, as it should. This is in part how the bass and those phasey sounds play out on both servers, but there's more to it than that; Nazaré sounds more 'real'... and yes, saying that of purely electronic instruments sounds like a contradiction in terms. On the Nazaré, it isn't.

Stream better

I also found that the quality of streamed music from online sources was better through the Nazaré. That came as something of a surprise. I expected music playing from the hard drive of the Nazaré to sound better and it did, more space and solidity, more air, clarity, vocal articulation, dynamic range and a tighter sense of rhythmic precision... the works. But what I didn't expect was the difference in streaming to be equally profound. I played 'God Gave Me Feet For Dancing (feat. Yazmin Lacey)' by Ezra Collective [*Dance, No One's Watching*, Partisan], and the afro-beat jazz mix is like a masterclass in 21st Century English jazz.

As the title suggests, it has to groove and groove hard. You should feel an almost impossible-to-ignore need to move, but deeper than that is the drive to walk around that music and focus on different instruments. The guitar part is particularly telling. It can be lost as just a part of the rhythmic backline of the band, but here that neo-Sebene guitar style just jumps out at you. Once again, this doesn't need a highly resolving system to show how good the Nazaré is, but the further up the audio food chain you go, the better it sounds and the greater the divide between Nazaré and 'mere mortals.'

Track after track confirmed the impact of those first two bars of music. Everything was more 'right', music was more focused, bass was fuller, deeper and yet tighter. Lyrics were more communicative and evocative. I played 'Una furtiva lagrima' by Donizetti (sung by Plácido Domingo, with the LA Philharmonic, conducted by Giulini) and I could feel the hairs standing up on the back of my neck. If you can then play 'Terminus, The Creator' from the Psychedelic Porn Crumpets' *Night Gnomes* album [What Reality?] you know the Nazaré can take absolutely anything you throw at it. And yes, I did go looking for the oddest band name I could find!

I tried to find fault with the Nazaré. I really did. But aside from the ongoing 'WTF!' factor that comes with facing down a server that is the size and weight of a power amp, I failed. It's that good.

You get what you pay for

The price of admission to Nazaré-world is fairly steep, but you get what you pay for, in technology, execution, and performance. However, while a lot of what makes Nazaré so good will always remain expensive, we all benefit from improved streaming, and I hope there's some trickle-down.

Innuos' Nazaré sets a new high standard for the brand, one that eclipses all that has gone before. It's not that the ZENith NG that I use daily has become obsolete, but you can hear the difference on any system. There is so much more bass and energy in the mix with the Nazaré. It joins that select list of ultra-high-performance servers that are so good that they really make you wonder just what all the fuss was about CD and SACD. +

Technical specifications

Type: Music Server

File Formats: WAV, AIFF, FLAC, ALAC, AAC, MP3, DSF, DFF, MQA Supported

Sample Rates: PCM: Up to 32bit/768KHz. DSD: Up to DSD256 via DoP, up to DSD512 via Native DSD to compatible DACs

Connectivity: USB (for DACs, Imports, Backups, USB Drive playback), 2 x USB 3.2, 1 x PreciseUSB (USB 2.0)

Network: 1 x PreciseNET (1Gbps RJ45)

Other, 1 x Storage Expansion Bay (2 x M.2 NVME SSD), 1 x HDMI (service only), 1 x AC Power Inlet, 1 x 4mm Chassis Ground Port

Streaming Sources

Streaming Services: Qobuz, TIDAL, Deezer, HighResAudio, IDAGIO, Spotify Connect, TIDAL Connect, Qobuz Connect, Internet Radio & Podcasts, Radio Paradise FLAC and Interactive services,

Local Music Files; Internal M2 NVMe SSD, NAS Drives/Servers, USB Drives ('Folder View' only, full library integration unavailable)

CD Ripping: Available via external USB Optical Drive + installed SSD storage

Metadata Sources: Discogs, FreeDB, GD3, Musicbrainz

Ripping format options: FLAC or WAV

Control Software & Integrations: Innuos Sense App for iPadOS/iOS v16.6 (or later), Android 7 (or later), Amazon Fire OS 7 (or later)

Any web browser via my.innuos.com or IP address.

Optional: Roon (Core and Endpoint modes supported), HQPlayer (NAA Endpoint mode only), AssetUPnP (UPnP Server mode only)

Dimensions (WxHxD): 48 x 42 x 22cm

Weight: 42kg

Price: From £38,000, €40,000, \$55,000 (no storage option)

Manufacturer Innuos

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